

The interplay of social rank perceptions of Trump and Biden and emotions following the U.S. presidential election 2020

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ABSTRACT

The outcome of the 2020 U.S. election between Trump and Biden evoked strong emotions. In U.S. American (Study 1; $N=405$) and German (Study 2; $N=123$) samples, we investigated how observers' group membership (i.e. political orientation) and the social rank attainment of both candidates (i.e. dominance vs. prestige) predicted emotional reactions. Trump was generally perceived as more dominant, and Biden as more prestigious. However, perceptions of social rank attainment differed depending on the observers' political orientation, either matching or not matching with the leaders (i.e. Republicans and Democrats, respectively). The candidate who did not share the participants' political orientation was perceived as less prestigious and more dominant and elicited stronger contrastive emotions (i.e. *schadenfreude*, malicious envy) and weaker assimilative emotions (i.e. happy-for-ness, sympathy, anger), and vice versa. Crucially, dominance and prestige perceptions explained variance in the emotional reactions of more conservative and more liberal participants. Prestige positively predicted assimilative emotions and dominance contrastive emotions. Our work advances theorising by providing evidence that dominance and prestige perceptions contribute to the elicitation of various emotions. Furthermore, it suggests that prestige and dominance are not fixed characteristics of liberal and conservative leaders but depend on the observers' group membership.

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The 59th U.S. presidential election between Donald Trump and Joe Biden featured a complex interplay of the candidates' demeanor and their followers' emotions. Trump and Biden likely employed very different strategies to gain political influence – dominance and prestige, respectively (Kakkar & Sivanathan, 2017; McAdams, 2017). The opposing strategies likely contributed to the ever-increasing political polarisation in the United States (Abramowitz & McCoy, 2019). The polarisation appeared particularly pronounced on the 7th of November 2020, when media outlets announced that Biden won the election and Trump was defeated.

Political elections can evoke strong emotions in observers such as fear or enthusiasm because their outcomes have important implications for people's everyday lives (e.g. Kolagani et al., 2017; Marcus & MacKuen, 1993). The present work focuses on emotions that arise when people are confronted with another person's success or failure – the so-called fortunes-of-others emotions (Ortony et al., 2022). People can react empathically to Biden's victory and Trump's defeat and experience assimilative emotions such as happy-for-ness¹ and sympathy or rather unempathetically and experience contrastive

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emotions like envy and schadenfreude² (Boecker et al., 2022; Smith, 2000).

Studies indicate that both – a person’s demeanor (prestigious vs. dominant, Lange & Boecker, 2019) and group membership (Combs et al., 2009; Ouwerkerk et al., 2018) – affect which emotions observers experience in such events. Accordingly, we seized the unique opportunity to investigate this interplay in a naturalistic setting, following the announcement of the results of the U.S. election 2021 in a U.S. American (Study 1) and German (Study 2) sample. Specifically, the present research investigates how observers’ group membership (i.e. political orientation) shapes perceptions of other’s prestige and dominance and how this in turn explains whether people experience contrastive (envy, schadenfreude) or assimilative emotions (happy-for-ness, sympathy, anger) in response to a person’s success or failure in an intergroup context.

Emotional reactions to others’ successes and failures

Emotional reactions in response to others’ successes and failures are shaped by social comparison processes (Boecker et al., 2022; Smith, 2000; Tesser, 1988; Van Dijk et al., 2015). People evaluate what success or failure means for their relative standing on a given comparison dimension, which in turn affects their emotional reactions. People do not only evaluate their standing on a given social comparison dimension at the interpersonal level but also at the intergroup level when the event is appraised as relevant for the group (Hogg, 2000; Tajfel, 1974), eliciting group-based emotions (Smith & Mackie, 2015). We adopt a group-based perspective because we aim to explore how group membership (i.e. political orientation) affects how people emotionally react to others’ successes and failures.

Previous work indicates that (1) observers’ group membership impacts emotional reactions to others’ fortunes and misfortunes (e.g. Ouwerkerk et al., 2018), (2) group membership affects dominance and prestige perceptions (Kakkar & Sivanathan, 2017), and that (3) dominance and prestige perceptions predict emotions (Lange & Boecker, 2019). We integrate these findings in a conceptual (mediation) model (for more details, refer to section Present Research) to explain how people reacted to Biden’s victory and Trump’s defeat in the U.S. election 2020.

Group membership and emotions

Since the failure of competing outgroups is desirable and their success undesirable for the ingroup, these events should elicit contrastive emotions like schadenfreude (Boecker, 2021; Leach et al., 2003; Ouwerkerk et al., 2018) and envy, respectively (Cuddy et al., 2007; Leach & Spears, 2008). These emotions are contrastive because the desirability of an event differs for targets and observers. In contrast, since the failure of ingroups is undesirable and their success desirable, these events should elicit assimilative emotions like sympathy and anger (Feather et al., 2013) as well as happy-for-ness, respectively. These emotions are assimilative because the desirability of an event is the same for targets and observers. It has been found that observers’ emotional reactions are stronger the more one identifies with a given ingroup (Gonzalez-Gadea et al., 2018; Hoogland et al., 2015; Ouwerkerk et al., 2018). Most of this research focused on reactions to others’ misfortunes and not their fortunes (e.g. Boecker, 2021; Feather et al., 2013; Leach et al., 2003; Ouwerkerk et al., 2018). The present research addresses this gap in the literature.

Social rank attainment and emotions

The emergence of observers’ contrastive or assimilative emotions also depends on whether the other person used a prestige or dominance strategy to gain influence (Lange & Boecker, 2019; Boecker, 2021). Our work builds on the dual evolutionary model of social hierarchy (Cheng et al., 2013; Cheng & Tracy, 2014; Henrich & Gil-White, 2001; Maner & Case, 2016) positing that people can gain influence in groups and navigate social hierarchies by using prestige or dominance. A prestige strategy is characterised by sharing skills and competencies to gain others’ respect (Cheng et al., 2010). A dominance strategy is characterised by intimidating and aggressing against others, causing fear (Cheng et al., 2013; Lange & Crusius, 2015; Maner & Case, 2016). Persons who are perceived as prestigious express authentic pride upon success (Cheng et al., 2010; Lange & Crusius, 2015), tilt their heads up, smile, and subtly expand their chest (Witkower et al., 2020), or show communal behaviours (de Waal-Andrews et al., 2015). In contrast, persons who are perceived as dominant express hubristic pride upon success (Cheng et al., 2010; Lange & Crusius, 2015), tilt their head

downward, smile asymmetrically, take space (Witkower et al., 2020), or speak with a deeper pitch (Cheng et al., 2016). Dominance has also been associated with personality traits such as high neuroticism and low agreeableness (McAdams, 2017; Nai et al., 2019). Given that dominance is associated with negatively perceived behaviours and traits, it is not surprising that dominant persons are disliked more than prestigious persons (Brand & Mesoudi, 2019; Cheng et al., 2013; Lange & Crusius, 2015). In line with this notion, first evidence indicates that individuals experience stronger contrastive emotions such as malicious envy and schadenfreude when dominant individuals succeed/fail compared to when prestigious individuals do (Boecker, 2021; Lange & Boecker, 2019; Lange & Crusius, 2015). To fully understand whether people empathise or not with dominant or prestigious leaders following their successes and failures, we argue that is important to consider observers' group membership since it should affect prestige and dominance perceptions.

Group membership and social rank attainment

The characteristics that have been associated with dominant and prestigious leaders are often shown by investigating candidates from different political camps (Kakkar & Sivanathan, 2017). Politically right-oriented leaders (e.g. Donald Trump) are perceived as more dominant and less prestigious than liberal leaders (e.g. Hillary Clinton; Kakkar & Sivanathan, 2017), partly because they display respective bodily changes (e.g. expansiveness) in interpersonal encounters such as political contests (Witkower et al., 2020). However, research indicates that the perception of a candidate's dominance and prestige varies with observers' group membership. Republicans perceived Trump as more competent, warm, and moral than Biden, but Democrats perceived Biden as more competent, warm, and moral than Trump (Godbole et al., 2022). Similar patterns should apply to perceptions of prestige and dominance. Threats to one's values may elicit strong negative emotions and dislike towards the outgroup leader (e.g. Haidt, 2003), which should increase dominance and decrease prestige perceptions. This notion aligns with research showing that outgroup leaders' values do not match one's own and thereby represent a threat (Jost et al., 2003). In contrast, ingroup leaders' values match one's own (e.g. Platow & Van Knippenberg, 2001) and thereby represent a reaffirmation. Value similarity may foster liking (e.g.

Alves, 2018) and persons who fully embody a particular, positive value can inspire others to imitate them (Shiota et al., 2014), which should increase prestige and decrease dominance perceptions. Thus, outgroup members should perceive a leader as more dominant and less prestigious while ingroup members should perceive a leader as more prestigious and less dominant. First evidence for this hypothesis comes from Jiménez et al. (2021) who reanalysed the data by Kakkar and Sivanathan (2017) and found that conservatives perceived conservative political leaders as prestigious and liberal political leaders as dominant, while liberals perceived conservative political leaders as dominant and liberal political leaders as prestigious.

Thus far, research has mainly treated social rank attainment as an intragroup phenomenon (but see also Halevy et al., 2012), likely because the dual strategy model was developed to describe rank attainment in small (in)groups. However, to fully understand social rank attainment, it is necessary to conceptualise it as an intergroup phenomenon. For instance, in politics, the two strategies that leaders use are not only directed toward ingroup members but also towards outgroup members such as other political parties or other nations. Furthermore, a group's overall success often depends on its relationship with other groups, be it that they cooperate or compete with each other (e.g. Choi & Bowles, 2007; Loschelder & Troetschel, 2010). When intergroup competition requires harming outgroups to benefit the ingroup, doing so fosters perceptions of prestige (and not dominance), whereas when it benefits the ingroup without harming the outgroup, doing so fosters perceptions of dominance (Halevy et al., 2012). Furthermore, in a cooperative intergroup context, a risk-taker's prestige (but not dominance) predicted others' leadership endorsement, whereas, in a competitive intergroup context, a risk-taker's prestige *and* dominance predicted others' leadership endorsement (Van Kleef et al., 2021). Crucial for the present work, an intergroup perspective on social rank attainment may offer new insights into the mechanisms underlying group-based emotions. More specifically, differences in the perception of prestige and dominance may explain why ingroup and outgroup members react differently to a leader's success and failure.

Present research

The present work bridges research on intergroup emotions, social rank attainment, and political

psychology by investigating how perceptions of dominance and prestige may explain the divergent emotional reactions of ingroup and outgroup members to a person's success or failure.

To investigate this question, we used a highly relevant, real-life event, the outcome of the U.S. election 2020, as compared to the commonly used vignettes. We assessed the emotional reactions of U.S. American Democrats vs. Republicans (Study 1) for whom the U.S. elections have a direct relevance. We additionally assessed the emotional reactions of German participants to investigate whether more or less liberal/conservative participants would also react differently to the elections' outcomes even though the U.S. elections are less personally relevant. We focus on the fortunes-of-others emotions envy, schadenfreude, sympathy, and happy-for-ness (Ortony et al., 2022). We additionally assessed anger because it reflects an important response to ingroup failures (Feather et al., 2013).

According to our conceptual model displayed in Figure 1, we first predicted an effect of group membership (political orientation) on emotions (see c' -path in Figure 1). Following Biden's victory, ingroup members (Democrats in Study 1) should experience stronger assimilative emotions (e.g. happy-for-ness), whereas outgroup members (Republicans in Study 1) should experience stronger contrastive emotions (e.g. malicious envy). Following Trump's defeat, ingroup members (Republicans in Study 1) should experience stronger assimilative emotions (sympathy and anger) and outgroup members (Democrats in Study 1) stronger contrastive emotions (e.g. schadenfreude). This pattern should generalise to a German sample (Study 2) in which participants had only an

indirect stake in the U.S. elections. Following Biden's victory, more liberal participants should experience stronger assimilative emotions, whereas more conservative participants should experience stronger contrastive emotions. Following Trump's defeat, more conservative participants should experience stronger assimilative emotions, whereas more liberal participants should experience stronger contrastive emotions. The predicted pattern should manifest more strongly in U.S. citizens (Study 1) because personal relevance is a central predictor of emotions (Boecker et al., 2021; Frijda, 1988; Wharton et al., 2021).

Second, we predicted an effect of group membership on rank perception (see a-paths in Figure 1). Although Trump should be generally perceived as more dominant and less prestigious than Biden (see Kakkar & Sivanathan, 2017; Witkower et al., 2020), observers' group membership should affect these perceptions. Outgroup members (Study 1, Democrats or Republicans, respectively) should perceive the opposing candidate as more dominant and less prestigious, whereas ingroup members should evaluate the same candidate as more prestigious and less dominant. The same should apply to Study 2 in which German participants' political orientation matches more or less with that of the two candidates.

Third, we predicted an effect of rank attainment on emotions (see b-paths in Figure 1). As dominant individuals are usually disliked more than prestigious individuals (Cheng et al., 2013; Lange & Crusius, 2015; Maner & Case, 2016), dominance should make contrastive reactions more likely, whereas prestige should make assimilative reactions more likely. Crucially, the divergent perceptions of prestige and

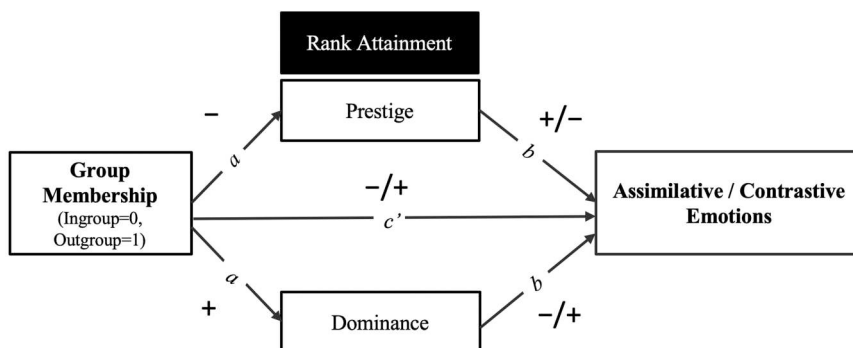


Figure 1. Conceptual model.

Note: A conceptual model illustrating how divergent perceptions of dominance and prestige of ingroup and outgroup members can elucidate whether individuals experience assimilative or contrastive emotions when confronted with others' successes or failures.

dominance should explain variance in the divergent emotional response of ingroup and outgroup members (a*b-paths; indirect effects in Figure 1). Thus, the present paper seeks to enhance existing theory by (1) investigating the impact of observers' group membership (i.e. their political orientation matching or not matching with Biden and Trump) on emotional reactions to others' successes and failures, and (2) investigating whether dominance and prestige perceptions systematically predict and explain whether observers experience assimilative or contrastive emotions.

Study 1

Study 1 was conducted with a U.S. American sample for which the presidential elections have direct personal implications. We assessed the emotions envy and happy-for-ness in response to Biden's victory and schadenfreude, anger, and sympathy in response to Trump's defeat on the 7th and 8th of November 2020, immediately after Biden had been declared president-elect. We grouped Democrats as ingroup members with respect to Biden and as outgroup members with respect to Trump. We grouped Republicans as ingroup members with respect to Trump and as outgroup members with respect to Biden. In this study, we did not make group membership salient, which is a more conservative test of the effects of group membership on emotion and rank perception.

We additionally assessed participants' behaviour in a hypothetical dilemma-maximisation game (Halevy et al., 2008, 2012) with the aim to investigate how pro-social democratic and republican participants act towards ingroup versus outgroup members after they have been confronted with a negative (Republicans) versus positive (Democrats) election outcome.

Method

Participants

We powered for a minimum of $N=400$ participants who are needed to detect a mediation effect with small a-paths and medium-sized b-paths with a power of 80% (Fritz & MacKinnon, 2007). We stopped data collection at the end of the day when the required sample size had been reached. We recruited participants via Prolific Academic (Damer & Bradley, 2014) and aimed for a minimum of 200 Democrats and 200 Republicans. In total, of 432 participants, $n=27$ did not complete the questionnaire,

resulting in a final sample of $N=405$ ($n=214$ male, $n=186$ female, $n=4$ non-binary, $n=1$ preferred not to say; $M_{\text{age}}=33.92\text{yrs}$, $SD=12.79$), featuring $n=203$ Democrats and $n=202$ Republicans according to their Prolific Academic profiles. Some Democrats indicated that they voted for Trump ($n=7$), and some Republicans for Biden ($n=20$). Excluding these participants did not change the results substantially, and we therefore report results for the full sample.

Materials and procedure

First, informed consent was obtained from all participants. The study started with measuring prestige and dominance perceptions of Trump and Biden in general, how participants perceived them before the election, followed by emotional reactions to Trump's defeat (i.e. schadenfreude, anger, and sympathy), and Biden's win (i.e. malicious envy, benign envy, and happy-for-ness). We differentiated between malicious and benign envy (Lange & Crusius, 2015; Van de Ven et al., 2009), as benign envy has been associated with prestige and malicious envy with dominance (Lange & Crusius, 2015). Both forms of envy are unpleasant, but malicious envy motivates individuals to harm others' success, whereas benign envy motivates them to self-improve (e.g. Van de Ven et al., 2009). As observers experience benign envy in response to prestigious others and malicious envy in response to dominant others (Lange & Crusius, 2015), benign envy should be stronger than malicious envy following Biden's win in more liberal participants. This assessment was followed by a second assessment of prestige and dominance, this time measuring perceptions after the election following Lange and Boecker (2019). Questions relating to Trump and Biden were counter-balanced in order. We also asked participants whether they accepted the election's outcome or not. The survey took about 11 min and ended with participants answering demographic questions including questions regarding their political orientation.

Social rank – prestige and dominance. We used an adapted version of the 17-item Prestige-Dominance Scale (Cheng et al., 2010) to measure social rank attainment. First, we asked participants to report how they generally perceived the two candidates before the election (T1 measure). After participants reported their emotions following the election's outcome, we asked them to again report how they perceived the two candidates in terms of prestige and dominance, but this time following the election's outcome (T2 measure).

Table 1. Descriptive statistics and zero-order correlations in Study 1 following Trump's defeat.

Variable	<i>M (SD)</i>	1	2	3	4	5	6
1. Political orientation ^a	4.04 (2.35)	–					
2. Schadenfreude ^b	3.98 (2.40)	–.73*	–				
3. Sympathy ^b	3.07 (2.21)	.67*	–.77*	–			
4. Anger ^b	3.00 (2.31)	.69*	–.78*	.91*	–		
5. Dominance Trump ^c	5.14 (1.11)	–.46*	.51*	–.51*	–.50*	–	
6. Prestige Trump ^c	3.34 (2.13)	.74*	–.85*	.86*	.86*	–.54*	–

Note: *N* = 405 (including Republicans and Democrats).

^aParticipants responded on a scale from 1 = *very liberal* to 7 = *very conservative*. ^bParticipants responded on a scale from 1 = *strongly disagree* to 7 = *strongly agree*. ^cParticipants responded on a scale from 1 = *not at all* to 7 = *very much*. The dominance and prestige measures are the T1 measures.

**p* < .05.

Table 2. Descriptive statistics and zero-order correlations in Study 1 following Biden's victory.

Variable	<i>M (SD)</i>	1	2	3	4	5	6	7
1. Political orientation ^a	4.04 (2.35)	–						
2. Happy-for-ness ^b	4.41 (2.42)	–.72*	–					
3. Pain ^b	2.07 (1.57)	.45*	–.48*	–				
4. Benign envy ^b	2.67 (1.63)	–.42*	.56*	–.09	–			
5. Malicious envy ^b	2.53 (1.85)	.62*	–.70*	.78*	–.26*	–		
6. Dominance Biden ^c	3.34 (1.08)	.42*	–.52*	.47*	–.15*	.57*	–	
7. Prestige Biden ^c	3.78 (1.83)	–.66*	.85*	–.45*	.62*	–.66*	.49*	–.48*

Note: *N* = 405 (including Republicans and Democrats).

^aParticipants responded on a scale from 1 = *very liberal* to 7 = *very conservative*. ^bParticipants responded on a scale from 1 = *does not apply at all* to 7 = *applies very much*. ^cParticipants responded on a scale from 1 = *not at all* to 7 = *very much*. The dominance and prestige measures are the T1 measures.

**p* < .05.

Since the T1 and T2 measures of dominance and prestige highly correlated in both studies (*r*s range .79 – .96; see Tables 1–4), and since we assessed prestige and dominance after the election we only report the T1 measure in the main text, and the T2 measure of Study 1 and Study 2 in the supplementary online material (SOM). Nine items captured prestige perceptions (*α*s ≥ .97; e.g. “Trump/Biden is held in high esteem by members of your group”, “Trump’s/Biden’s unique talents and abilities are recognized by members of your group”) and eight items dominance (*α*s ≥ .74; e.g. “Members of your group know it is better to let Trump/Biden have his way”, “Members of your group are afraid of Trump/Biden”; 1 = *not at all*, 4 = *somewhat*, 7 = *very much*).

Trump’s defeat – schadenfreude, sympathy, and anger. We measured schadenfreude following Trump’s defeat with five items validated in Van Dijk et al. (2006; *α* = .97; e.g. “I could not resist to smile a little”), sympathy with three items validated in Van Dijk et al. (2012; *α* = .95; e.g. “I feel sorry for what happened to Trump”), and anger with three items validated in Feather and Nairn (2005; *α* = .97; e.g. “I am angry about Trump’s defeat”), on 7-point scales (1 = *strongly disagree*, 7 = *strongly agree*).

Biden’s victory – happy-for-ness and envy. To assess how happy people are for another person we used the single item measure by Boecker et al. (2022; “I am happy for Biden”) on a 7-point scale (1 = *does not apply at all* to 7 = *applies very much*). We assessed malicious envy with four items (*α* = .89; e.g. “I secretly wished that Biden would lose the election win”), and benign envy with four items (*α* = .88; e.g. “I felt deep longing for such a success”), by using the validated Pain-driven Dual Envy Scale (PaDe; Lange et al., 2018) on a 7-point scale (1 = *does not apply at all*, 4 = *applies somewhat*, 7 = *applies very much*). We also assessed the pain factor of envy with the PaDe with three items to explore how it relates to the two forms of envy and pain on the same scale (*α* = .86; e.g. “I felt tormented”).

Political orientation. For subsequent analyses, we used participants’ self-identifications as Democrats or Republicans, according to their Prolific Academic profiles. We additionally assessed participants’ political orientation with two items adapted from the Social and Economic Conservatism Scale (Everett, 2013; “Putting social[economic] issues aside, and thinking only about economic[social] issues, would you say you

are ...”), on a 7-point scale (1 = *very liberal*, 7 = *very conservative*; $\alpha = .89$).

Cooperative behaviour. We also included one question at the end of the survey measuring participants’ cooperative behaviour in a hypothetical dilemma-maximisation game towards ingroup and outgroup members (Halevy et al., 2008, 2012). We presented participants with a short variant of the intergroup prisoner’s dilemma-maximizing difference game (IPD-MD) by Halevy et al. (2008, 2012) designed to specifically distinguish between the motive to help the ingroup (“ingroup-love”) or to hurt the outgroup (“outgroup hate”). As Republicans were confronted with a negative election outcome, we predicted less prosocial behaviour compared to Democrats. In the version for Democrats (Republicans), we asked the participants to imagine playing a game with three other Democrats (Republicans) and four Republicans (Democrats) representing ingroup and outgroup members, respectively. Participants had to imagine having received an endowment of 10 game chips and having to allocate them. They had three options. Their choice was not incentivized. First, they could choose to keep all chips to themselves, hypothetically yielding them \$2 per chip (free rider option). Second, they could choose to contribute some of their chips to their ingroup, yielding \$1 per chip for themselves and each ingroup member (ingroup love option). Third, they could choose to contribute some of their chips to their ingroup, yielding \$1 per chip for themselves and each ingroup member, while simultaneously also subtracting \$1 from each outgroup member (outgroup hate option). We analysed how many participants chose which option, as well as the amount of chips they allocated (if they chose the ingroup-love or outgroup-hate option).

Results

Statistics and zero-order correlations are displayed in Tables 1 and 2. In both Study 1 and Study 2, adjustments were made for heterogeneity of variances when detected through a significant Levene test result ($p < 0.05$).

Initial analyses

We initially investigated participants’ political orientation and the overall rank perception of Trump and Biden.

Political orientation. Corroborating the validity of this information, participants who self-identified as

Republican reported stronger conservative attitudes regarding economic issues ($M = 5.55$, $SD = 1.45$) than participants who self-identified as Democrats ($M = 2.48$, $SD = 1.34$), $t(402) = -22.07$, $p < .001$, 95% CI $[-3.34, -2.79]$, $d = -2.20$, as well as regarding social issues ($M = 5.08$, $SD = 1.67$) compared to Democrats ($M = 1.94$, $SD = 1.19$), $t(363.51) = -21.75$, $p < .001$, 95% CI $[-3.43, -2.86]$, $d = -2.17$. Furthermore, 98% of Democrats indicated that they accepted the election’s outcome, whereas only 51% of Republicans did, $\chi^2(1, N = 405) = 119.87$, $p < .001$.

Social rank – prestige and dominance. Overall, Trump was perceived as more dominant ($M = 5.14$, $SD = 1.11$) than Biden ($M = 3.34$, $SD = 1.08$), $t(404) = 19.21$, $p < .001$, 95% CI $[1.61, 1.98]$, $d = 0.96$, and as less prestigious ($M = 3.34$, $SD = 2.13$) than Biden ($M = 3.78$, $SD = 1.83$), $t(404) = -2.38$, $p = .018$, 95% CI $[-0.80, -0.07]$, $d = -0.12$. The higher the dominance of Trump or Biden was rated, the lower their prestige rating, and vice versa, see Tables 1 and 2. Crucial for our work, dominance and prestige perceptions varied with participants’ political orientation (see analyses below).

Explaining emotions following Trump’s defeat

To test whether differences in dominance and prestige perceptions of Democrats and Republicans explain variance in schadenfreude, anger, and sympathy in response to Trump’s defeat we conducted mediation analyses for each emotion. In all mediation models, we included participants’ political orientation (Republicans vs. Democrats) as the independent variable, the respective emotion as the dependent variable, and dominance and prestige (T1 measure) as competing parallel mediators in the model. We used the *lavaan* package (version: 06-9; Rosseel, 2012) to run the analyses in R (version 1.2.5019), with 5,000 bootstrap resamples and bias-corrected confidence intervals (BCa). Concerning Trump, we grouped Democrats as outgroup members and Republicans as ingroup members. The statistics of all mediation models can be found in Table 3.

In line with our conceptual model (Figure 1), the significant total effects of the mediation models showed that outgroup members (i.e. Democrats) experienced stronger contrastive and weaker assimilative emotions following Trump’s defeat than ingroup members (i.e. Republicans). Democrats expressed stronger schadenfreude, $b = 3.69$, $SE = 0.15$, $p < .001$, 95% CI $[3.38, 3.98]$, weaker sympathy, $b = -3.24$, $SE = 0.15$, $p < .001$, 95% CI $[-3.53, -2.95]$, and weaker anger, $b = -3.30$, $SE = 0.16$, $p < .001$, 95% CI $[-3.60, -2.99]$, compared to

Table 3. Statistics of the mediation models of Study 1 and Study 2.

Study 1 (U.S. sample) IV = group membership (0 = ingroup, 1 = outgroup)														
DV	Mediator	Effect of IV on M (a-path)		Effect of M on DV (b-path)		Indirect Effect (a-b path)				Total effect (c-path)		Direct Effect (c'-path)		
		<i>B</i>	<i>SE</i>	<i>B</i>	<i>SE</i>	<i>B</i>	<i>SE</i>	<i>CI lower</i>	<i>CI upper</i>	<i>B</i>	<i>SE</i>	<i>B</i>	<i>SE</i>	
Biden's victory	Malicious envy	Dominance	0.94*	0.10	0.50*	0.08	0.47*	0.09	0.30	0.67	2.28*	0.15	0.97*	0.16
		Prestige	-2.45*	0.14	-0.34*	0.05	0.84*	0.14	0.59	1.11				
	Benign envy	Dominance	0.94*	0.10	0.30*	0.06	0.28*	0.06	0.18	0.42	-1.22*	0.15	0.09	0.17
		Prestige	-2.45*	0.13	0.65*	0.05	-1.60*	0.15	-1.92	-1.33				
Trump's defeat	Happy-for-ness	Dominance	0.94*	0.10	-0.22*	0.07	-0.21*	0.07	-0.36	-0.08	-3.49*	0.17	-1.29*	0.22
		Prestige	-2.45*	0.14	0.82*	0.06	-2.00*	0.17	-2.35	-1.66				
	Schadenfreude	Dominance	0.95*	0.10	0.15*	0.05	0.14*	0.05	0.05	0.24	3.69*	0.15	1.24*	0.26
		Prestige	-3.36*	0.13	-0.69*	0.06	2.31*	0.19	1.94	2.69				
Anger	Dominance	0.95*	0.10	-0.11	0.09	-0.10	0.08	-0.28	0.05	-3.30*	0.16	-0.51*	0.24	
	Prestige	-3.36*	0.13	0.80*	0.07	-2.69*	0.25	-3.18	-2.20					
Sympathy	Dominance	0.95*	0.10	-0.14	0.08	-0.13	0.08	-0.29	0.02	-3.24*	0.15	-0.64*	0.22	
	Prestige	-3.36*	0.13	0.74*	0.06	-2.47*	0.23	-2.93	-2.04					
Study 2 (German sample) IV = political orientation (1 = liberal, 7 = conservative, following Biden's victory; 1 = conservative and 7 = liberal, following Trump's defeat)														
DV	Mediator	Effect of IV on M (a-path)		Effect of M on DV (b-path)		Indirect Effect (a-b path)				Total effect (c-path)		Direct Effect (c'-path)		
		<i>B</i>	<i>SE</i>	<i>B</i>	<i>SE</i>	<i>B</i>	<i>SE</i>	<i>CI lower</i>	<i>CI upper</i>	<i>B</i>	<i>SE</i>	<i>B</i>	<i>SE</i>	
Biden's victory	Malicious envy	Dominance	0.23*	0.09	0.47*	0.10	0.11*	0.05	0.02	0.23	0.31*	0.13	0.14	0.08
		Prestige	-0.19*	0.11	-0.29*	0.09	0.05	0.04	0.00	0.15				
	Benign envy	Dominance	0.23*	0.09	0.36*	0.12	0.08*	0.04	0.02	0.19	-0.06	0.12	-0.04	0.10
		Prestige	-0.19*	0.11	0.57*	0.10	-0.11	0.06	-0.25	0.01				
Happy-for-ness	Dominance	0.23*	0.09	-0.43*	0.11	-0.10	0.05	-0.23	-0.02	-0.38*	0.15	-0.16	0.11	
	Prestige	-0.19*	0.11	0.64*	0.14	-0.12	0.08	-0.30	0.00					
Trump's defeat	Schadenfreude	Dominance	0.03	0.05	0.62*	0.18	0.02	0.03	-0.03	0.10	0.47*	0.14	0.25*	0.12
		Prestige	-0.37*	0.10	-0.55*	0.17	0.20*	0.09	0.05	0.43				
	Anger	Dominance	0.03	0.05	-0.46*	0.17	-0.01	0.02	-0.08	0.02	-0.31*	0.12	-0.02	0.06
		Prestige	-0.37*	0.10	0.76*	0.15	-0.28*	0.11	-0.56	-0.10				
Sympathy	Dominance	0.03	0.05	-0.51*	0.14	-0.01	0.02	-0.08	0.02	-0.36*	0.13	-0.05	0.07	
	Prestige	-0.37*	0.10	0.79*	0.14	-0.29*	0.11	-0.56	-0.11					

Note: The table displays mediation models with the independent variable (IV) group membership in Study 1 (0 = ingroup, 1 = outgroup) and political orientation in Study 2 (1 = liberal, 7 = conservative, following Biden's victory; 1 = conservative and 7 = liberal, following Trump's defeat), and with the parallel mediators (Ms) dominance and prestige. Dependent variables (DVs) are malicious envy, benign envy, or happy-for-ness following Biden's victory; as well as schadenfreude, anger, or sympathy following Trump's defeat. The Bs represent unstandardised regression weights. The confidence intervals (CIs) represent 5,000 bias-corrected bootstrap resamples. * $p < .05$.

Republicans (for the means see Figure 2a). As predicted, the perception of Trump's dominance and prestige varied with participants' political orientation. In line with our conceptual model, Trump was perceived as more dominant by Democrats ($M=5.61$, $SD=0.73$) than Republicans ($M=4.66$, $SD=1.21$), $b=0.95$, $SE=0.10$, 95% CI [0.75, 1.15], $ps < .001$, and as less prestigious by Democrats ($M=1.66$, $SD=1.04$) than Republicans ($M=5.02$, $SD=1.54$), $b=-3.36$, $SE=0.13$; 95% CI [-3.60, -3.09], all $ps < .001$. See Figure 3a for the group means. As predicted, higher prestige positively predicted assimilative emotional reactions and higher dominance positively predicted contrastive emotional reactions in response to Trump's defeat. Higher prestige predicted stronger sympathy, $b=0.74$, $SE=0.06$, $p < .001$, 95% CI [0.61, 0.85], stronger anger, $b=0.80$, $SE=0.07$, $p < .001$, 95% CI [0.67, 0.92], and weaker schadenfreude, $b=-0.69$, $SE=0.06$, $p < .001$, 95% CI [-0.79, -0.57], whereas higher dominance predicted stronger schadenfreude, $b=0.15$, $SE=0.05$, $p=.004$, 95% CI [0.50, 0.25], but not weaker sympathy and anger ($ps \geq .109$).

We also found evidence that prestige and dominance explain variance in how Democrats and Republicans react toward Trump's defeat. Prestige was a significant mediator of the effect of political orientation on schadenfreude, $b=2.31$, $SE=0.19$, 95% CI [1.94, 2.69], sympathy, $b=-2.47$, $SE=0.23$, 95% CI [-3.01, -2.22], as well as anger, $b=-2.69$, $SE=0.25$, 95% CI [-3.18, -2.20]. Dominance was only a significant mediator for the contrastive

emotion schadenfreude, $b=0.14$, $SE=0.05$, 95% CI [0.05, 0.24], but not for the assimilative emotions sympathy and anger (all confidence intervals included zero).

Explaining emotions following Biden's victory

Participants' political orientation (Democrats vs. Republicans) was included in the model as the independent variable, the respective emotion (happy-for-ness, benign envy, or malicious envy) as the dependent variable, and dominance and prestige (T1 measure) as parallel mediators. For an overview of all statistics of the mediation models, refer to Table 3. Concerning Biden, we grouped Republicans as outgroup members and Democrats as ingroup members. Supporting our conceptual model, the significant total effects showed that outgroup members experienced stronger contrastive emotions than ingroup members. Republicans expressed stronger malicious envy, $b=2.28$, $SE=0.15$, $p < .001$, 95% CI [1.98, 2.55], weaker benign envy, $b=-1.22$, $SE=0.15$, $p < .001$, 95% CI [-1.52, -0.92], and weaker happy-for-ness, $b=-3.49$, $SE=0.17$, $p < .001$, 95% CI [-3.81, -3.16], following Biden's victory than Democrats. The group means are displayed in Figure 2b. As for Trump, we observed that the perception of Biden's dominance and prestige varied with participants' political orientation. Biden was generally perceived as more dominant by Republicans ($M=3.81$, $SD=1.11$) than Democrats ($M=2.87$, $SD=0.83$), $b=0.94$, $SE=0.10$, 95% CI [0.74, 1.12], all $ps < .001$, and

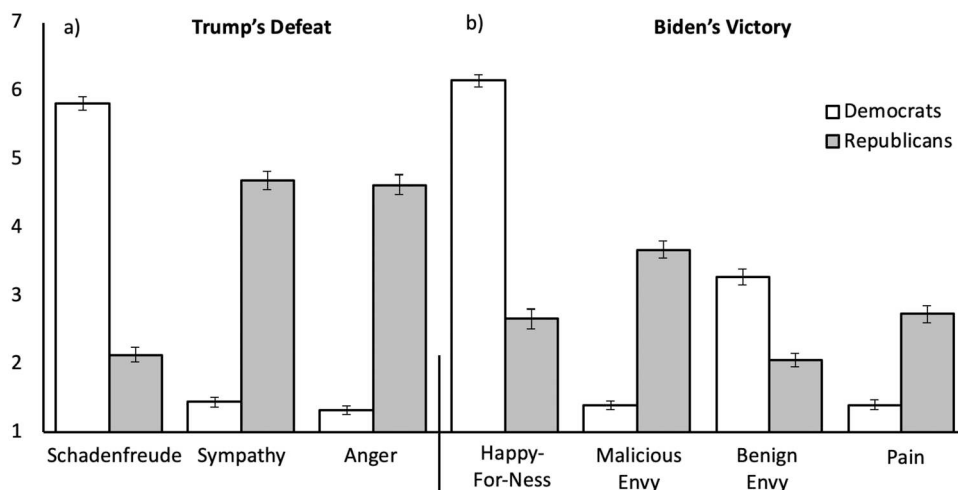


Figure 2. Emotional reactions of Democrats and Republicans in response to Trump's defeat and Bidens' victory in Study 1.

Note: Error bars represent $\pm 1 SE$.

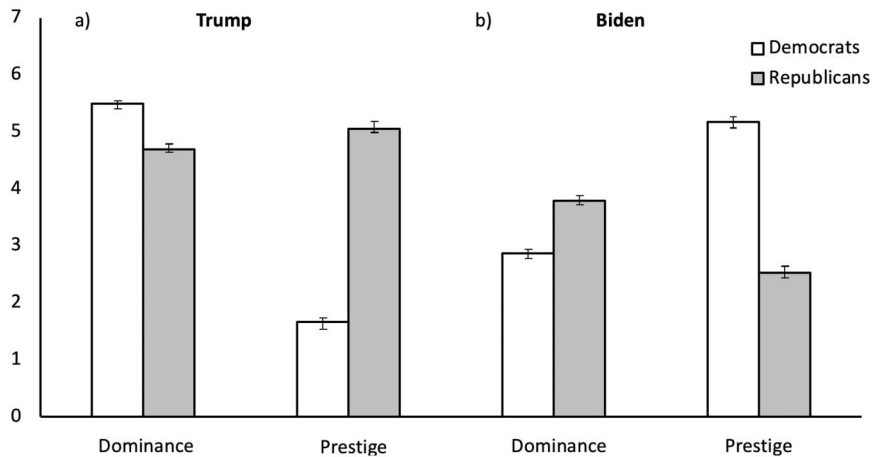


Figure 3. Social rank attainment perceptions of Democrats and Republicans in Study 1.

Note: Error bars represent $\pm 1 SE$.

as less prestigious by Republicans ($M = 2.55$, $SD = 1.50$) than Democrats ($M = 5.00$, $SD = 1.22$), $b = -2.45$, $SE = 0.14$, 95% CI $[-2.18, -2.45]$, all $ps < .001$. See Figure 3b for the group means. Supporting our conceptual model, prestige positively predicted assimilative emotions and dominance positively predicted contrastive emotions. Higher prestige predicted stronger happy-for-ness, $b = 0.82$, $SE = 0.06$, $p < .001$, 95% CI $[0.69, 0.92]$, stronger benign envy, $b = 0.65$, $SE = 0.05$, $p < .001$, 95% CI $[0.56, 0.75]$, and weaker malicious envy, $b = -0.34$, $SE = 0.05$, $p < .001$, 95% CI $[-0.44, -0.24]$. Higher dominance predicted stronger malicious envy, $b = 0.50$, $SE = 0.08$, $p < .001$, 95% CI $[0.34, 0.67]$, stronger benign envy $b = 0.30$, $SE = 0.05$, $p < .001$, 95% CI $[0.19, 0.42]$, and weaker happy-for-ness, $b = -0.22$, $SE = 0.07$, $p = .002$, 95% CI $[-0.37, -0.08]$.

Furthermore, prestige and dominance both explained variance in how Democrats and Republicans reacted toward Biden's victory. Prestige was a mediator of the effect of political orientation on happy-for-ness, $b = -2.00$, $SE = 0.17$, 95% CI $[-2.35, -1.66]$, malicious envy, $b = 0.84$, $SE = 0.14$, 95% CI $[0.59, 1.11]$, and benign envy, $b = -1.60$, $SE = 0.15$, 95% CI $[-1.92, -1.33]$. Also, dominance was a mediator for happy-for-ness, $b = -0.21$, $SE = 0.07$, 95% CI $[-0.36, -0.08]$, malicious envy, $b = 0.47$, $SE = 0.09$, 95% CI $[0.30, 0.67]$, and benign envy, $b = 0.28$, $SE = 0.06$, $p < .001$, 95% CI $[0.18, 0.42]$. After controlling for the mediators, the effect of political orientation on benign envy was not significant any longer indicating a full mediation, $p = .575$ (see Table 3).

Cooperative behaviour

Next, we analysed how prosocial democratic and republican participants acted towards ingroup versus outgroup members in a hypothetical dilemma-maximisation game (Halevy et al., 2008, 2012) after they have been confronted with a negative (Republicans) versus positive (Democrats) election outcome. We excluded two Democrats and two Republicans who tried to allocate more chips than they had actually received at the start of the game. We found that Republicans and Democrats acted differently in the difference maximisation game, $\chi^2(2, N = 405) = 10.48$, $p = .005$. Democrats chose the *ingroup love* option most often meaning that they chose to contribute some of their chips to their ingroup ($M = 53.20\%$, $SD = 50.02$), followed by the *free rider* ($M = 30.05\%$, $SD = 45.96$) and the *outgroup hate* ($M = 16.75\%$, $SD = 37.43$) options. In contrast, Republicans chose the *free rider* option most often meaning that they decided to keep all chips for themselves ($M = 45.05\%$, $SD = 49.88$), followed by the *ingroup love* ($M = 39.11\%$, $SD = 48.92$) and *outgroup hate* ($M = 15.84\%$, $SD = 36.60$) options. In line with these findings, a bigger share of Democrats chose the *ingroup love* option compared to Republicans, $t(402.88) = 2.87$, $p = .004$, 95% CI $[4.43, 23.76]$, $d = 0.28$. Republicans chose the *free rider* option at a significantly higher rate compared to Democrats, $t(400.00) = -3.15$, $p = .002$, 95% CI $[-24.37, -5.63]$, $d = -0.31$. The groups chose the *outgroup hate* equally often, $t(403) = 0.25$, $p = .805$, $d = .03$. Among participants who chose the *ingroup love* or *outgroup hate* option,

the amount of contributed chips per participant did not differ between Democrats and Republicans (all $t_s \leq 1.26$, $p_s \geq .21$, $d_s \leq 0.11$; range of means: 7.17–8.57).

Discussion

Study 1 provides evidence for our conceptual model (see Figure 1). We observed pronounced divergent emotional reactions of Democrats and Republicans in response to the election outcome. Democrats experienced stronger contrastive emotions following Trump's defeat – *schadenfreude* – and stronger assimilative emotions to Biden's win – happy-for-ness and benign envy. This pattern reversed for Republicans, who experienced stronger anger and sympathy following Trump's loss and stronger malicious envy and pain following Biden's win. Study 1 further highlights the importance of differentiating between benign and malicious envy as the two forms differently relate to prestige and dominance (Lange & Crusius, 2015). Prestige was related to lower malicious envy and higher benign envy. In contrast, dominance was related to higher malicious envy, but to benign envy only to a lesser degree.

Crucially, prestige and dominance perceptions explained variance in these emotional reactions of outgroup and ingroup members. Participants' group membership systematically predicted their prestige and dominance perceptions, which in turn predicted whether they experienced contrastive or assimilative emotions. Republicans and Democrats both evaluated the respective outgroup candidate as more dominant and less prestigious than the ingroup candidate. Prestige positively predicted assimilative emotions (happy-for-ness, sympathy, anger), whereas dominance positively predicted contrastive emotions (*schadenfreude*, envy). The stronger assimilative emotional reactions (anger and sympathy) of ingroup members following Trump's defeat were statistically explained by prestige. Dominance also statistically explained why outgroup members experienced stronger *schadenfreude* than ingroup members.

In addition, our data indicates that Republicans acted less prosocial and more selfishly in the hypothetical dilemma game than Democrats who showed stronger *in-group love*. Republicans and Democrats showed, however, the same low motivation to harm the outgroup. Future studies should investigate whether this behaviour reflects a general tendency of Democrats and Republicans or whether it is a

reaction to the negative/positive election outcome as we argue.

Study 2

We also tested our predictions in a German sample that had only an indirect stake in the U.S. elections. This study was conducted simultaneously with Study 1 when media outlets declared the victory of Joe Biden on the 7th of November 2020 until the 11th. Although German participants should be less psychologically involved in the U.S. election than American participants, the election outcome is likely to trigger emotions among all observers, as it has major implications for German foreign policy and global politics in general (Vinjamuri et al., 2020). Moreover, the election and the behaviour of the two candidates were followed with great interest in the German media (Sintes-Olivella et al., 2022). Given that Trump received less favourable portrayals in the German press (Sintes-Olivella et al., 2022) and was less liked than Biden (Poushter, 2020), we expect that he would be perceived as more dominant, less prestigious, and evoke stronger contrasting emotional reactions. Although the political polarisation in Germany is less pronounced than in the United States. (Boxell et al., 2020) and the elections are less personally relevant, we predicted that a (mis)match in political values should predict participants' attitudes towards candidates. Hence, more conservative participants should sympathise more with Donald Trump and less with Joe Biden and more liberal participants should sympathise more with Joe Biden and less with Donald Trump. These attitudes should in turn affect participants' perceptions of prestige and dominance and their emotional reactions similar to Study 1.

Method

Participants

We recruited participants via a local participant pool and social media platforms. Participants could win one of 10 vouchers (€20). We powered for half-medium-sized a- and b-paths of a mediation model with the power of 80%, which requires a minimum of $N=115$ (Fritz & MacKinnon, 2007). We stopped data collection only at the end of the day when reaching the required sample size. In total, of 206 participants, $n=83$ did not complete the questionnaire resulting in a final sample of $N=123$ ($n=85$ female, $n=38$ male; $M_{\text{age}}=28.39\text{yrs}$; $SD=8.80$).

Materials and procedure

Study 2 used the same procedure and measures as Study 1, but with German translations (all $as > .66$) and we did not assess participants' cooperation behaviour.

Results

Descriptive statistics and zero-order correlations are displayed in Tables 4 and 5.

Initial analyses

We initially investigated participants' political orientation and how they generally perceived Trump and Biden in terms of dominance and prestige.

Political orientation. The political orientation of the German sample was rather liberal regarding both social ($M = 2.49$, $SD = 1.53$) and economic issues ($M = 3.13$, $SD = 1.29$), resulting in an overall liberal political orientation ($M = 2.81$, $SD = 1.16$); all means differed significantly from the scale midpoint (all $ts \geq 7.46$, $ps \leq .001$, $ds \geq 0.67$).

Social rank – prestige and dominance. As predicted, Trump was generally perceived as more dominant ($M = 5.90$, $SD = 0.68$) than Biden ($M = 2.79$, $SD = 1.01$), t

(122) = 25.46, $p < .001$, 95% CI [2.87, 3.35], $d = 2.30$, and as less prestigious ($M = 1.85$, $SD = 1.00$) than Biden ($M = 4.35$, $SD = 1.06$), $t(122) = -16.37$, $p < .001$, 95% CI [-2.79, -2.19], $d = -1.48$ (for the overall means, see Figure 4a). The higher the dominance of Trump or Biden was rated, the lower their prestige rating, and vice versa (see Tables 4 and 5).

Overall emotional reactions. Overall, participants experienced strong happy-for-ness ($M = 5.88$, $SD = 1.53$), only weak benign envy ($M = 2.24$, $SD = 1.20$), weak malicious envy ($M = 1.43$, $SD = 1.05$), and weak pain after Biden's victory ($M = 1.44$, $SD = 0.83$; all pairwise comparisons $ts \geq 5.53$, $ps \leq .001$). The low pain in envy, and the fact that pain was unrelated to benign envy (see Table 5), indicate that envy played a negligible role following Biden's victory. Following Trump's defeat, participants experienced strong schadenfreude ($M = 5.34$, $SD = 1.56$), weak sympathy ($M = 1.58$, $SD = 1.28$), and weak anger ($M = 1.36$, $SD = 1.17$; all pairwise comparisons, $ts \geq 3.96$, $ps \leq .001$). For the overall means, see Figure 4b. Crucial for the present work, political orientation predicted how dominant and prestigious Biden and Trump were perceived and these differences statistically explained variance in emotional reactions.

Table 4. Descriptive Statistics and Zero-Order Correlations in Study 2 Following Trump's Defeat.

Variable	<i>M</i> (<i>SD</i>)	1	2	3	4	5	6
1. Political orientation ^a	2.81 (1.16)	–					
2. Schadenfreude ^b	5.34 (1.56)	–.35*	–				
3. Sympathy ^b	1.59 (1.28)	.33*	–.62*	–			
4. Anger ^b	1.36 (1.17)	.31*	–.60*	.87*	–		
5. Dominance Trump ^c	5.90 (0.68)	–.05	–.42*	–.52*	–.52*	–	
7. Prestige Trump ^c	1.85 (1.00)	.43*	–.54*	.75*	.76*	–.39*	–

Note: $N = 123$.

^aParticipants responded on a scale from 1 = *very liberal* to 7 = *very conservative*. ^bParticipants responded on a scale from 1 = *strongly disagree* to 7 = *strongly agree*. ^cParticipants responded on a scale from 1 = *not at all* to 7 = *very much*. The dominance and prestige measures are the T1 measures.

* $p < .05$.

Table 5. Descriptive Statistics and Zero-Order Correlations in Study 2 Following Biden's Victory.

Variable	<i>M</i> (<i>SD</i>)	1	2	3	4	5	6	7
1. Political Orientation ^a	2.81 (1.16)	–						
2. Happy-for-ness ^b	5.88 (1.53)	–.29*	–					
3. Pain ^b	1.44 (0.83)	.20*	–.51*	–				
4. Benign Envy ^b	2.24 (1.20)	–.06	.29*	.08	–			
5. Malicious Envy ^b	1.43 (1.05)	.34*	–.65*	.78*	–.05	–		
6. Dominance Biden ^c	2.79 (1.01)	.27*	–.50*	.56*	.09	.62*	–	
8. Prestige Biden ^c	4.35 (1.06)	–.20*	.59*	–.36*	.39*	–.51*	–.41*	–

Note: $N = 123$.

^aParticipants responded on a scale from 1 = *very liberal* to 7 = *very conservative*. ^bParticipants responded on a scale from 1 = *does not apply at all* to 7 = *applies very much*. ^cParticipants responded on a scale from 1 = *not at all* to 7 = *very much*. The dominance and prestige measures are the T1 measures.

* $p < .05$.

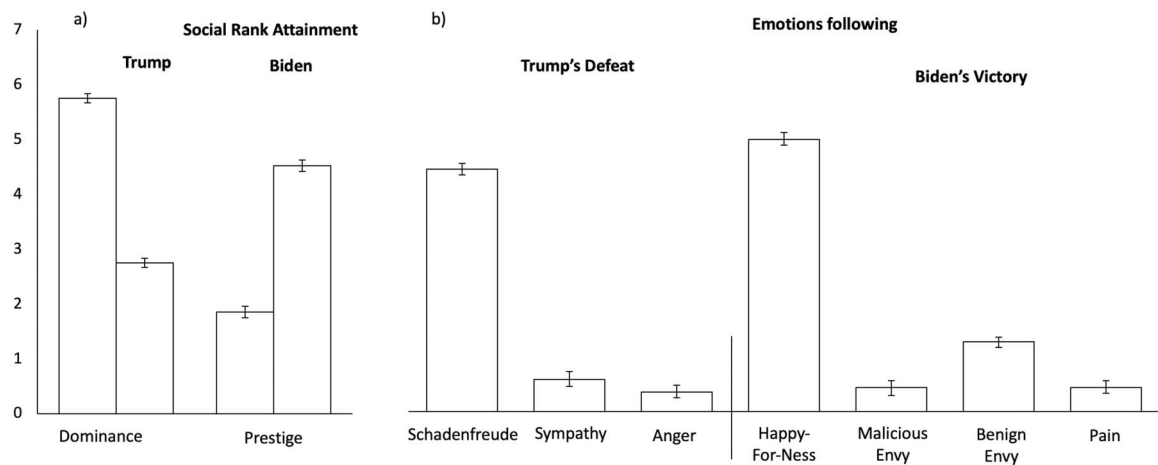


Figure 4. Social rank attainment perceptions and emotional reactions in a German sample in Study 2.

Note: Error bars represent ± 1 SE.

Explaining emotions following Trump's defeat

We included participants' political orientation (varying from conservative to liberal) as the independent variable, the respective emotion (schadenfreude, anger, or sympathy) as the dependent variable, and dominance and prestige (T1 measure) as parallel mediators in the model. We recoded the political orientation scale so that higher values represent more liberal participants (i.e. less inclined to align with Republican political ideologies). For an overview of all statistics of the mediation models, refer to Table 3.

In line with Study 1, the significant total effects of the mediation models showed that more liberal participants experienced stronger contrastive and weaker assimilative emotions compared to more conservative participants following Trump's defeat. More liberal participants expressed stronger schadenfreude, $b = 0.47$, $SE = 0.14$, $p = .001$, 95% CI [0.21, 0.74], weaker anger, $b = -0.31$, $SE = 0.12$, $p = .008$, 95% CI [-0.60, -0.12], and weaker sympathy, $b = -0.36$, $SE = 0.13$, $p = .006$, 95% CI [-0.63, -0.13]. We also found that the perception of Trump's prestige varied with participants' political orientation. The more liberal participants evaluated Trump's prestige as lower ($b = -0.37$, $SE = 0.10$; 95% CI [-0.57, -0.17], all $ps \leq .001$), but not his dominance ($b = 0.03$, $ps \geq .555$). We also observed that prestige positively predicted assimilative emotions and dominance positively predicted contrastive emotions. Higher prestige predicted stronger sympathy, $b = 0.79$, $SE = 0.14$, $p < .001$, 95% CI [0.48, 1.04], stronger anger, $b = 0.76$, $SE = 0.15$, $p < .001$, 95% CI [0.46, 1.03], and weaker

schadenfreude, $b = -0.55$, $SE = 0.17$, $p = .001$, 95% CI [-0.87, -0.21]. Higher dominance predicted stronger schadenfreude, $b = 0.62$, $SE = 0.18$, $p = .001$, 95% CI [0.26, 0.97], weaker sympathy, $b = -0.51$, $SE = 0.14$, $p < .001$, 95% CI [-0.79, -0.25], and weaker anger following Trump's defeat, $b = -0.46$, $SE = 0.17$, $p = .008$, 95% CI [-0.77, -0.08].

Furthermore, we found that differences in prestige perceptions explained variance in how more and less conservative participants emotionally reacted to Trump's defeat. There was an indirect effect of prestige for schadenfreude, $b = 0.20$, $SE = 0.09$, $p = .033$, 95% CI [0.05, 0.43], sympathy, $b = -0.29$, $SE = 0.11$, $p = .009$, 95% CI [-0.56, -0.11], and anger, $b = -0.28$, $SE = 0.11$, $p = .012$, 95% CI [-0.56, -0.10]. Dominance was not a significant mediator (all confidence intervals for dominance included zero, see Table 3). After controlling for the mediators, the effect of political orientation on sympathy and anger was not significant any longer indicating a full mediation (all $ps > .476$, see Table 3).

Explaining emotions following Biden's victory

We included participants' political orientation as the independent variable (ranging from liberal to conservative), the respective emotion (happy-for-ness, benign envy, or malicious envy) as the dependent variable, and dominance and prestige (T1 measure) as parallel mediators in the model. Higher values on the political orientation scale represent more conservative participants (i.e. less inclined to align with

Democratic political ideologies). The statistics of the mediation models can be found in Table 3.

The significant total effects showed that more conservative participants expressed stronger malicious envy following Biden's victory, $b = 0.31$, $SE = 0.13$, $p = .022$, 95% CI [0.06, 0.57], and showed weaker happy-for-ness, $b = -0.38$, $SE = 0.15$, $p = .015$, 95% CI [-0.67, -0.07], in response to Biden's victory. The total effect for benign envy was not significant, $b = -0.06$, $p = .609$. We also found that Biden's dominance perceptions varied with participants' political orientation. The more conservative participants were, the stronger they perceived Biden's dominance ($b = 0.23$, $ps \leq .012$ in all models), but the effects were only marginally significant for prestige ($b = -0.19$, $ps \geq .076$). Supporting our prediction, higher prestige perceptions predicted stronger assimilative emotions and higher dominance perceptions predicted stronger contrastive emotions. Higher prestige predicted stronger happy-for-ness, $b = 0.64$, $SE = 0.14$, $p < .001$, 95% CI [0.33, 0.90], stronger benign envy, $b = 0.57$, $SE = 0.10$, $p < .001$, 95% CI [0.38, 0.78], and less malicious envy, $b = -0.29$, $SE = 0.09$, $p = .001$, 95% CI [-0.49, -0.13]. In contrast, higher dominance predicted stronger malicious envy, $b = 0.47$, $SE = 0.10$, $p < .001$, 95% CI [0.29, 0.67], stronger benign envy, $b = 0.36$, $SE = 0.12$, $p < .001$, 95% CI [0.13, 0.60], and weaker happy-for-ness, $b = -0.43$, $SE = 0.11$, $p < .001$, 95% CI [-0.66, -0.21].

Furthermore, we found that differences in dominance perceptions explained variance in the emotional reaction of more or less conservative participants to Biden's victory. There was a significant indirect effect of dominance for happy-for-ness (all CIs excluded zero), $b = -0.10$, $SE = 0.05$, 95% CI [-0.23, -0.02], malicious envy, $b = 0.11$, $SE = 0.05$, 95% CI [0.02, 0.23], and benign envy, $b = 0.08$, $SE = 0.04$, 95% CI [0.02, 0.19], whereas prestige was not a significant mediator (all CIs for dominance included zero, see Table 3). After controlling for the mediators, the effect of political orientation on malicious envy, and happy-for-ness was not significant any longer indicating a full mediation (all $ps > .063$).

Discussion

Study 2 provides further support for our hypotheses in a German sample for which the U.S. elections had less direct personal relevance. As predicted, Trump was perceived as more dominant and Biden as more prestigious in a German sample. German participants,

overall, expressed stronger contrastive emotions following Trump's defeat and stronger assimilative emotions following Biden's victory. They experienced remarkably strong schadenfreude towards Trump and strong happy-for-ness for Biden. This finding is in line with the observation that the German sample had a rather liberal political orientation overall. Although the sample was liberal overall, we replicated the pattern that prestige and dominance perceptions predict these emotional reactions. Prestige positively predicted assimilative emotions (happy-for-ness, sympathy, anger), whereas dominance positively predicted contrastive emotions (schadenfreude, envy). We also observed that participants' political orientation affected dominance and prestige perceptions. More liberal participants perceived Trump as less prestigious, and more conservative participants perceived Biden as more dominant. These findings are in line with the mediation analyses showing that only differences in Trump's prestige and differences in Biden's dominance explained variance of the effect of political orientation on emotions, presumably because Trump was perceived as remarkably dominant overall and Biden as remarkably prestigious overall. Study 2 indicates that variations in perceptions of prestige and dominance also exert an impact on emotional reactions in situations where the outcomes of others' successes and failures hold less immediate relevance for oneself.

General discussion

The present work advances theory in the hierarchy-based emotion literature and the intergroup polarization literature by examining the interplay of emotional and intergroup dynamics. The two studies expand previous research in three ways. First, our work reveals that the cognitive categorizations of social rank attainment along the spectrum of dominance or prestige contribute to the elicitation of various emotions, depending on the person's political orientation. Thus, our work illustrates the role of cognitive processes in emotion elicitation. Extensive evidence supports that people's emotional reactions are influenced by their initial appraisals of the situations they encounter (for comprehensive reviews, refer to Ellsworth & Scherer, 2003, and Moors, 2014). Typically, these appraisals are broadly applicable to many situations, such as appraisals of how intrinsically pleasant, novel, or controllable a situation is. Still, many emotional phenomena require investigating

more comprehensive lists of appraisal dimensions (e.g. Oh & Tong, 2022) or even more specific cognitive processes to fully understand them (e.g. Horberg et al., 2011). Moreover, personality variables will affect which appraisals a person tends to make in which situation (Kuppens & Tong, 2010). In line with this reasoning, we think that fortunes-of-others emotions, depending on a person's personality, will be based on specific cognitive processes. Specifically, perceptions of prestige correlate with assimilative emotions (sympathy and happy-for-ness), and perceptions of dominance correlate with contrastive emotions (envy, schadenfreude), while a person's political orientation will determine in which situation they tend to perceive which dimension of social rank preferably. Second, our work provides evidence that prestige and dominance are not fixed properties of liberal and conservative leaders but depend on observers' group membership, and explain variance in emotional reactions. Third, the results are based on data about a real-life event rather than imagined vignettes, which oftentimes diverge in their conclusions (Robinson & Clore, 2002). We found evidence for our predictions in a U.S. American sample for which the elections had direct personal relevance and also in a German sample for which the implications were less directly relevant.

Social rank perceptions and emotions

The present research provides evidence for our hypothesis that social rank perceptions systematically predict observers' emotional reactions to others' successes and failures. In a German and U.S. American sample, higher prestige (dominance) predicted stronger assimilative (contrastive) emotions. As contrastive emotions create distance between observer and target and assimilative emotions promote affiliation (Fischer & Manstead, 2016), a dominance strategy may have negative, and a prestige strategy positive, interpersonal consequences for the successful/failing person (see also Lange & Boecker, 2019). In line with this, previous work has shown that schadenfreude promotes anti-social behaviours such as negative word of mouth (Ouwkerk et al., 2018; Sundie et al., 2009), cheating (Lange & Boecker, 2019), taking away resources (Boecker et al., 2022), and the willingness to harm another person (Cikara, 2015, 2018), whereas sympathy promotes prosocial behaviour such as helping others (for a meta-analysis, see Rudolph et al., 2004). Furthermore, malicious envy

has been associated with antisocial behaviours, such as hostility (Salovey & Rodin, 1984), and harm (Behler et al., 2020; Cohen-Charash & Mueller, 2007), whereas happy-for-ness promotes prosocial behaviour such as allocating resources (Boecker et al., 2022). Future research should investigate what sets happy-for-ness apart from the broader emotional concept of happiness, particularly in terms of their relation to prosocial behaviour and perceptions of dominance and prestige.

It is worth noting that while dominant leaders are generally less liked than prestigious leaders (e.g. Brand & Mesoudi, 2019; Cheng et al., 2013; Lange & Crusius, 2015) and evoke stronger contrastive emotional reactions, adopting a dominance-based leadership strategy can also offer potential advantages and opportunities for success (e.g. Maner, 2017). There are situations in which dominant leaders are preferred over prestigious leaders, such as when individuals feel threatened) and during periods of economic uncertainty (Kakkar & Sivanathan, 2017). Similarly, prestigious leaders may make suboptimal decisions by prioritising popularity over performance, potentially leading to a decrease in their likability (Case et al., 2018).

Group membership and social rank perceptions

The finding that participants perceived Trump as more dominant and less prestigious than Biden expands previous research by Kakkar and Sivanathan (2017) and Witkower and colleagues (2020). The present work highlights the importance of taking participants' political orientation into account when studying the rise and fall of political leaders and the effectiveness of prestige and dominance strategies (Jiménez et al., 2021; Kakkar & Sivanathan, 2017). Our work further stresses the relevance of studying the attainment of social rank as a cross-group phenomenon, since the perception of social rank depends on the observers' group membership. It implies that behaviour typically associated with dominance or prestige is perceived differently by individuals who share the leader's values or not. Ingroup and outgroup members' divergent perceptions of prestige and dominance could be indicative of outgroup (ingroup) leaders being perceived as a threat to (confirmation of) one's own values. In Study 1, they could also reflect intergroup biases (Loschelder & Troetschel, 2010; Wann & Grieve, 2005) as outgroup

and ingroup members differ in their positivity. Dominant individuals and outgroup members are both typically negatively evaluated, whereas prestigious individuals and ingroup members are both typically positively evaluated. Thus, outgroups and dominance match in valence, as well as ingroups and prestige. Based on this explanation, outgroup (ingroup) members should score higher on any negative (positive) dimension.

This addition to the literature is important not only for the study of social hierarchies but also for research on emotions, as these divergent reactions in turn may explain why outgroup members express stronger contrastive emotions and ingroup members stronger assimilative emotions. The divergent emotional reactions associated with dominance and prestige perceptions may reflect affective polarisation at the intergroup level. The affective polarisation may be even more pronounced when taking participants' level of group identification into account (Gonzalez-Gadea et al., 2018; Hoogland et al., 2015; Ouwerkerk et al., 2018).

Limitations and future directions

Given our focus on the U.S. election, in which the generally more dominant candidate lost and the generally more prestigious one won, we could not investigate reactions to a dominant candidate winning and a more prestigious candidate losing. Therefore, future studies should orthogonally cross the type of social rank attainment (dominance vs. prestige) with the type of event (success vs. failure) in an experiment to investigate their effect on emotions. By manipulating dominance and prestige, as done by Lange and Boecker (2019), one could also provide direct causal evidence for our mediation hypothesis. Relatedly, research could investigate whether failures generally selectively decrease dominance (not affecting prestige) and successes generally increase prestige (not affecting dominance) as we observed in Studies 1 (in Democrats) and 2.

Furthermore, we measured prior prestige and dominance after the election, which likely affected the ratings. However, we think that this limitation, if anything, decreased the effects we found. It appears likely that the post-election measurement decreased differences between ingroup and outgroup members because losing (winning) an election is unpleasant (pleasant) for ingroup members and pleasant (unpleasant) for outgroup members. Therefore, Trump's defeat

(Biden's victory) should have decreased (increased) how dominant and prestige both were evaluated "prior" to the election. Relatedly, future studies should use a real time-lagged assessment of dominance and prestige (before a success/failure) and of emotions (after a success/failure), providing direct support for the causal link between rank perception and specific emotions (as experimentally shown for *schadenfreude* by Lange & Boecker, 2019) and likely increasing the effects we found.

Finally, our methods allowed us to track the immediate reactions to the election's outcome. Future research may want to track reactions over a longer period. Especially the 2020 U.S. election represents a fascinating avenue to study this progression of change due to Trump's refusal to accept the defeat, and due to the common long-term procedure of the U.S. election.

Conclusion

The current studies investigated the interplay between group membership, social rank attainment, and emotional reactions by tracking the immediate emotional reactions to a real-life historic event. The findings document affective polarisation in the United States. The evidence thereby extends the prevalent intragroup approach to social rank attainment and the hierarchy-based emotion literature and highlights the importance of cognitive processes in emotion elicitation.

Notes

1. As there currently exists no noun in the English language to describe the feeling when one is happy for another person, we use the term *happy-for-ness* in the following (introduced by Boecker et al., 2022). *Happy-for-ness* specifically requires the presence of another person experiencing a fortune or success and is therefore inherently social. It has been shown that *happy-for-ness* positively predicts prosocial behaviour toward the other person experiencing a fortune (Boecker et al., 2022). In contrast, *happiness* is a more broadly defined emotion concept that encompasses all kinds of different positive emotions and does not necessarily involve the presence of another person (e.g., Sauter, 2010).
2. *Schadenfreude* is the pleasure one experiences in response to another person's misfortune (Van Dijk & Ouwerkerk, 2014; Smith, 2013). It is a combination of the German terms "*Schaden*", which means harm, and "*Freude*", which means joy.

Disclosure statement

No potential conflict of interest was reported by the author(s).

Data availability statement

We report all studies, data exclusions, manipulations, and measures. Materials, de-identified data, and analysis code are available on Open Science Framework (https://osf.io/b38k2/?view_only=3ac881f047e04ee98b1efc1d92f7981f).

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