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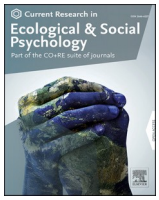

Moral elevation mitigates dehumanization of ethnic outgroups

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ABSTRACT

The pervasive social bias of perceiving outgroup members as less than human can contribute to discrimination and intergroup harm. Given the strong influence of our emotional states on how we perceive others, we theorized that pro-social emotions may offer a route to ameliorating ethnic outgroup dehumanization. In particular, witnessing exemplary moral acts elicits self-transcending and pro-social affective reactions referred to as moral elevation. In two experiments (N_{tot} =714), we examined the effect of induced moral elevation on ethnic outgroup dehumanization, relative to effects of a neutral baseline and a positive affect control condition. Dehumanization was assessed via endorsements of animalistic traits attributed to members of commonly dehumanized outgroups in the US, including Muslims and African-Americans. Across both studies, moral elevation significantly reduced dehumanization, whereas positive affect alone did not. Furthermore, Study 2 showed that the effect of moral elevation on dehumanization was mediated by a sense of superordinate identity (i.e., shared humanity). Taken together, these findings point to the power of witnessing moral acts for helping us fully recognize the humanity of others.

Introduction

Our beliefs play an important role in shaping how we experience the social world. In particular, our perception of others is profoundly influenced by social biases (Kawakami et al., 2017), which in turn can promote prejudice, discrimination, and intergroup harm (e.g., Bastian et al., 2013; Goff et al., 2008; Kteily and Bruneau, 2017; Wirtz et al., 2016). A particularly pervasive social bias is *dehumanization*, whereby some people (commonly those who belong to outgroups) are seen as less than human (Costello and Hodson, 2014; Haslam, 2006; Haslam and Loughnan, 2014). A major goal of current dehumanization research is to identify potential intervention approaches that can reduce dehumanization. In the present study, we build on recent work investigating moral elevation, a self-transcendent positive emotion elicited by witnessing exemplary moral acts. Moral elevation is associated with pro-social motivational and behavioral components that are directed at humanity in general. Here, we test whether the enhanced connection with broader humanity found in states of moral elevation is associated with reduced dehumanization of ethnic outgroups.

Dehumanization

The perception and treatment of others as less than human occurs across a wide range of target groups and geographical locations, including the Roma people in Europe (Buckels and Trapnell, 2013; Dalsklev and Kunst, 2015), Chinese people in Australia (Bain et al., 2009), and Muslims in the Netherlands (Zebel et al., 2008). In the US, Muslims, Mexicans, and African-Americans are common targets of dehumanization (Kteily et al., 2015, 2016, 2017).

What makes dehumanization potentially dangerous is that it is a mechanism of morally disengaging oneself from others, which can facilitate and justify harmful actions towards a person or group, because human ethical standards are not perceived to fully apply to them (Bandura et al., 1996; Opotow, 1990). The negative consequences of dehumanization include both increases in antisocial behaviors and decreases in prosocial behaviors (Haslam and Loughnan, 2014). For example, people show less support for reparations aimed at dehumanized outgroups (Zebel et al., 2008; Kteily and Bruneau, 2017) and are less likely to help dehumanized outgroup victims in the aftermath of natural disasters (Andrighetto et al., 2014; Cuddy et al., 2007). More extreme examples of the dangerous consequences of dehumanization include the deadly persecution of Jews characterized as “rats” and “vermin” in Nazi Germany (Brown, 2019), and the genocide against the Tutsi people seen as “cockroaches” during the Rwandan Civil War (Straus, 2007). Given these consequences, it is important to examine potential interventions to reduce dehumanization.

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There are two forms of humanness that can be denied, and consequently two types of dehumanization (Haslam, 2006). Mechanistic dehumanization concerns *human nature* characteristics, such as warmth, emotionality, and agency, which are believed to be essentially, but not uniquely, human. Typically, these characteristics distinguish humans from objects or robots. In contrast, animalistic dehumanization concerns *uniquely human* characteristics that distinguish humans from other animals, such as moral sensibility and cognitive sophistication. When people are denied these kinds of uniquely human characteristics, they are viewed as less evolved and animal-like. Animalistic dehumanization, in particular, has been associated with intergroup prejudice and discrimination (Goff et al., 2008; Kteily et al., 2015), suggesting that interventions that mitigate animalistic dehumanization may be especially effective in reducing intergroup prejudice.

Prior research has proposed a range of interventions for reducing dehumanization, including both outgroup-specific (e.g., intergroup contact), and outgroup-independent strategies (e.g., human-animal similarity interventions) (see Kteily and Landry, 2022 and Vezzali et al., 2022). However, although dehumanization is a function of both cognitive and affective processes (Haslam 2006), most interventions have emphasized cognitive factors. Emotion has primarily featured as a mediator, specifically in the form of increased empathy mediating between interventions and reduced dehumanization (see Borinca et al., 2023). Emotion has also been used as an outcome measure in studies of dehumanization interventions, with the attribution of human-specific emotions taken to index the degree of humanity ascribed to members of different groups (e.g., Leyens et al., 2001). Here we sought to investigate the role of incidental emotion on dehumanization, thus considering emotion as the independent variable rather than a mediator or dependent measure.

Given that our social judgments are influenced by our current emotional states (Amodio and Hamilton, 2012; Dasgupta et al., 2009; Forgas, 1998; Johnson and Fredrickson, 2005), we theorized that the incidental activation of prosocial emotion may offer a tool for modifying the social bias of dehumanization. Specifically, we hypothesized that the positive emotion of moral elevation may be effective in reducing dehumanization.

Moral elevation

Moral elevation is a positive moral emotion that is experienced when witnessing a display of virtue, such as loyalty, self-sacrifice, or humility; a particularly prototypical elicitor is an unexpected and exemplary moral act of kindness (Haidt, 2000). Imagine seeing a person on a subway taking off their shirt to put it on a shivering homeless person (Henderson, 2016; Wells, 2016). You would likely get a warm feeling in your chest, an optimistic feeling about humanity, and a motivation to become more prosocial and act in a moral manner yourself. These are the hallmarks of moral elevation (Haidt, 2003a; Schnall et al., 2010).

Importantly, the prosocial effects of elevation are not limited to reciprocity; moral elevation is associated with prosocial behavior that is directed at humanity in general, not just at the benefactor (Haidt, 2003b; Algoe and Haidt, 2009). This means that elevation induced by an act of kindness toward a member of one group should influence one's perception of all groups. In addition, moral elevation can only be elicited by acts of kindness directed toward someone other than the self, and thus its elicitation does not depend on direct interactions with a dehumanized group member. For these reasons, elevation may suggest a useful intervention approach that avoids two common limitations with dehumanization interventions: Firstly, many interventions involve interactions with members of a dehumanized group, which can generate backlash (see Brannon et al., 2018). Secondly, direct interactions that involve contact with dehumanized group members are challenging to implement in contexts where there are infrequent opportunities for direct contact (Al Ramiah and Hewstone, 2013). Elevation offers an alternative intervention that does not require interactions with the target group, thereby avoiding the risk of backlash. Moreover, since elevation inductions do not rely on direct interaction, it could be used for groups that a perceiver either avoids or has infrequent direct contact with.

Morally elevating experiences map onto what Maslow (1964) termed 'peak experiences', that is, emotional experiences that are so powerful that they have the capacity to impose positive changes in our behavior. Similarly, Haidt (2003b) suggested that moral elevation may function as a "moral reset button," triggering positive changes in both immediate and distal behaviors. Consistent with this notion, moral elevation has been found to make one's moral identity more salient (Aquino et al., 2007, 2009), which is associated with more prosocial and less antisocial thoughts and behavior (Aquino et al., 2009; K. 2011; Boegershausen et al., 2015; Hardy et al., 2010; S.A. 2011, 2014; Hertz and Krettenauer, 2016). Indeed, a growing literature is finding that moral elevation enhances pro-sociality across a wide range of domains, demonstrating that the prosocial effects of elevation go beyond mere imitation. For example, elevation is associated with more support for humanitarian policies (Shulman et al., 2021), more donations and volunteering (Cox, 2010; Romani and Grappi, 2014; Schnall et al., 2010; Thomson and Siegel, 2013), and stronger consumer support for environment-friendly products (Romani et al., 2014). Here, we build on this work and test the prediction that moral elevation may counteract dehumanization.

The effect of moral elevation on dehumanization

To date, research on moral elevation has focused on its role in increasing prosocial outcomes (e.g., Pizarro et al., 2021; Sparks et al., 2019), rather than on mitigating antisocial inclinations. One exception is a study by Lai et al. (2014), which tested the hypothesis that moral elevation reduces sexual prejudice. Their rationale was based on the notion that moral elevation is the theoretical and functional opposite of disgust; specifically, disgust is an emotional response to possible negative contagion, whereas moral elevation is an emotional response to possible positive contagion (Haidt, 2003b). Given that disgust has been shown to increase sexual prejudice (Dasgupta et al., 2009), moral elevation was expected to have the opposite effect. Indeed, participants who watched a moral elevation-inducing video were found to be less prejudiced towards gay men than were participants who had watched amusement or neutral videos. They compared prejudice against gay men, which they thought would be disgust-based, with anti-black prejudice, which they expected to be fear-based. They found a weak effect of elevation on the prejudice toward gay men and no effect for black targets. However, many of the individual studies with different kinds of targets did not reach statistical significance (see Lai et al., 2014). The authors speculated that the inclusion of a manipulation check right after participants viewed the video may have resulted in participants attributing the incidentally aroused emotion to the video, thereby dampening the effect of elevation on prejudice (as per Clore's Affect-as-information model, see Schwarz and Clore, 2003). They suggested that removing the manipulation check after the video might magnify the effects. This is the design we used in the present study in the hope of providing a more robust test of the hypothesis that elevation reduces antisocial inclinations towards ethnic outgroups.

In order to provide a strong test of our prediction, we included a positive affect control condition (amusement), as well as a neutral baseline. The amusement condition was included to mitigate the possibility that any effect of moral elevation could be explained by a general effect of positive affect (see Algoe and Haidt, 2009; Lai et al., 2014; Schnall et al., 2010; Silvers and Haidt, 2008, for previous examples of this approach).

A potential role for superordinate identity

Moral elevation makes people feel more connected to others, regardless of their group identity—a feature further supporting the idea

that moral elevation can reduce dehumanization of outgroup members (Oliver et al., 2015). The Common In-group Identity Model (Gaertner et al., 1993) proposes that intergroup relations can become more harmonious through people developing a superordinate identity (i.e., a common identity with members of other groups). A stronger superordinate identity decreases the salience of intergroup boundaries and makes us feel closer to people from other groups. This tendency to become more inclusive of others could prevent or counteract dehumanization, which involves excluding people from the moral domain. Indeed, there is empirical evidence showing that a stronger superordinate identity is linked to reduced dehumanization (e.g., Albarello and Rubini, 2012; Capozza et al., 2013; Gaunt, 2009). Moreover, previous research suggests that moral elevation obscures group boundaries by promoting a superordinate human identity (i.e., a sense of shared humanity; Oliver et al., 2015). Thus, we sought to test the prediction that moral elevation would facilitate a reduction in dehumanization by strengthening a superordinate identity. We particularly sought to examine the extent to which participants would feel an expanded sense of self that enhances the connection to diverse others who might not typically be perceived as part of one's ingroup. Importantly, perceived self-humanity overlap is associated with higher levels of connection with diverse others (thus reflecting inclusiveness in social boundaries), but not to stronger feelings of connection to the ingroup (Oliver et al., 2015).

Overview of the present research

Based on the theory and research reviewed above, we hypothesized that the experience of moral elevation would reduce dehumanization of stigmatized ethnic outgroup members (H1). To test this main prediction, we conducted two experiments in which participants were induced with either moral elevation or control states using emotion-provoking videos. We then assessed the effect on dehumanization judgements. In Study 2, participants additionally made judgments of self-humanity overlap, to test our second hypothesis that a superordinate human identity mediates the effect of moral elevation on dehumanization (H2). Both studies were approved by the Ethical Review Board of the University of Amsterdam, and participants provided informed consent. The data and analysis code for both studies are available at https://osf.io/azxuq/.

Study 1

To test our primary hypothesis that moral elevation would reduce dehumanization, White American participants watched video clips of either a moral act (intended to induce moral elevation) or videos inducing amusement or a neutral state. The latter two conditions were included to test the unique contribution of moral elevation relative to general positive affect, and to provide a neutral baseline condition, respectively. In this study, as well as in Study 2, dehumanization was measured with a well-established scale (Bastian and Haslam, 2011; Bastian et al., 2013; Haslam 2006) that assesses the ascription of traits related to animalistic dehumanization to commonly dehumanized ethnic outgroups in the US (i.e., African Americans, Mexicans, and Muslims; Kteily et al., 2015). Greater dehumanization is characterized by stronger ascription of animalistic traits.

Method

Participants

We based our power analysis on Buckels and Trapnell's (2013) study of the effect of incidental emotion on dehumanization. A G*Power a-priori power calculation using the effect size from Buckels and Trapnell showed that at least 159 participants were needed to obtain a power of 0.80, α error probability = 0.05 at effect size $f = 0.25$. Participants were recruited via Amazon's Mechanical Turk and received $2.00 for their time. Following prior studies and given our interest in the dehumanization of ethnic minorities in the US (Kteily et al., 2015), eligible participants were self-identified White Americans (i.e., of European descent). Out of the 221 participants that completed the study, 54 did not self-identify as White and 6 failed the attention-check question, and thus their data were excluded from analysis. The final sample consisted of 161 participants (92 male $M_{age} = 37.9$, age range: 19–73 years): 52 in the neutral condition, 58 in the amusement condition, and 51 in the elevation condition. There was no difference between the conditions in terms of age, $F(2, 158) = 1.26$, $p = .286$, $\eta^2 = 0.02$, or distribution of gender, $\chi 2(2) = 1.89$, $p = .39$. A sensitivity analysis using G*Power showed that our analysis was sensitive to effects of Cohen's $d = 0.42$ at 80% power (with a two-tailed test), given our sample size.

Design and procedure

The study was conducted online using Qualtrics with the following procedural components in a fixed order: (1) informed consent, (2) emotion induction video, (3) dehumanization measure, (4) attention-check question and manipulation check, and (5) demographic questions. The independent variable (i.e., target emotion) was manipulated using a between-subjects design whereby participants were randomly assigned to one of three conditions: elevation, neutral, or amusement. Given that the manipulation check requires participants to explicitly focus on their emotion, the manipulation check was presented after the dehumanization measure so that it would not influence the intensity of the induced emotion or its effect on the main dependent measure (dehumanization). All analyses were performed using R Statistical Software (v4.3.1; R Core Team, 2023).

Materials

Emotion induction videos. To induce moral elevation, amusement, and a neutral control state, we used videos that have successfully induced these target states in previous studies (e.g., Lai et al., 2014; Piper et al., 2015). The moral elevation video depicted a story in which a girl is badly injured during a softball game and is then carried by opposing team members across all bases to help her complete a home run. The amusement video was a clip from a stand-up comedy show featuring Jerry Seinfeld. The neutral control video was taken from the *How It's Made* TV program and consisted of a sequence on the production of flutes. The videos were approximately 5 min long and depicted only White American actors.

Dehumanization. Dehumanization was assessed using an animalistic traits measure (Bastian et al., 2013; Kteily et al., 2015; 2016). Participants rated on a scale from 1 (*not at all*) to 7 (*extremely*) to what extent a total of 15 traits that relate to animalistic dehumanization (e.g., savage, refined (reverse-scored), primitive) describe Caucasian Americans, African Americans, Mexicans, and Muslims, in that order. The dehumanization score was calculated by combining the items and averaging across all outgroups for the White American participants (i.e., African Americans, Mexicans, and Muslims; $\alpha = 0.97$), with higher scores indicating stronger dehumanization. Dehumanization ratings were lower for the White ingroup ($M = 2.76$, $SD = 0.89$) compared with the racial and ethnic outgroups ($M = 3.36$, $SD = 1.04$; $t(160) = -7.47$, $p < 0.001$, Cohen's $d = -0.62$, 95% CI [−0.85, −0.40]).

Manipulation check. To check whether the videos successfully induced the intended emotions, participants rated to what extent they felt "moved", "uplifted", "optimistic," "warm feeling in chest," "want to help others," and "want to become a better person" on 9-point scales (1 = *didn't feel at all*, 9 = *felt very strongly*). These six items measure the cognitive appraisals and feelings associated with moral elevation (Haidt, 2003a), and have been found to be successful in distinguishing moral elevation from general positive affect (Schnall et al., 2010). They also rated six items pertaining to positive affect: "happy," "amused," "entertained," "joyful," "cheerful," and "elated" using the same scale.

The moral elevation ($\alpha = 0.97$) and positive affect scores ($\alpha = 0.93$) were calculated separately, by computing the mean across all moral elevation and positive affect items, respectively.

Results

Manipulation check

We first conducted manipulation check analyses to ensure that the videos had been successful in inducing the target emotional states.

Moral elevation

Moral elevation scores were submitted to a one-way ANOVA comparing the three between-subjects emotion conditions. This analysis revealed significant variation between conditions for felt moral elevation, $F(2, 158) = 45.59$, $p < .001$, $\eta^2 = 0.37$. Planned comparisons showed that, as expected, participants in the elevation condition felt significantly more moral elevation ($M = 6.92$, $SD = 2.03$) than the participants in the control conditions, $t(158) = 9.47$, $p < 0.001$, Cohen's $d = 1.59$, 95% CI [1.21,1.97]. The amusement ($M = 3.87$, $SD = 1.97$) and the neutral ($M = 3.29$, SD = 2.23) control conditions did not differ in terms of felt moral elevation, $t(158) = 1.48$, $p = .142$, Cohen's $d = 0.28$, 95% CI [−0.10, 0.66].

To investigate whether participants in the moral elevation condition felt greater moral elevation independent of any effects of general positive affect, we conducted an ANCOVA with condition as predictor, positive affect as covariate and moral elevation as outcome variable. We found significant differences in felt moral elevation between conditions, $F(2, 157) = 119{,}40$, $p < .001$, $\eta^2 = 0.37$, independent of felt positive affect, $F(2, 157) = 422.80$, $p < .001$, $\eta^2 = 0.39$, indicating that moral elevation was experienced as distinct from positive affect. When controlling for general positive affect by adding felt positive affect to the planned comparisons as a covariate, participants still felt more moral elevation in the elevation condition compared with the control conditions, $t(157) = 10.66$, $p < 0.001$, Cohen's $d = 1.59$, 95% CI [1.21,1.97].

Positive affect

A one-way ANOVA revealed differences between conditions in terms of felt positive affect, $F(2, 158) = 11.90$, $p < .001$, $\eta^2 = 0.13$. The level of positive affect was lower in the neutral condition ($M = 4.25$, $SD = 2.35$) compared to the other conditions, $t(158) = 4.77$, $p < .001$, Cohen's $d = 0.80$, 95% CI [0.45, 1.14]. The amusement ($M = 5.72$, $SD = 2.06$) and the elevation ($M = 6.19$, $SD = 1.90$) conditions did not differ in terms of felt positive affect, $t(158) = 1.17$, $p = .244$, Cohen's $d = 0.24$, 95% CI [−0.14, 0.62].

These results demonstrate that the videos successfully produced the target emotional states: positive affect was induced in the elevation and amusement conditions, whereas moral elevation was only induced in the elevation condition.

Effect of emotion condition on dehumanization

We predicted that the elevation condition would yield lower dehumanization relative to the control conditions. Dehumanization scores were submitted to a one-way ANOVA comparing the three between-subjects emotion conditions. This analysis revealed no significant difference in dehumanization between the three conditions ($F(2, 158) = 2.22$, $p = .112$, $\eta^2 = 0.03$). However, given our prediction of specific patterns of differences, we employed planned contrasts (see Piff et al., 2015; Horberg et al., 2013 for a similar approach) in which the main contrast (elevation = −1, neutral = 0.5, amusement = 0.5) compared the elevation condition to the amusement and neutral conditions, testing whether moral elevation reduced dehumanization. The control contrast (elevation = 0, neutral = 1, amusement = −1) tested the residual difference between the neutral and amusement conditions. The planned contrasts indicated that dehumanization was, as predicted, lower in the moral elevation condition ($M = 3.12$, $SD = 1.06$) compared with the control conditions, $t(158) = 2.02$, $p = .045$, Cohen's $d = 0.35$, 95% CI [0.01, 0.68]. The control conditions did not differ significantly, $t(158) = 0.53$, $p = .59$, Cohen's $d = 0.10$, 95% CI [−0.28, 0.48] (amusement: $M = 3.53$, $SD = 1.03$; neutral: $M = 3.42$, $SD = 0.99$). The pattern of results is depicted in Fig. 1.

Discussion

The results of Study 1 provided initial support for our hypothesis that moral elevation reduces dehumanization. Our manipulation successfully elicited the target emotion states, in terms of both moral elevation (only in the moral elevation condition) and positive affect (in the moral elevation and amusement conditions). The induction of moral elevation had the predicted effect on dehumanization: moral elevation reduced dehumanization, whereas positive affect was equivalent to a neutral control condition in terms of levels of dehumanization. This demonstrates that an affective moral manipulation can reduce dehumanization (see also Lv et al., 2023). However, the effect was small and the results of the omnibus ANOVA were not statistically significant. We therefore next sought to replicate this result to establish whether it was robust. Moreover, we wanted to extend this initial finding by investigating a potential mechanism for the effect. Specifically, we tested the prediction that a superordinate identity would mediate the effect of moral elevation on dehumanization.

Study 2

Study 2 sought to replicate the findings from Study 1 while probing a proposed mechanism for the effect of moral elevation on dehumanization. What is it about witnessing a moral act that makes us see others as more human? To answer this question, we additionally tested the hypothesis that inducing a feeling of moral elevation would increase participants' sense of shared humanity with outgroups (Oliver et al., 2015), and that this shared humanity would reduce dehumanization. Thus, we hypothesized that a sense of overlap between the self and all of humanity would mediate the effect of moral elevation on dehumanization (H2).

Method

Participants

Prospective participants were pre-screened based on their ethnicity,

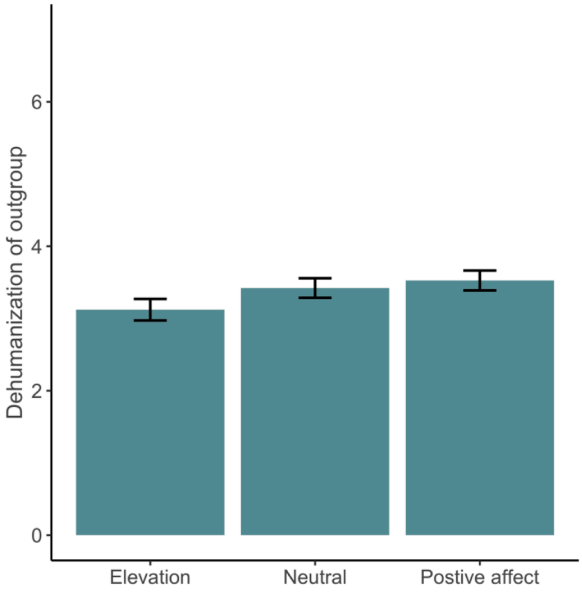

Fig. 1. Dehumanization of outgroup members per condition in Study 1.
Note. Error bars represent one standard error around the mean.

such that only those who identified as White Americans were directed to the main experiment. Based on Fritz and MacKinnon's (2007) guide *Required Sample Size to Detect the Mediated Effect* (adjusted from the third row of their Table 3 with small effect sizes for alpha and beta), we recruited a sample of 570 participants on Amazon's Mechanical Turk. Of these participants, 17 failed the attention check question and were excluded from the analyses, which resulted in a total sample size of 553 participants: 186 in the neutral condition, 178 in the amusement condition, and 189 in the elevation condition. Participants received $2.50 for their participation. There was no difference between the conditions regarding the distribution of gender (290 male-identifying, 261 female-identifying and 2 did not identify), $\chi 2\ (4) = 3.98$, $p = .41$, or age ($M = 37.6$, $SD = 11.9$), $F(2, 550) = 0.58$, $p = .560$, $\eta^2 = 0.00$. A sensitivity analysis using G*Power showed that our analysis was sensitive to effects of Cohen's $d = 0.26$ with 90% power (alpha = 0.05, two-tailed), given our sample size.

Design and procedure

The method and measures used in Study 2 were identical to that of Study 1, except for the addition of the self-humanity overlap measure. Participants completed the following components of the online experiment in a fixed order: (1) informed consent, (2) emotion induction video, (3) Self-Humanity Overlap measure, (4) dehumanization measure, (5) attention-check question and manipulation check, and (6) demographic questions. All analyses were performed using R Statistical Software (v4.3.1; R Core Team, 2023).

Materials

Self-Humanity overlap scale. A modified version (Oliver et al., 2015) of the Inclusion of Other in Self scale (IOS; Aron et al., 1992) was used to measure self-humanity overlap, replacing the word 'other' with 'humanity.' Oliver et al. (2015) have showed that this way of measuring perceived self-humanity overlap is associated with higher levels of connection with diverse others, but not to enhanced feelings of connection to the ingroup. The measure comprises a scale ranging from 1 to 7 of increasingly overlapping Venn diagrams, with the left and right circle diagrams containing the words *self* and *humanity*, respectively. Participants are asked to choose the picture that best describes how close they feel to "humanity."

Dehumanization. As in Study 1, outgroup dehumanization scores comprised the average of all outgroup items ($\alpha = 0.97$), with higher scores indicating greater dehumanization. Dehumanization was lower toward the White ingroup ($M = 2.73$, $SD = 0.93$) compared with racial and ethnic outgroups ($M = 3.19$, $SD = 1.06$; $t(552) = -10.68$, $p < .001$, Cohen's $d = -0.46$, 95% CI [−0.58, −0.34]).

Manipulation check. As in Study 1, experienced moral elevation ($\alpha = 0.96$) and positive affect ($\alpha = 0.93$) scores were computed as the mean rating of all moral elevation and positive affect items, respectively.

Results

Manipulation check

As in Study 1, we first assessed whether our manipulations of participants' emotional state were successful.

Moral elevation. A one-way ANOVA revealed significant differences in felt moral elevation between conditions, $F(2, 550) = 117.66$, $p < .001$, $\eta^2 = 0.30$. Planned contrasts revealed that, as expected, participants in the elevation condition felt more moral elevation ($M = 6.59$, $SD = 2.10$) than the participants in the control conditions, $t(550) = 14.70$, $p < .001$, Cohen's $d = 1.30$, 95% CI [1.11, 1.50]. Unexpectedly, and in contrast to Study 1, felt moral elevation was higher in the amusement ($M = 4.27$, $SD = 2.02$) condition than the neutral ($M = 3.34$, $SD = 2.20$) condition, $t(550) = 4.19$, $p < .001$, Cohen's $d = 0.44$, 95% CI [0.23, 0.65].

As in Study 1, we investigated whether participants in the moral elevation condition felt more moral elevation independent of general positive affect. This was tested by adding positive affect to the planned contrast as covariate. This analysis produced a significant effect, $t(549) = 18.10$, $p < .001$, Cohen's $d = 0.44$, 95% CI [0.23, 0.65], showing that participants in the elevation condition felt more elevation independent of positive affect. This was further corroborated by an ANCOVA with condition as predictor, positive affect as covariate and moral elevation as outcome variable. This analysis yielded significant differences in felt moral elevation between conditions, $F(2, 549) = 294.80$, $p < .001$, $\eta^2 = 0.30$, independent of felt positive affect, $F(2, 549) = 829.10$, $p < .001$, $\eta^2 = 0.42$.

Positive affect. A one-way ANOVA produced a significant difference in felt positive affect between conditions, $F(2, 550) = 58.91$, $p < .001$, $\eta^2 = 0.18$. As in Study 1, planned contrasts revealed that positive affect was lower in the neutral condition ($M = 4.04$, $SD = 2.18$) compared to the other conditions $t(550) = 10.76$, $p < .001$, Cohen's $d = 0.96$, 95% CI [0.78, 1.15]. There was no difference in positive affect between the amusement condition ($M = 6.19$, $SD = 1.95$) and the elevation condition ($M = 5.85$, $SD = 1.98$), $t(550) = 1.61$, $p = .11$, Cohen's $d = 0.17$, 95% CI [−0.03, 0.38].

Effect of emotion condition on dehumanization. As in Study 1, we first submitted dehumanization scores to a one-way ANOVA comparing the three between-subjects emotion conditions. This analysis revealed a significant difference in dehumanization levels between the conditions ($F(2, 550) = 3.18$, $p = .043$, $\eta^2 = 0.01$). We then conducted planned comparisons to test our hypothesis that dehumanization would be lower in the elevation condition than the amusement and neutral control conditions. As predicted, the main contrast (elevation vs. control conditions, elevation: $M = 3.04$, $SD = 1.13$) was significant, $t(550) = 2.38$, $p = .018$, Cohen's $d = 0.21$, 95% CI. [0.04, 0.39], whereas the control contrast (amusement vs. neutral) was not, $t(550) = 0.86$, $p = .39$, Cohen's $d = 0.09$, 95% CI [−0.11, 0.30] (amusement: $M = 3.32$, $SD = 1.02$; neutral: $M = 3.22$, $SD = 1.04$). The pattern of results is shown in Fig. 2.

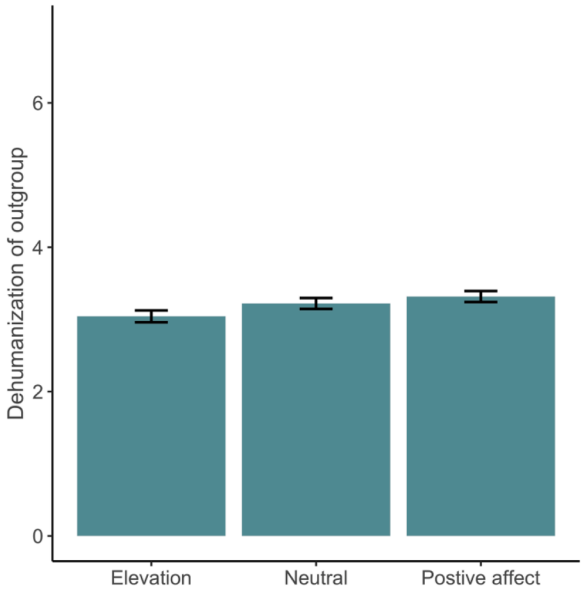

Fig. 2. Dehumanization towards outgroups per condition in Study 2.
Note. Error bars represent one standard error around the mean.

Effect of condition on self-humanity overlap. A one-way ANOVA revealed significant differences in Self-Humanity Overlap across conditions, $F(2, 550) = 5.12$, $p = .006$, $\eta^2 = 0.02$. The same orthogonal contrasts that were employed for the dehumanization measure were used to test our prediction that Self-Humanity Overlap would be significantly higher in the elevation condition than in the control conditions. As expected, the main contrast, comparing the elevation condition ($M = 5.07$, $SD = 1.60$) to the amusement ($M = 4.69$, $SD = 1.51$) and neutral ($M = 4.55$, $SD = 1.78$) conditions, was significant, $t(550) = 3.09$, $p = .002$, Cohen's $d = 0.28$, 95% CI [0.10, 0.45], whereas the control contrast, comparing the amusement and neutral conditions, was not, $t(550) = 0.80$, $p = .42$, Cohen's $d = 0.08$, 95% CI [−0.12, 0.29]. The elevation condition thus increased Self-Humanity overlap compared to the control conditions.

Mediation analysis. To test our hypothesis that self-humanity overlap would mediate the effect of moral elevation on dehumanization, we conducted a mediation analysis using a bootstrapping procedure with 1000 samples via the Baron and Kenny (1986) method via the mediation R package (v4.5.0; Tingley et al., 2014). As expected, this analysis indicated that the effect of moral elevation on dehumanization was mediated by self-humanity overlap (indirect effect: β=−0.05, 95% CI = [−0.09,−0.01], $p = .002$; see Fig. 3), consistent with the hypothesis that the effect of moral elevation on dehumanization occurred through the enhancement of participants' sense of being connected with humanity.

When self-humanity overlap was included in the model as a mediator, the direct effect of moral elevation on dehumanization was no longer statistically significant (direct effect: β=−0.18, 95% CI = [−0.37,0.03], $p = .084$). When the direct and indirect effect were taken together, there was a significant total effect of elevation on dehumanization (total effect: β=−0.23, 95% CI = [−0.43,−0.03], $p = .020$). The proportion of the effect of elevation on dehumanization that went through the mediation of self-humanity overlap was significant (β = 0.22, 95% CI = [0.05,1.12], $p = .020$).

Discussion

The results of Study 2 provide a replication of the finding that moral elevation reduces dehumanization. Furthermore, we have identified a possible mechanism of this effect: moral elevation increases a sense of shared humanity, which in turn reduces dehumanization of ethnic outgroups. This result aligns well with the findings of Oliver et al. (2015), who found that the increase in self-humanity overlap from moral elevation was associated with more favorable attitudes towards a diversity of others. It is worth noting that in our study, the enhanced inclusion of others in one's sense of self was found when participants felt moral elevation, but not in states of general positive affect.

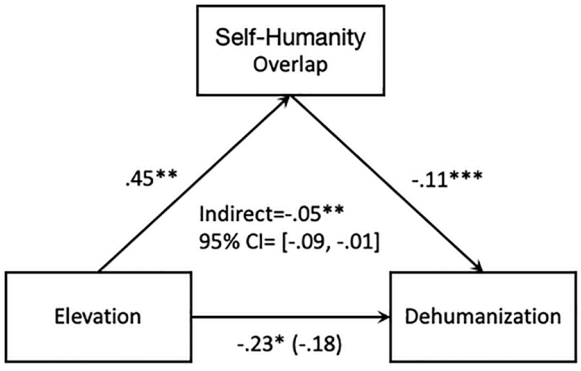

Fig. 3. Mediation model of Study 2.
Note. Mediation effect of self-humanity overlap on the effect of elevation on dehumanization. Estimates indicate the unstandardized coefficients of the total effect. Number in brackets indicates the unstandardized coefficients of averaged direct effects. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

General discussion

The social bias of dehumanization is considered to be a fundamental cause of intergroup conflict and oppression: as humans, we might have inherent inhibitory mechanisms that prevent us from hurting other humans (Blair et al., 1997), but when we dehumanize others, these inhibitory mechanisms are bypassed to facilitate or justify inflicting harm (Lorenz, 1966; Moghaddam, 2005). Given that seeing others as human makes us less likely to harm them, reducing dehumanization is thus an important aim of contemporary dehumanization research. Across two studies, we show that witnessing a moral act induces moral elevation and reduces dehumanization of marginalized outgroup members. Seeing someone else setting a moral example helps us see others, including those from typically marginalized groups, as human beings. In Study 2 we found evidence of a potential mechanism for this effect: Our manipulation of moral elevation increased participants' sense of a common human identity, and this in turn led participants to dehumanize others less. By making people feel more connected to humanity in general (which decreases the salience of intergroup boundaries; Gaertner et al., 1993), moral elevation thus helps counteract the exclusion of marginalized others from humanity.

Theoretical implications

These results provide support to the growing body of research showing a wide range of positive social impacts of performing moral deeds. The beneficial outcomes resulting from positive moral deeds go beyond the well-established benefits to those directly involved (e.g., Kurzban et al., 2015) and extend to those indirectly involved, including witnesses. Just like one rotten apple can spoil the bunch, an act of kindness can spark a great deal of goodness. Moral elevation plays an important role in this 'contagious altruism' (Keltner et al., 2014), by means of what Haidt (2000) has called a ripple effect: People who witness exemplary moral acts come to feel moral elevation and thereby become inspired and motivated to act more morally themselves. Our findings add a new angle to the ripple effect by showing that moral elevation not only enhances the good, but also attenuates the bad: Moral elevation helps us see others as more human, thereby including them in the group of people to which human ethical standards apply. Thus, moral elevation does not only promote human welfare by facilitating prosociality, but also by reducing dehumanizing views of others.

The ripple effects of witnessing moral acts go beyond imitation. A mere imitation account of the effect of elevation on dehumanization cannot account for the mediation effect that we established in Study 2, which points to connectedness as a pathway by which elevation can affect our view of others. Moreover, previous work has shown that elevation elicits prosocial effects that differ in kind from the moral act that produced the elevation. For example, participants who are induced with moral elevation by watching a video depicting mentorship were more likely to volunteer in an unpaid study (Schnall et al., 2010). Similarly, in the present study, participants saw a video of an injured softball player being helped to finish her homerun, which bore no resemblance to judgments of others as more or less human. Thus, witnessing moral acts produces effects that are directed broadly towards others. At the same time, it is certainly possible that aligning the group membership of the individuals featured in the eliciting stimuli with the dehumanization target could enhance the effects (see Saguy et al., 2015). For example, we speculate that if the helping softball players were members of a marginalized group, the effects may be stronger.

The results of our study also have implications for understanding the social functions of distinct positive emotions and positive moral emotions. While both amusement and moral elevation induced positive affect, our results show that the effect on dehumanization does not occur in all states of positive affect. Participants in the amusement condition were no different from those of the neutral control condition in terms of dehumanization, whereas those in the moral elevation condition

dehumanized those from outgroups less. This finding is in line with arguments suggesting that emotions that share the same valence (e.g., both being positive) can have distinct effects on motivational, cognitive, behavioral, or socio-functional components (e.g., Lerner and Keltner, 2000).

The present results provide an example of how the reduction of tenacious social biases such as dehumanization do not necessarily require individuals to exert conscious effort. Motivation to reduce one's biases requires both awareness and concern about having these biases. These requirements are often not met, because social biases typically occur without explicit knowledge or endorsement (e.g., Devine, 1989; Kawakami et al., 2007). In our study, participants were not aware of the purpose of the manipulation, nor of the construct that we were measuring (i.e., dehumanization), until the debriefing at the end of the experiments. Thus, the intervention in the present study did not operate on participants' specific motivation to reduce dehumanization. Nevertheless, those who were induced with moral elevation dehumanized outgroups less. Our findings thus highlight the potential for mitigating intergroup conflict using indirect and implicit methods, which could complement existing methods for reducing prejudice (Amodio and Swencionis, 2018; Berger et al., 2018; Kawakami et al., 2007; Kteily and Landry, 2022; Paluck, 2009; Stephan and Stephan, 2001; Vezzali et al., 2022).

Limitations, future directions, and implications for interventions

The present studies were not pre-registered, meaning that some caution is needed when drawing conclusions from these results. Moreover, across both studies, the effect size for the main effect of moral elevation on dehumanization is small (a *d* of 0.35 in Study 1 and 0.21 in Study 2) in terms of standard effect size conventions. Though it is encouraging that the effect replicates across the two studies (see Supplementary Materials for a single-paper meta-analysis confirming the consistency of the results across the two studies), the modesty of its size raises the question of whether the effect is strong enough to be of applied utility. There are several reasons why we believe this effect may be worth investigating further. Firstly, in both studies we used the exact same manipulation of moral elevation and measure of dehumanization. It is thus possible that a different paradigm may result in a different (potentially larger) effect size, especially if a stronger induction of elevation would be used (see Wilson and Lipsey, 2001), for example through scripted social interactions in the lab, or field studies. Secondly, even if the effect size is small, it could be that there is a cumulative effect if multiple moral elevation inductions would be used across time. Thirdly, even though the effect size may be small in statistical terms, in terms of societal impact, any form of reduction in dehumanization might be of value. Finally, although other interventions may exert larger effect sizes, their actual applied potential may be more limited because they involve activities that participants do not generally want to engage with, like intergroup contact, and therefore require financial incentives. In contrast, the elevation intervention used in the present study was itself enjoyable for participants (as evidenced by the high average scores on the general positive affect measure), which may help to foster intrinsic motivation (Landry and Halperin, 2023).

Even though this line of research is still in its infancy, the current findings have potential applied implications. The fact that watching a short video of an exemplary moral act can reduce a pervasive social bias is promising, especially given the enormous popularity of videos on social media: on YouTube alone, over one billion hours of video is consumed each day by people all over the world (Goodrow, 2017). Stories that emphasize positive moral acts can foster moral elevation via a range of media including videos and personal accounts, and may provide a tool for promoting donating or volunteering behavior. Precisely those people for whom such charitable efforts are often intended are most commonly and severely dehumanized (e.g., drug addicts and homeless people; Harris and Fiske, 2006). Organizations can thus potentially maximize the effectiveness of their campaigns by harnessing the power of positive moral examples to make potential donators and volunteers recognize that the beneficiaries at the other end are actual human beings (see also Schroeder and Epley, 2020; Yao and Enright, 2018). In previous studies on prejudice-reducing interventions via intergroup contact, the most promising long-term results have been found with adolescents (Wölfer et al., 2016), suggesting that inventions aimed at reducing dehumanization via watching videos of positive moral examples may be particularly interesting to test in this age group.

We sought to study dehumanization in general rather than in relation to an individual group. Therefore, we measured dehumanization of several groups that are commonly dehumanized by White Americans (i.e., African Americans, Muslims, and Mexicans; Kteily et al., 2015). We combined judgments of these groups into a single score of dehumanization to reduce the number of statistical tests, and thereby the risk of spurious findings. Previous empirical research has shown that people have a tendency to display prejudice towards more than one outgroup, a phenomenon labeled "the syndrome of group-focused emnity" (Zick et al., 2008). This means that there are often high inter-correlations between prejudice against a variety of types of outgroups (e.g., outgroups based on nationality, race, religion, sexual orientation). However, future research could examine the effects of elevation on dehumanization of specifical racial, cultural, or religious outgroups, also taking into account variability in prejudice levels across target groups; for the present studies, we report exploratory analyses of the effects per target group in the Supplementary Analyses.

Moreover, although we think it is likely, the present results do not demonstrate that the effect of moral elevation on dehumanization necessarily generalizes to populations beyond ethnic and racial outgroups. Previously, Lai et al. (2014) found that elevation reduced prejudice toward gay men. Unlike the present study, however, they did not find an effect of elevation on antisocial inclinations towards black targets. In Lai and colleagues' study, many of the individual studies with different kinds of targets did not reach statistical significance, possibly due to the inclusion of a manipulation check (self-reported emotion) right after the emotion elicitation, which may have resulted in participants attributing the incidentally aroused emotion to the video. In the present study we measured participants' emotion after they had completed the dehumanization measures. It seems likely that the difference in results between the two studies reflects this difference in design, but more work is needed to compare the magnitude of the effect of elevation on antisocial inclinations towards different groups.

There is also a question of whether the present findings generalize to mechanistic dehumanization. Different cultures dehumanize different groups, and the extent and type of dehumanization (e.g., animalistic vs. mechanistic) may depend on the perceived characteristics of those groups (see Kteily et al., 2015). For example, criminals are seen as animals due to what is perceived as out-of-control behavior, while policemen are seen as machinelike because of their individuality-suppressing uniforms (Hetey and Eberhardt, 2014). We need further research to elucidate the types of dehumanization (e.g., mechanistic vs. animalistic, but also self-dehumanization, infrahumanization, and meta-dehumanization) that are most susceptible to the attenuation effect of moral elevation.

Conclusion

In two experiments, we show that moral elevation reduces dehumanization. While previous studies of moral elevation have shown such states to *increase prosocial outcomes*, our findings demonstrates that witnessing moral acts also *decreases antisocial outcomes* in the form of dehumanization. In this way, our findings contribute towards a novel affective approach to reducing dehumanization, thereby helping people to see people from all groups as human beings.

Ethics statement

The authors declare that both studies were approved by the Ethical Review Board of the University of Amsterdam and all participants provided informed consent.

Declaration of competing interest

The authors declare the following financial interests/personal relationships which may be considered as potential competing interests: Disa Sauter reports financial support was provided by European Research Council.

Data availability

The data and analysis code for both studies are available at https://osf.io/azxuq/

Supplementary materials

Supplementary material associated with this article can be found, in the online version, at doi:10.1016/j.cresp.2024.100187.

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