

Preference for hierarchy is related to the motivation to feel less empathy and more schadenfreude towards low status people

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Author Contributions

All authors developed the study concept and contributed to the study design. S T. J. Hudson collected and analyzed the data while all authors interpreted the data. S. T. J. Hudson drafted the initial manuscript, and the remainder of the authors provided critical revisions. All authors approved the final version of the manuscript for submission.

Abstract

Social dominance orientation (SDO)—the tendency to accept and endorse group-based dominance—has been linked with reduced empathy and increased schadenfreude (i.e., pleasure at the misfortunes of others) towards competitive others. Are these outcomes driven by a strategic motivation to feel emotions that facilitate hierarchy-reinforcing behaviors (and avoid those that interfere)? Across three pre-registered studies using Amazon Mechanical Turk participants ($N = 1724$), we find that SDO determines which emotions people want and choose to feel. People with higher (relative to lower) levels of SDO make similar predictions of others' emotions when asked, but *desire* to feel less empathy and schadenfreude toward low-status targets, and when given a choice, *choose* to feel less empathy and more schadenfreude. This work adds to a growing literature on the impact of ideology—in this case, SDO—on emotion tendencies and further expands work on the motivated nature of empathy.

Keywords: social dominance orientation, empathy, schadenfreude, motivated cognition

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Social dominance orientation (SDO; Ho et al., 2015), or the extent to which individuals accept and promote group-based inequality, reflects a competitive world view and is a potent predictor of attitudes and behaviors. For example, SDO is positively related to hierarchy-enhancing attitudes such as racism and sexism (Hiel & Mervielde, 2005; Sibley et al., 2007), as well as support for anti-affirmative action, and strict immigration policies (Craig & Richeson, 2014; Haley & Sidanius, 2006).

Although there is a rich literature on SDO's influence on individuals' attitudes and behaviors, there is a surprisingly little on the relationship between SDO and emotions. Emotions represent reactions to specific targets, situations, and contexts that go beyond mere positive and negative evaluations that are captured when assessing attitudes (Cottrell & Neuberg, 2005; Mackie et al., 2000). Emotions are often better predictors of behavior than attitudes due to this representational richness (Dovidio et al., 2010). One exception is the work examining the relationship between SDO and empathy – the congruent emotional reaction a person feels in response to the assumed emotional state of others (Cikara et al., 2014; Sidanius et al., 2013) – and counter-empathy, the opposite emotional reaction in response, e.g., schadenfreude, or feeling pleasure at another person's pain (Hudson et al., 2019).

Although empathy is often regarded as an automatic process, individuals are motivated to feel or avoid empathy depending on the target and the context (Zaki, 2014). Specifically, people tend to feel less empathy towards out-groups and in competitive settings, which is posited to serve an adaptive function to foster in-group

cohesion and out-group exclusion (Cikara et al., 2011). The ‘motivated empathy’ perspective generates the prediction that empathy towards competitive out-groups is counter-productive to establishing group-based dominance; thus, SDO *should* correlate negatively with empathy. In line with this prediction, SDO is generally negatively related to empathy and positively related to counter-empathy (Hudson et al., 2019; Sidanius et al., 2013).

However, if one’s goal is to maintain hierarchy, it is also counter-productive to feel reduced empathy towards in-group members or high-status groups. Indeed, manipulating the status of targets leads to a reversal of the SDO – empathy link; SDO is positively related to empathy specifically for advantaged targets (Lucas & Kteily, 2018). These findings parallel work on SDO and attitudes, in which SDO has been found to be positively related to support for immigration when the immigrants are going to be low-status (Pratto & Lemieux, 2001; Thomsen et al., 2008), support for affirmative action when the policy reinforces the racial hierarchy (G. C. Ho & Unzueta, 2015), and skepticism of policies that harm high-status groups (Lucas & Kteily, 2016).

In sum, SDO’s relationship with affect, cognition, and behavior should depend on whether having a given set of attitudes or engaging in a set of behaviors will create and maintain hierarchy. Thus, the amount of empathy and counter-empathy elicited by intergroup contexts is not only shaped by levels of SDO but *motivated* by it.

Current research

Our overarching hypothesis is that the link between SDO and the desire to experience (counter-)empathy is context and target-dependent: strengthening when

feeling a given emotion leads to hierarchy maintenance and weakening when the emotion leads to hierarchy attenuation.

Study 1 sought to rule out the possibility that the relationship between SDO and (counter-) empathy simply reflects a tendency among high-SDO individuals to ascribe fewer extreme emotions to others (which could then inform their own emotional responses). Study 2 assessed whether SDO is associated with individuals' self-reported desire to feel reduced empathy and increased schadenfreude towards others. Finally, Study 3 directly addressed motivation of behavior by assessing individuals' desire to approach or avoid situations in which they were asked to feel empathy or schadenfreude.

As we have already noted, we predict that our findings will be target-dependent. Extending previous work (Cikara & Fiske, 2013), we used targets borrowed from the Stereotype Content Model (Cuddy et al., 2008) to investigate whether target status and warmth moderate SDO's relationship with reduced empathy and increased schadenfreude. We hypothesized that individuals high in SDO will feel more empathy (and less schadenfreude) towards targets that are high status compared to low status targets. Furthermore, we predict the same moderation by target status for participants' desire to feel these emotions and their choice behavior.

All studies were pre-registered¹ and the entire project including de-identified data, supplementary materials and analyses can be found on OSF at https://osf.io/4p9sg/?view_only=d83a33e1f8984037bd0fa240b91566ef. In these

¹ Study 1's preregistration can be found here: https://osf.io/y54a7/?view_only=8fa4b3e27b5d4169a212b7b545053191; Study 2 is here: https://osf.io/b7h5a/?view_only=3c6b7980cc2d4e69b6ea2c06f427c905; Study 3 is here: https://osf.io/2agyn/?view_only=1cd6d18b6cca4357a8ab0f8cd47e4426.

studies, we report all measures, manipulations and exclusions and our sample sizes were determined before any data analysis.

Study 1: Do social dominants differentially forecast the emotions of others?

Methods

Procedure. Participants who passed an initial attention check (see below) completed an Emotion Rating task in which they read a series of negative events that happened to specific individuals. We randomly assigned participants to one of two Emotional Focus conditions; some participants indicated “how good” and “how bad” they believed the target in the stories felt (Target-Focus) while other participants indicated “how good” and “how bad” they themselves felt in response (Self-Focus). Specifically, in the Target-Focus condition participants responded to the prompt “If you saw this scenario in real life, how good/bad do you think [TARGET NAME] feels?” while participants in the Self-Focus condition responded to “If you saw this scenario in real life, how good/bad would it make you feel?” After the Emotion Rating task, participants rated the targets in the stories on warmth and competence and filled out a shortened SDO₇ questionnaire. We counterbalanced the order of the warmth/competence ratings and the SDO questionnaire.

Participants. Our sample size estimates were based on recommendations by Schönbrodt and Perugini (2013) in which correlations of $r = .21$ (the average r effect size in psychology; Richard, Bond, & Stokes-Zoota, 2003) stabilizes at around 250 subjects. Given we had a between-subjects variable with two levels, we doubled 250 for a planned sample size of 500 and recruited 50 more subjects to allow for attrition. We paid a total of 552 participants from Amazon Mechanical Turk using Turk Prime as a

recruitment platform, restricting our potential sample to those who were 18 years or older, residing in the United States, and had completed 1000 or fewer hits. Before participants reached the consent form, they were screened for potential bots and lack of attention by having them solve the following puzzle: “If the following numbers were organized in order of **increasing** value, what would be the **middle** number? Type your answer in words with **all uppercase** letters. Three, 1, Six” (emphasis was present for participants). The 265 participants who failed to enter the correct answer (“THREE”) never completed any study measures and were not paid. We further excluded 76 participants who failed another attention check embedded within the Emotion Rating task (described below), leaving a final sample of 476 participants (332 self-identified Whites and 245 women), $M_{age} = 33.26$, $SD = 10.77$.

Emotion Rating task. Participants read a series of nine stories purportedly written by previous participants about their recent experiences. After each story participants either answered how good and bad they themselves felt (Self-Focus) or how good and bad they believed the target in the story felt (Target-Focus). Participants indicated good and bad feelings on 100-point sliders anchored at *Not at All Good/Bad* (0) to *Extremely Good/Bad* (100) without feedback. The order of the good/bad sliders were randomized between trials.

Within each trial, participants learned the name of the target, a descriptor of the target corresponded to one of the four dimensions in the SCM, and a negative event that happened to the target. We chose the target descriptor based on past SCM work (Fiske et al., 2002): “a drug addict” and “a homeless man” represented low status and low warmth; “a blind man” and “an 80-year old man” represented low status and high

warmth; “an investment banker” and “a venture capitalist” represented high status and low warmth; and “a firefighter” and “a honor college student” represented high status and high warmth. Within a given trial, the name, target, and story were randomly assembled. We included one attention check trial in which participants were instructed to slide both sliders all the way to the left (i.e., “mark good and bad feelings as ‘zero’”). Given that the sliders did not give numerical feedback (meaning participants did not know if they actually slid the sliders all the way to 0), we included all participants where both the good and the bad sliders were valued at less than 5 for the attention check.

Warmth and competence ratings. According to the SCM, status predicts attributions of competence. For each of the eight targets we asked participants to indicate how warm (i.e. good-natured, sincere, friendly; Extremely Cold – Extremely Warm) and competent (i.e., confident, capable, skillful; Extremely Incompetent – Extremely Competent) they were on 100-point sliders. We asked the warmth and competence questions sequentially by target, with a single target and the two sliders presented on a page at any time. We counterbalanced the order of the warmth and competence sliders within a target as well as the presentation order of all targets. In the aggregate, the relative position of the targets to each other was in line with SCM predictions (see supplementary materials).

Social dominance orientation. We used the shortened eight-item SDO₇ scale to measure social dominance on a 1 (*Strongly Oppose*) – 7 (*Strongly Favor*) scale. We averaged the eight items together to create a single index, $\alpha = 0.88$, $M = 2.56$, $SD = 1.18$. Higher numbers indicate a higher preference and support for group-based inequality. Sample items included “We should do what we can to equalize conditions for

different groups (reverse-coded)” and “Some groups of people are simply inferior to other groups.” We tested whether SDO levels varied as a function of the Emotional Focus condition. They did not, $F(1, 474) = 1.04, p = 0.308$. SDO also did not vary as a function of the counter-balancing order with the warmth and competence ratings, $F(1, 474) = 1.79, p = 0.182$.

Analyses². We pre-registered our data analysis plan, in which we ran a multilevel hierarchical model in R where emotion ratings were predicted by the five-way interaction between Emotional Focus (Self-Focus, Target-Focus), Target Status (High, Low), Target Warmth (High, Low), Rating (“How Good”, “How Bad”, and SDO (mean-centered), including at least a participant random effect. All variables were within-subjects except for Emotional Focus, which was between-subjects. Variables were effect-coded with Target-Focus, High Status, High Warmth, and “How Bad” as reference categories. We built the model hierarchically from the random effects model to the five-way interaction model. At each step until the four-way model, the more complicated model was a better predictor of the data. However, the five-way model was a marginally better model than the three-way model ($p = .056$) and was a significantly better model than the four-way model ($p = .015$). Furthermore, we pre-registered that we would report statistics from the fully saturated model, which is what we do below.

We calculated a pseudo- R^2 for multilevel models using the “`r.squaredGLMM`” function from the MuMIn package (Bartoń, 2018). The marginal R^2 of the five-way model (or the variance explained by fixed factors) was 0.43 (the conditional $R^2 = 0.45$).

² We pre-registered that we would run a version of the model in which we replaced the *a priori* warmth/status target designations with the continuous ratings participants gave regarding the targets’ warmth and competence. These analyses can be found in supplementary materials for both Study 1 and 2.

We also conducted sensitivity analyses using the *SIMR* package to determine whether we had sufficient power to test these interactions. With 80% power we could have detected an effect size as small as 0.61. We used the *emmeans* package in *R* to conduct planned comparisons between means and slopes, which were adjusted using the Tukey method. All descriptive statistics, correlations, ANOVA, and regression analyses tables not found in the main text can be found in supplementary materials.

Results

We had three hypotheses. First, we expected that participants in the Target-Focus condition would report that the targets in the story feel more bad than good about the negative events that happened to them (this effectively amounts to a comprehension check), and that this result would not be moderated by target or SDO. Second, we expected to replicate past work on empathy and schadenfreude for SCM targets such that when participants indicated how they themselves felt (Self-Focus), participants would report the highest levels of empathy for high warmth/low status targets and the highest levels of schadenfreude for low warmth/high status targets (Cikara & Fiske, 2011, 2012). Third and finally, we expected that SDO would moderate the above effect, such that as SDO increased, participants would report relatively more empathy and less schadenfreude for the high-status targets as compared to the low-status targets.

Comprehension check. As predicted, the two-way interaction between Emotional Focus and Rating (i.e., whether it was the 'good' or 'bad' slider) was significant, $F(1, 7111.12) = 192.27, p < .001$. When participants were judging the emotions of *targets* experiencing negative events, they believed that the target felt more

bad ($M = 67.06$) than good ($M = 25.08$) in the scenario $t(7111) = -59.69, p < .001, d = -2.06$. We hypothesized that Target Status, Target Warmth, and SDO would *not* moderate this relationship. That hypothesis was not supported, as all three variables significantly interacted with Rating and Emotional Focus. Participants assumed that the high warmth target ($M = 66.02$) felt less bad than the low warmth target ($M = 68.10$), $t(7111) = 2.10, p = .036, d = 0.09$ (a negligible effect) and that the high status target felt less bad ($M = 64.82$), $t(7111) = -4.51, p < .001, d = -0.20$, and more good ($M = 27.03$), $t(7111) = 3.91, p < .001, d = 0.22$, in the scenario than the low status target ($M_{\text{bad}} = 69.30, M_{\text{good}} = 23.14$).

Did social dominants differentially forecast the emotions of others in general? SDO also interacted with Emotional Focus and Rating, $F(1, 7111.1) = 4.76, p = 0.029$. Specifically, SDO was more strongly related to how good the participants themselves felt, $b = 2.55, 95\%CI[0.29, 2.14]$, compared to how good participants believed the targets felt, on average, $b = 1.21, 95\%CI[0.29, 2.14]$ ($t(1201.10) = -1.97, p = .0486$). Note, however, this result was qualified by the significant five-way interaction (see below).

Did the status and warmth of the targets moderate participants' empathy and counter-empathy? We predicted a significant interaction between Emotional Focus, Rating Task, Target Status, and Target Warmth but it was not significant, $F(1, 7111.12) = 1.99, p = .158$. However, pairwise comparisons between the amount of empathy and schadenfreude felt towards the four SCM targets supported our hypotheses (Figure 1). Participants felt the most empathy towards the high warmth/low status targets ($M = 69.44$), and the most schadenfreude towards the low warmth/high

status targets ($M = 34.87$), compared to all other targets. In fact, the amount of empathy and schadenfreude felt was significantly different for all targets, t s range between 2.65 - 16.79, p s < .041. Again, this result was qualified by the significant five-way interaction.

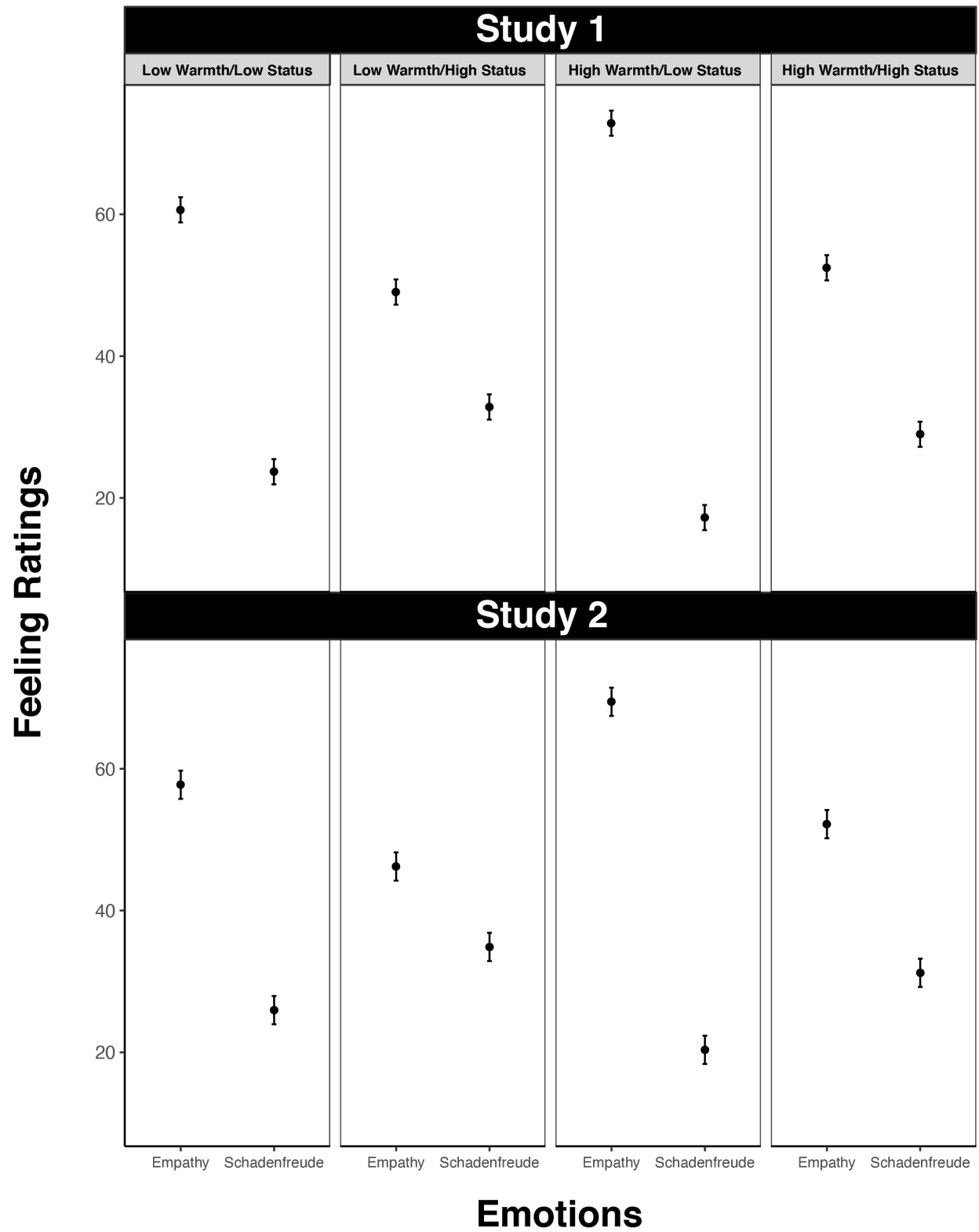


Figure 1: The amount of empathy and schadenfreude felt towards each target in Study 1 and Study 2.

Did SDO moderate how much empathy and schadenfreude participants felt towards high and low status targets? We expected a significant interaction between Emotional Focus, Rating Task, Target Status, and SDO such that in the Self-Focus condition, SDO would predict decreased empathy and increased schadenfreude for the low-status targets. The four-way interaction was not significant, $F(1, 7111.1) = 2.59, p = .108$, but it was qualified by a significant five-way interaction, $F(1, 7111.1) = 5.92, p = 0.015$ (Figure 2). To investigate this interaction, we compared how SDO moderated “how good” and “how bad” participants rated the target’s feelings and their own feelings for each of the four SCM targets (Figure 2).

Starting first within the Target-Focus condition: Examining the slopes for significance, only two of the SDO slopes within the Target-Focus condition had 95% confidence intervals that excluded zero: how good ($b = 2.22, 95\%CI[0.54, 3.90]$) and how bad ($b = -2.34, 95\%CI[-4.02, -0.67]$) participants thought the low warmth/high status targets felt. As SDO increased, participants thought the low warmth/high status targets felt less bad and more good about the negative things that happened to them. Said another way, emotional forecasts did not vary as a function of SDO except for low warmth/high status targets.

Next, we compared the amount of schadenfreude felt by *participants* in the Self-Focus condition across targets. The relationship between SDO and schadenfreude was not moderated by target. Specifically, SDO positively predicted feeling schadenfreude for *all* targets ($b_{\text{highwarmth-lowstatus}} = 1.97, 95\%CI[0.23, 3.70]$; $b_{\text{highwarmth-highstatus}} = 2.36, 95\%CI[0.62, 4.09]$; $b_{\text{lowwarmth-highstatus}} = 2.37, 95\%CI[0.64, 4.11]$; $b_{\text{lowwarmth-lowstatus}} = 3.51, 95\%CI[1.77, 5.24]$).

Last, we compared the amount of empathy felt by *participants* in the Self-Focus condition across targets. The relationship between SDO and empathy did depend on target, such that higher levels of SDO was associated with less empathy only towards low warmth/low status targets ($b = -3.65$, 95%CI[-5.39, -1.92]), as the 95% confidence interval for the other targets contained zero. Furthermore, the negative relationship between SDO and empathy for low warmth/low status targets was significantly more negative than the relationship between SDO and empathy for low warmth/high status targets ($b = 0.19$, 95%CI [-1.54, 1.93]), $t(7111) = -3.19$, $p = .008$, and marginally more negative than the relationship between SDO and empathy for high warmth/low status targets ($b = -0.88$, 95%CI [-2.61, 0.86]), $t(7111) = -2.30$, $p = .097$ and high warmth/high status targets ($b = -0.83$, 95%CI [-2.57, 0.90]), $t(7111) = -2.34$, $p = .089$.

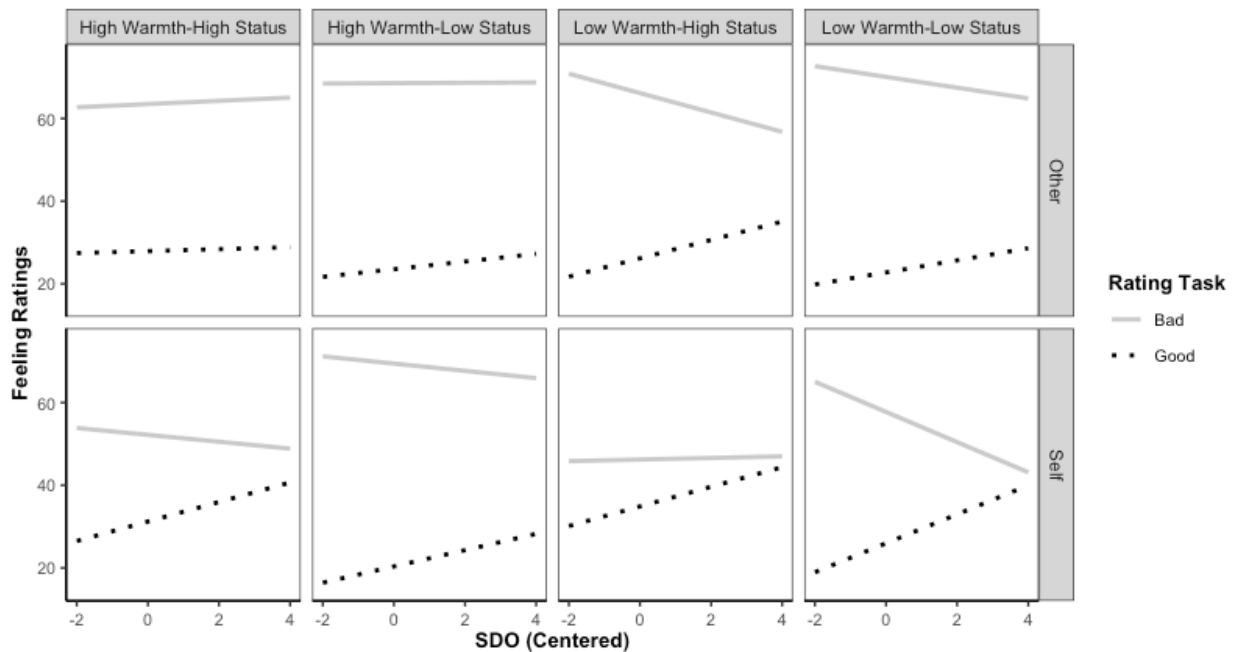


Figure 2: The effect of SDO, Target Warmth, Target Status, and Emotional Focus on predicted Feeling Ratings in Study 1

Discussion

We tested whether the relationship between SDO and (counter-)empathy simply reflects a tendency among high-SDO individuals to ascribe less extreme emotions to others (which could then inform their own emotional responses). For three out of four targets (low warmth/low status, high warmth/low status, and high warmth/high status), SDO was not significantly related to how participants believed the target felt, suggesting that social dominants generally make the same emotional forecasts as egalitarians. However, SDO was related to how people themselves felt. Specifically, SDO was associated with reduced empathy and increased schadenfreude towards low warmth/low status targets (e.g., homeless people). In Study 2, we (i) replicated self-ratings in Study 1, and (ii) tested if SDO related to the desire to feel empathy and schadenfreude.

Study 2: Do social dominants desire to feel less empathy and more schadenfreude for low-status targets?

Methods

Procedure. Participants who passed the initial attention check completed the same Emotion Rating task as in Study 1, but we changed the study such participants were randomly assigned to answer “how good” and “how bad” they themselves felt (Self-Focus in Study 1; labeled ‘Actual’ in Study 2) or, “how good” and “how bad” they *wanted* to feel (‘Want’). The exact prompts read: “If you saw this scenario in real life, how good/bad would it make you feel?” in the Actual condition and “If you saw this scenario in real life, how good/bad would you **want** to feel?” in the Want condition. The

rest of the study proceeded as in Study 1, and SDO₇ was again reliable³, $\alpha = .85$, $M = 2.63$; $SD = 1.12$.

Participants. We based our sample size estimates on Study 1. Using the *SIMR* package, we calculated the sample size needed to achieve 80% power to detect the five-way interaction we found, (700 subjects were needed to detect an effect of $b = .51$ at 82.4% power) and increased it by 100 to allow for attrition. We paid a total of 844 participants (298 participants failed the initial screener) from Amazon Mechanical Turk using Turk Prime as a recruitment platform, restricting our potential sample to those who were 18 years or older, residing in the United States, and had completed 500 or fewer hits. We excluded 103 participants who failed our attention check embedded within the Emotion Rating task. After exclusions we had 741 participants; 380 in the Actual condition and 361 in the Want condition. We pre-registered that we needed above 350 subjects in each condition, which we satisfied without needing to run additional subjects. 516 subjects self-identified as White and 432 as women ($M_{\text{age}} = 34.81$, $SD = 16.11$).

Analyses. We again pre-registered our data analysis plan in which we ran a multilevel hierarchical model in *R* where emotion ratings were predicted by the five-way interaction between Judgment (Actual, Want), Target Warmth (Low, High), Target Status (Low, High), Rating Task (“how good”, “how bad”), and SDO (mean-centered), including at least a participant random effect. All variables were within-subjects except

³ We tested whether SDO varied as a function of the Emotional Judgement condition. It did not, $F(1, 727) = 0.2$, $p = 0.656$. However, SDO did vary as a function of counterbalancing with the stereotype content model questions. Specifically, participants had higher levels of SDO when the stereotype content model questions went first ($M = 2.72$) than when the SCM questions went second ($M = 2.55$), $F(1, 727) = 4.04$, $p = 0.045$, $d = -0.15$ (a negligible effect though).

for Judgment, which was between-subjects. The reference categories were “Actual”, High Warmth, High Status, and “How Bad”). We first tested a model such that Ratings was predicted by Participant ID, Story ID (e.g. Stubbed Toe), and Trial-Order as random intercepts. This model had a singular fit; thus, we removed all random intercepts except for the participant ID, which we needed to accurately account for the repeated nature of our design.

We built the model hierarchically, moving through the main effects model to the five-way model. At each step until the five-way model, the more complicated model was a better predictor of the data. The marginal R^2 of the five-way model is 0.354 (the conditional $R^2 = 0.406$). We pre-registered that we would report statistics from the fully saturated model, which is what we do below. We also conducted sensitivity analyses using the SIMR package. With 80% power we could detect an effect size as small as $b = .55$ for the five-way interaction and $b = .54$ for the four-way interaction based on 1000 simulations.

Results

We had three main hypotheses. First, as in Study 1, we expected that participants in the Actual condition would report the greatest amount of empathy for the high warmth/low status targets and the greatest amount of schadenfreude for the low warmth/high status targets. Second, we expected this pattern to be moderated by SDO and target such that high SDO would be associated with feeling increased levels of schadenfreude towards all targets while predicting decreased levels of empathy specifically towards low-warmth targets. Finally, in the Want condition, we expected

SDO to relate to a decreased *desire* to feel empathy towards all targets, but for the level of desire to depend on the target.

Did the stereotyped status and cooperation of the targets moderate participants' empathy and counter-empathy? The three-way interaction between Rating Task, Target Warmth, and Target Status was significant, $F(1, 10905.05) = 27.69$, $p < .001$. In line with our hypotheses, participants felt the most empathy for high warmth/low status targets ($M = 71.46$) and the most schadenfreude for low warmth/high status targets ($M = 33.68$), ts range from 4.83 – 26.86, $ps < .001$, ds ranging from 0.18-0.87 (Figure 1).

Did SDO moderate how much empathy and schadenfreude participants felt/wanted to feel in general? There was a significant three-way interaction between Judgement, Rating Task, and SDO, $F(1, 10905.05) = 4.17$, $p = 0.041$. SDO correlated with actual ($b = 1.41$, 95%CI[0.48, 2.35]) and desired ($b = 1.62$, 95%CI[0.61, 2.63]) schadenfreude as well as with desired empathy ($b = -1.92$, 95%CI[-2.93, -0.91]), but not with actual empathy ($b = -0.57$, 95%CI[-1.50, 0.36]). There was no difference in how much schadenfreude participants actually felt versus how much they desired to feel as a function of SDO, $t(1441.97) = -0.29$, $p = .771$, but SDO was marginally more negatively related to the desire to feel empathy compared to how much empathy was actually felt, $t(1441.97) = -1.93$, $p = .054$. However, this effect was qualified by higher-order interactions.

Did SDO moderate how much empathy and schadenfreude participants felt towards high and low status targets? Although the five-way interaction was not significant, $F(1, 10905.05) = 2.12$, $p = .146$, there was a significant four-way interaction

between Rating Task, Target Warmth, Target Status, and SDO, $F(1, 1.0905.05) = 37.12, p < .001$ (Figure 3). This suggests that there was not a significant difference between how participants wanted to feel versus what they actually felt.

Examining SDO slopes within the Actual condition, we replicated Study 1. SDO negatively predicted empathy only for low warmth/low status targets ($b = -4.19, 95\%CI[-5.34, -3.05]$), but not for low warmth/high status ($b = 0.73, 95\%CI[-0.41, 1.87]$), high warmth/low status ($b = -0.72, 95\%CI[-1.86, 0.42]$), or high warmth/high status ($b = -0.79, 95\%CI[-1.93, 0.36]$) targets. Deviating slightly from Study 1, SDO was again positively related to schadenfreude for all targets ($b_{lowwarmth-lowstatus} = 3.51, 95\%CI[2.37, 4.65]$; $b_{highwarmth-lowstatus} = 1.55, 95\%CI[0.41, 2.69]$; $b_{highwarmth-highstatus} = 1.66, 95\%CI [0.52, 2.80]$) with the exception of the low warmth/high status targets ($b = -0.66, 95\%CI[-1.80, 0.49]$). In sum, SDO was negatively associated with empathy and positively associated with schadenfreude for low warmth/low status targets, positively associated with schadenfreude for both high warmth targets, and wasn't associated with either empathy or schadenfreude for low warmth/high status targets.

Directly comparing slopes: the relationship between SDO and empathy for the low warmth/low status targets was significantly more negative than all other targets (ts greater than 4.40, $ps < .001$), which were not significantly different from one another (ts less than 2.00, $ps > .20$). Unlike Study 1, there were differences in the relationship between SDO and schadenfreude by target as well. The relationship between SDO and schadenfreude for the low warmth/low status targets was significantly more positive than for high warmth/low status and low warmth/high status (and marginally more positive for high warmth/high status targets; $ts \geq 2.43, ps \leq .071$), while the relationship

Running Head: SDO AND MOTIVATED (COUNTER-)EMPATHY

between SDO and schadenfreude for low warmth/high status targets was significantly more negative than the high warmth targets ($t_s \geq 2.90, p_s \leq .020$).

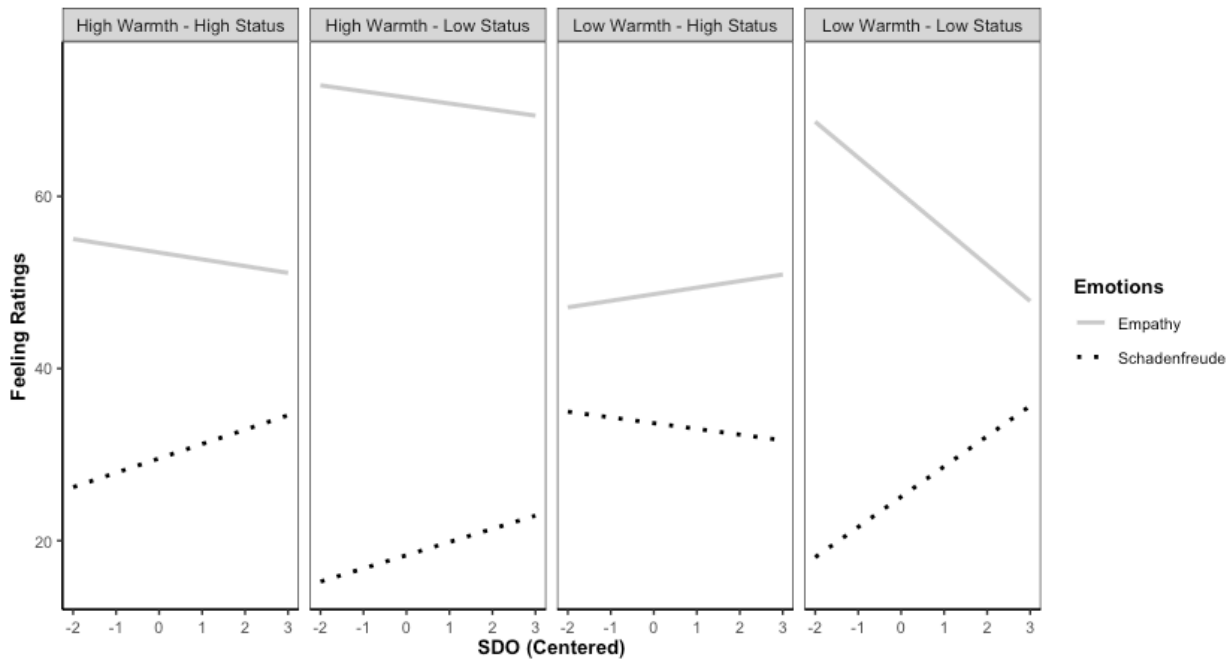


Figure 3: The effect of SDO, Target Warmth, Target Status, and Rating Task on predicted feeling ratings in Study 2

Discussion

Study 2 extended the findings of Study 1 by asking whether individuals higher in SDO desire to feel reduced empathy and increased counter-empathy in general but especially towards low warmth/low status targets. Interestingly, there was not a significant five-way interaction which indicated that there was not a significant difference between how much (counter-)empathy participants wanted to feel versus how much they actually felt as a function of SDO and target characteristics. In short, SDO impacts not only the intensity of empathic emotions but also the desire to feel empathic emotions.

One obvious limitation of the previous study is that we indexed desire via self-report and that our effect is based on a null finding. We could have not found a difference between actual emotions and desired emotions because of how we worded the questions, although the conditions were between subjects, or that participants had a hard time indicating what they would want to feel versus actually feel in a hypothetical situation.

Thus, in Study 3 we employed a modified empathic selection task (Cameron et al., 2019) to separate out motivation from actual feelings. Participants were given the ability to choose what emotion they wanted to feel (e.g., choosing between empathy and schadenfreude) on each trial. We also limited the targets to just low warmth targets, because SDO most strongly moderated empathic and counter-empathic responses to those targets.

We hypothesized that participants, on average, would avoid feeling empathy in general (Cameron et al., 2019), but would choose empathy for low warmth/low status targets more than low warmth/high status targets. However, we expected SDO to moderate both responses such that as SDO increased, participants would be less likely to choose to feel empathy (compared to either schadenfreude or control) in general, but especially for low warmth/low status targets relative to low warmth/high status targets.

Study 3: Do social dominants choose to feel less empathy and more counter-empathy towards low-status targets?

Methods

Procedures. After participants passed the screener described in Study 1, we told them they would complete a series of 21 trials in which they would see a person and

three decks of cards. These decks corresponded to the choice to feel empathy, feel schadenfreude, or to report what the target in the story feels. We informed participants that they were to make a choice between the decks and after their selection respond to a story about the person. We further explained each deck and what we meant by feel empathy, etc. and had them complete comprehension checks before moving onto the actual Empathy Selection task. We randomly assigned participants to read about low warmth/low status targets or low warmth/high status targets, making Target a between subjects factor unlike Studies 1 and 2. After participants completed the Empathy Selection task, they filled out the 16-item SDO₇ scale, indicated how mentally demanding the different kinds of trials were, and filled out brief demographics.

Participants. We recruited a total of 669 participants from Amazon Mechanical Turk using Cloud Research⁴ as a recruitment platform, restricting our potential sample to those who were 18 years or older, residing in the United States, and had completed 1000 or fewer hits. We preregistered that we would continue to recruit people until we had at least 500 useable participants. After excluding participants who failed the attention check embedded in the Empathy Selection task, we had fewer than 500 participants. Thus, we continued to recruit until the final sample was 507. The sample was predominately White, comprised of 365 self-identified White people and 38 Black people ($M_{age} = 34.7$, $SD = 10.44$).

We determine sample size using Study 4 in the work by Cameron and colleagues. They had a total of 193 subjects for 80% power. Given that we reduced the number of repeated measures, included a second alternative choice to empathy (i.e.

⁴ During the production of this manuscript TurkPrime renamed itself Cloud Research.

control and counter-empathy) and included SDO as a continuous predictor, we increased our sample size to 500. This sample size also follows our previous determination that we should have 250 subjects in each condition so that correlations can stabilize.

Empathy Selection Task. At the beginning of the study we explained the various choices participants could make. Specifically, we told them: “On each trial, you will see a person and three decks of cards. You should choose between these decks. Once you choose a deck, you will then be given one of three possible sets of instructions for how to understand a negative event that happened to that person.” We described the three decks to the participant, which included an EMPATHY deck in which we asked participants to tell us “**how bad you feel because of the person’s misfortune**”, a SCHADENFREUDE deck in which we asked participants to tell us “**how good you feel because of the person’s misfortune**” and a TARGET-FEELS deck in which we asked participants to tell us “how you think the person in the story feels about the negative event that happened to them.” After we explained the task to participants, they received a series of multiple-choice comprehension checks in which they could not move forward until they chose the correct answer regarding what they were supposed to do if they chose a particular deck.

Participants then started the Empathy Selection task. On each trial participants saw a randomly assigned name and a descriptor that either made the person a low warmth/low status target (i.e. “a homeless man” or a “drug addict”) or a low warmth/high status target (i.e. “an investment banker” or a “venture capitalist”). Participants made a choice regarding what emotion they wanted to feel (or not in the case of the TARGET-

FEELS deck) and then saw a randomly assigned mildly negative story that ostensibly happened to the target. We reminded participants what they were supposed to do once they made their choice, and participants indicated how bad they felt on a 100-point slider (0 = not at all bad, 100 = extremely bad) if they chose the EMPATHY deck, how good they felt on a 0-100 point slider (0 = not at all good, 100 = extremely good) if they chose the SCHADENFREUDE deck, and how bad the [TARGET NAME] felt on a 0-100 point slider (0 = not at all bad, 100 = extremely bad) if they chose the TARGET-FEELS deck. The order of the deck presentation was randomized on the trial level. Participants had 10 trials for each target description (e.g., 10 for homeless; 10 for drug addict) and one attention check trial always administered at trial number 12 in which participants had to again move the slider all the way to the left (zero). Because participants didn't receive numeric feedback regarding the slider's position, we included participants that moved the slider to 5 or below.

Social dominance scale. We used the full 16-item SDO₇ scale to measure social dominance on a 1 (Strongly Oppose) – 7 (Strongly Favor) scale. We averaged all items together to create a single index, $\alpha = 0.92$, $M = 2.51$, $SD = 1.09$.

Task Demand. We asked participants to indicate how demanding they saw each deck on a scale from 1 = Very Demanding to 7 = Very Easy as a way of corroborating previous work on how cognitively demanding people see empathy. Participants saw the EMPATHY deck as the easiest ($M = 4.69$, $SD = 1.47$), followed by the TARGET-FEELS deck, ($M = 4.48$, $SD = 1.35$) and the SCHADENFREUDE deck, ($M = 3.72$, $SD = 1.7$). Directly comparing the decks, participants believed the EMPATHY deck was significantly easier than both the SCHADENFREUDE, $t(505) = 10.41$, $p < .001$, $d =$

0.61, and TARGET-FEELS decks, $t(505) = 3.31, p = .001, d = 0.15$ (negligible).

Participants also believed the TARGET-FEELS deck was significantly easier than the SCHADENFREUDE deck, $t(505) = -8.72, p < .001, d = -0.5$.

Analyses. We pre-registered that we would analyze the choice data using a multilevel logistic regression model in *R* where choice was predicted by the three-way interaction between Target (Low Warmth/Low Status, Low Warmth/High Status), Deck Options (EMPATHY, SCHADENFREUDE, TARGET-FEELS), and SDO (mean-centered). However, our data actually required a multinomial multilevel regression rather than a multilevel logistic regression as there are three possible options for participants to choose on each trial. We helmert-coded Deck Options such that the Empathy choice was compared to Schadenfreude and Target-Feels combined, then the choice to pick Schadenfreude was compared to Target-Feels. We effects-coded Target such that low warmth/low status was the reference category and included a participant random intercept. Finally, we conducted Wald tests to assess the overall impact of any effects that contained Deck Options as a variable of interest.

Using the SIMR package, we calculated that with 80% power we could detect an effect size as small as $b = .08$ for the three-way interaction comparing Schadenfreude to Target-Feels and $b = .045$ for the three-way interaction comparing Empathy to Schadenfreude and Target-Feels combined.

Results

Did participants, on average, avoid feeling empathy? There was a main effect of Deck Options, $X^2(2, N = 507) = 388.51, p < .001$ which was significant for both

of our contrasts. Specifically, the comparison between choosing the EMPATHY deck or anything else was significant, $b = 0.21$, $p < .001$, as well as the comparison between choosing the SCHADENFREUDE deck compared to the TARGET-FEELS deck, $b = -0.25$, $p < .001$. The odds of choosing the EMPATHY deck was 1.232 times greater (95% CI[1.203 , 1.262]) than the odds of choosing anything else. The odds of choosing the SCHADENFREUDE deck was 0.78 (95% CI[0.747 , 0.815]) as large as the odds of choosing the TARGET-FEELS deck. Thus, we did not find evidence in support of the hypothesis that individuals preferred to avoid feeling empathy. Instead, participants chose to feel empathy most often. On average, participants chose the EMPATHY deck on 39.45% of trials, SCHADENFREUDE on 26.73% of trials, and TARGET-FEELS on 33.83% of trials.

Did participants, on average, choose to feel empathy more often for low warmth/low status versus low warmth/high status targets? There was a significant interaction between Target and Deck Option, $\chi^2(2, N = 507) = 86.07$, $p < .001$. This overall interaction effect was also significant for each of our contrasts. The comparison between choosing the EMPATHY deck over anything else between low warmth/low status and low warmth/high status targets was significant, $b = -0.139$, $p < .001$, $OR = 0.87$ (95% CI[0.841, 0.9]) as well as the comparison between choosing the SCHADENFREUDE deck over the TARGET-FEELS deck for low warmth/low status and low warmth/high status targets, $b = 0.148$, $p < .002$, $OR = 1.16$ (95% CI[1.092 , 1.232]). The odds of choosing the EMPATHY deck over everything else decreased by 0.87 moving from the low warmth/low status target to the low warmth/high status target. The odds of choosing the SCHADENFREUDE deck over the TARGET-FEELS deck

increased by 1.16 moving from the low warmth/low status target to the low warmth/high status target. Thus, our hypothesis was supported; participants chose to feel empathy more often towards low warmth/low status targets compared to low warmth/high status targets.

Did SDO moderate participants' choice to feel empathy and schadenfreude in general? There was a significant interaction between SDO and Deck Option, $\chi^2 (2, N = 507) = 34.27, p < .001$. However, this overall effect held for only one contrast, which was the comparison between choosing the EMPATHY deck compared to everything else, $b = -0.07, p < .001, OR = 0.94$ (95% CI[0.92, 0.96]). For every unit increase in SDO, the odds of choosing the Empathy deck over everything else decreased by 0.94. There was not a significant difference in the probability of choosing the SCHADENFREUDE deck over the TARGET-FEELS deck as a function of SDO, $b = 0.02, p = 0.287, OR = 1.02$ (95% CI[0.98, 1.06]). Thus, our hypothesis regarding SDO's modulation of empathic responding was partially supported. As SDO increased, participants were less likely to choose to feel empathy compared to the alternative options but not more likely to choose to feel schadenfreude compared to what the target felt.

Did SDO moderate how much empathy and schadenfreude participants chose to feel towards low warmth/low status and low warmth/high status targets?

There was a marginal significant three-way interaction between Target, Deck Option, and SDO, $\chi^2 (2, N = 507) = 4.79, p = .091$ (Figure 4). Looking at the specific contrasts, the first contrast was significant while the second was not. Choosing the EMPATHY deck compared to everything else as a function of SDO differed by Target, $b = 0.034, p$

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= .029, $OR = 1.035$ (95% CI[1.004, 1.067]) but there was not a significant difference between Targets in terms of choosing the SCHADENFREUDE deck compared to the TARGET-FEELS deck, $b = -0.011$, $p = .702$, $OR = 0.989$ (95% CI[0.936, 1.046]).

Comparing our Helmert-coded contrasts, we find that the relationship between SDO and the likelihood of choosing the EMAPTHY deck versus anything else was larger for low warmth/low status targets (β : Empathy = -0.12; Schadenfreude = 0.10; Target-Feels = 0.05) than for low warmth/high status targets (β : Empathy = -0.06; Schadenfreude = 0.04; Target-Feels = 0.02), Diff of Diff = 0.21, $z = 2.18$, $p = .029$. However, there was no difference in the choice between SCHADENFREUDE compared to the TARGET-FEELS deck as a function of SDO and Target.

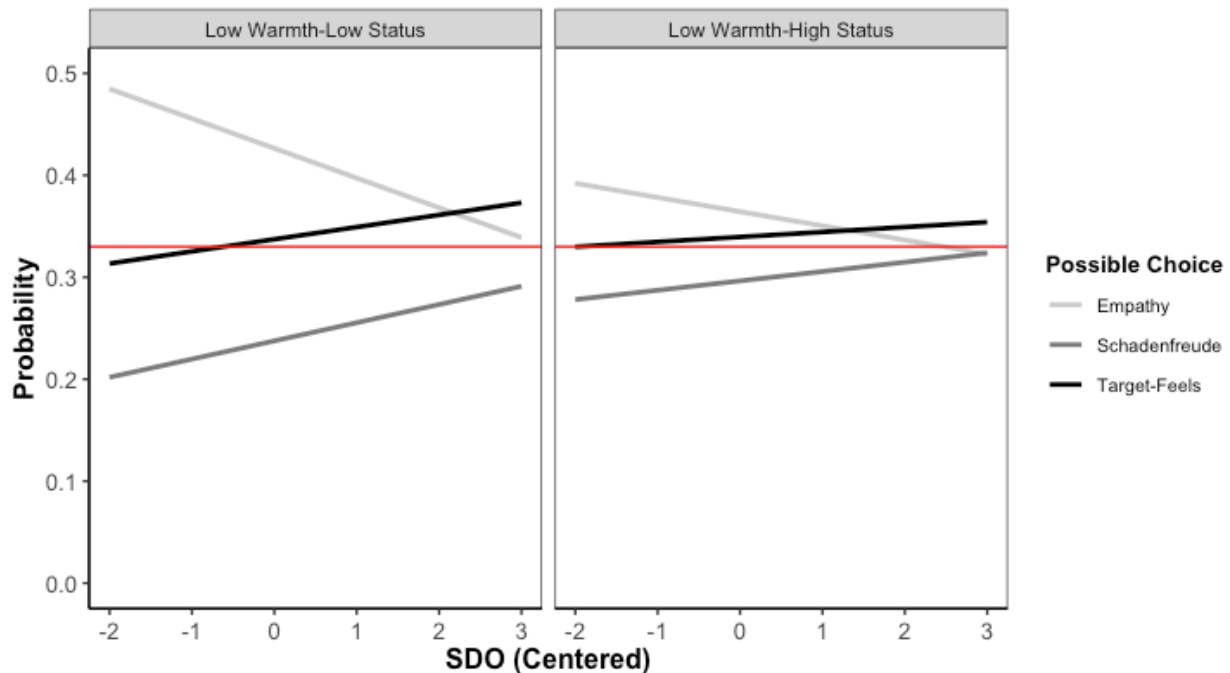


Figure 4: The effect of SDO, Target, and Deck Options on the probability of deck choices. The red line indicates chance responding at .33

Discussion

Study 3 assessed the relationship between SDO and the choice to feel less empathy and more schadenfreude. In contrast to Cameron et al. (2019), participants in our study found the Empathy task the easiest to do and correspondingly chose the Empathy deck most frequently. However, in a situation in which empathy was the preferred emotion of participants on average, we still found that SDO significantly negatively related to participants' likelihood of choosing to feel empathy in general, and that this was more the case for low warmth/low status versus low warmth/high status targets. We did not find support for our hypotheses regarding schadenfreude. However, SDO was significantly positively related to the likelihood of choosing to feel schadenfreude for the low warmth/low status target, $b = 0.10$, 95%CI [0.04, 0.16] (but not the low warmth/high status target, $b = 0.04$, 95%CI [-0.01, 0.10]). This effect wasn't different from the likelihood of choosing the control condition, however.

General Discussion

In this paper we tested whether (counter-)empathic emotions elicited in intergroup contexts are not only shaped by levels of SDO but motivated by it. We found that SDO related to feeling reduced empathy and increased schadenfreude in general, but that these feelings were especially pronounced for those who are disadvantaged in society. Moreover, SDO simultaneously related to individuals' actual levels of empathy and schadenfreude as well as to their desires and choices to avoid empathy for disadvantaged targets.

Our work comports with other work examining the influence of ideology on empathy. For example, SDO positively related to feeling empathy for advantaged

targets, albeit inconsistently, and negatively related to feeling empathy for disadvantaged targets (Lucas & Kteily, 2018). We did not replicate the pattern by which SDO strongly related to feeling empathy (positively or negatively) for low warmth/high status targets – the targets that most closely resemble Lucas & Kteily’s operationalization of advantaged targets. However, in line with their findings, SDO was strongly related to feeling reduced empathy for low warmth/low status targets, who are more disadvantaged in society than low warmth/high status targets. As another example, recent work on economic system justification showed that believing in a fair system muted self-reported and physiological distress response after viewing homelessness (Goudarzi et al., 2019). Here we show that another ideology – SDO – can not only reduce distress (i.e. empathy) but can lead to antipathy (i.e. schadenfreude) towards the same targets.

Our findings highlight many avenues for future research. For example, it is unclear whether SDO modulates empathic responding at all stages of the motivational pathway. We’ve demonstrated that SDO is related to the choice to approach or avoid situations in which one knows they might have to feel a particular emotion. However, there are other ways to regulate emotions, such as attention modulation (i.e. the choice to attend to various elements of the situation that might evoke empathy (or not)) and appraisal (i.e. changing the appraisal of the intensity of the target’s emotion or the meaning of the target’s emotions; Zaki, 2014).

Research on SDO and attention to inequality (Kteily et al., 2017) suggests that attention modulation is a strategy individuals higher in SDO potentially use to regulate their empathic responding. The fact that SDO related to beliefs that low warmth/high

status targets felt less bad and more good about negative events that occur to them in Study 1 suggests that SDO could be related to individuals' appraisal of the meaning of their experiences. For example, social dominants could believe to a greater degree that negative events happening to people mean less and thus do not deserve as intense of an empathic response; but more research is needed to provide evidence.

In conclusion, the current research supports the assertion that SDO can lead individuals to engage in motivated processes that dictate their emotional responses.

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