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Is Status a Zero-Sum Game? Zero-Sum Beliefs Increase People's Preference for Dominance but Not Prestige

Patricia Andrews-Fearon[1] and Shai Davidai[2]
[1] Department of Psychology, University of Cambridge
[2] Columbia Business School, Columbia University

Why do so people often pursue social rank using coercive and potentially costly *dominance-oriented* strategies (grounded in fear and intimidation) rather than noncoercive *prestige-oriented* strategies (grounded in respect and admiration)? In 10 studies (N = 3,372, including a high-powered preregistered replication), we propose that people's beliefs about the nature of social hierarchies shape their preference for dominance strategies. Specifically, we find that *zero-sum beliefs about social hierarchies — beliefs that one person's rise in social rank inevitably comes at others' expense*—drive the preference for dominance-oriented, but not prestige-oriented, approaches to status. The more participants viewed social hierarchies as zero-sum, the more they were willing to use dominance tactics and the more interested they were in reading books about *how* to use such tactics. Moreover, we find evidence that zero-sum beliefs about social hierarchies *causally* increase the preference for dominance-oriented, but not prestige-oriented, strategies for gaining rank, and that both objective factors in the organizational environment and people's subjective interpretations of these environments can trigger this effect. We discuss implications for the intragroup and intergroup dynamics of attaining and retaining high social rank.

Keywords: dominance, prestige, social rank, status, zero-sum beliefs

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The desire for status is believed to be universal across cultures, countries, and continents (Anderson et al., 2015). Those considered high in social rank—including related but distinct concepts as *power* (i.e., controlling resource allocation; Keltner et al., 2003; Magee & Galinsky, 2008), *social status* (i.e., receiving others' respect and admiration; Cheng et al., 2013; McClanahan et al., 2021), and *socioeconomic status* (i.e., attaining economic, educational, and occupational outcomes; Baker, 2014; Kraus & Stephens, 2012)—generally enjoy greater physical and mental wellbeing (Alami et al., 2020; Anderson et al., 2012). In this article, we examine how people pursue such social rank,[1] focusing on strategic preferences for attaining social influence independent of formal access to resources and/or positions of power (de Waal-Andrews et al., 2015; Henrich & Gil-White, 2001; Maner, 2017; McClanahan et al., 2021).

According to the dual-strategies theory, two primary pathways lead to high social rank, each involving different personal and social costs (Cheng et al., 2013; Henrich & Gil-White, 2001; Mandalaywala, 2022; Maner, 2017). On the one hand, people can achieve social influence using coercive, *dominance-oriented* tactics grounded in aggression and intimidation, attempting to force others' submissiveness through threats, manipulation, and authoritarian behavior. Although this approach can be effective for gaining social rank (McClanahan et al., 2021), it often comes at the expense of others' deference and social acceptance (Cheng et al., 2013), and may even breed resentment and opposition from those subjected to threats and coercion (Cheng, 2020; Kakkar et al., 2020). And, although dominant leaders can increase group compliance by punishing defection (Chen et al., 2021) and people seek out such leaders during times of conflict and uncertainty (Kakkar & Sivanathan, 2017; Laustsen & Petersen, 2017; Petersen & Laustsen, 2020), leaders who assert their rank through dominance often harm their groups by prioritizing personal goals over group goals, treating others as a threat, jeopardizing group cohesion, and ultimately undermining group success (Case & Maner, 2014;

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Shai Davidai https://orcid.org/0000-0002-2603-2217

Both authors shared first authorship.

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Correspondence concerning this article should be addressed to Patricia Andrews-Fearon, Department of Psychology, University of Cambridge, Downing Street, Cambridge, CB2 3EB, United Kingdom, or to Shai Davidai, Columbia Business School, Columbia University, 665 West 130th Street, New York, NY 10027, United States. Email: pba21@cam.ac.uk or sd3311@columbia.edu

[1] In line with existing literature, we use the term "social rank" to refer to social standing that engenders *influence*, which, as we demonstrate in this article, can be construed as either *zero-sum* (signifying an ordinal ranking such that no two individuals can occupy the same rank) or *non–zero-sum* (signifying a standing in a hierarchy in which multiple individuals can occupy a single rank). For clarity, our research materials refer to the general term "status."

Maner & Mead, 2010; Rizio & Skali, 2020; Van Vugt et al., 2004).

On the other hand, social influence can be gained through noncoercive, *prestige-oriented* tactics that are grounded in others' voluntary deference and admiration in response to one's competencies and instrumental value (Henrich & Gil-White, 2001). For instance, people rise in rank by supporting others, exhibiting their expertise, and giving valuable advice which, when done effectively, can help them fulfill basic psychological needs (Cheng et al., 2013; Dweck, 2017; Inesi et al., 2011), promote group interests over personal interests (Case & Maner, 2014), and improve their personal and group outcomes (Henrich et al., 2015; Price & Van Vugt, 2014). Although prestige-oriented people can be hypervigilant toward cues of social acceptance (Case et al., 2021) and sometimes prioritize popularity over performance (Case et al., 2018), benefiting others to gain prestige is a much better predictor of social rank than inflicting costs on them to gain dominance (Durkee et al., 2020; McClanahan et al., 2021). Indeed, the fact that people fail to rise in rank when they do not balance their dominance with conciliatory behavior (Anderson et al., 2020) helps explain why dominant people also tend to engage in various complaisant tactics to gain social rank (Ketterman & Maner, 2021).

Given the costs of a dominance approach to social rank, why would anyone choose such tactics? More generally, what leads people to choose one strategy of attaining rank over another?

Although research has focused on the correlates and consequences of the two approaches to social rank, little is known about what leads people to use dominance strategies, prestige strategies, or some combination of both. Rather, research has mainly examined the conditions that affect people's willingness to accept dominant leaders (Anderson & Kilduff, 2009; Halevy, Chou, et al., 2012; Sprong et al., 2019) or the correlations between dominant behaviors and personality traits (Anderson et al., 2020; Cheng et al., 2010; Lange et al., 2019), biological features (Cheng et al., 2018; Johnson et al., 2007; Lukaszewski et al., 2016), life histories (Maner & Hasty, 2022), or nonverbal signaling (Witkower et al., 2020). This gap in the literature has led a prominent review to call for research on "the factors that cause people to prioritize one strategy over the other" (Maner, 2017). We tackle this issue by examining one such decisive factor in shaping people's preference for dominance versus prestige. We propose that how people pursue social rank stems from their belief about the *nature* of social hierarchies. Specifically, we suggest that whether people view hierarchies as zero-sum determines their willingness to use dominance-oriented strategies for attaining high social rank.

Zero-Sum Beliefs About Social Hierarchies

People often view tangible and intangible resources as zero-sum, perceiving one's gains as inevitably coming at others' expense (Johnson et al., 2022; Meegan, 2010). For example, people believe that wealthy individuals become rich at the expense of worse-off others (Davidai & Ongis, 2019; Ongis & Davidai, 2021; Różycka-Tran et al., 2015; Sirola & Pitesa, 2017), that minority group members advance at the expense of the majority group (Bobo & Hutchings, 1996; Brown & Jacoby-Senghor, 2021; Esses et al., 1998; Kimmel, 2013; Norton & Sommers, 2011; Smithson et al., 2015), and that other countries and political parties gain at their own country's and party's expense (Andrews Fearon et al., 2021; Boyer & Petersen, 2017; Johnson, 2018; Roberts & Davidai, 2021).

Zero-sum beliefs can have important interpersonal and societal consequences. For instance, viewing immigration as zero-sum (i.e., that immigrants harm the economic prospects of native-born residents) reduces support for immigrant-empowering policies (Esses et al., 1998) and viewing gender relations as zero-sum reduces support for gender-equity policies (Kuchynka et al., 2018). In contrast, viewing issues such as racial relations as *non*–zero-sum (i.e., that minorities do *not* benefit at the majority's expense) increases support for policies that address racial inequality (Stefaniak et al., 2020). In general, the more people view a situation as zero-sum, the more they try to stifle others' progress and the less they wish to offer help or support (Chernyak-Hai & Davidai, 2022; Esses et al., 2001; McGhee, 2021; Wilkins et al., 2015).

We propose that zero-sum beliefs about hierarchies affect how people pursue high social rank. Zero-sum games (where the gains and losses of all parties sum to zero) create incompatible interests for different players and are thus considered *pure conflict games* (Schelling, 1958; von Neuman & Morgenstern, 1944). Because game theory assumes that players adapt their behaviors to the types of games they are playing, cooperation in such games is suspect and dominance and coercion are considered the best route to success (Nash, 1951). In contrast, non–zero-sum games (where joint outcomes can be positive- or negative-sum) create compatible interests and therefore require coordination and cooperation. Consequently, people adopt more aggressive strategies when playing zero-sum rather than non–zero-sum games (Zizzo & Tan, 2011).

Yet, whether people *perceive* a situation as zero-sum can be as important as whether it is indeed the case. Following a psychological tradition that emphasizes the importance of the meaning people assign to social situations (Asch, 1948; Davidai et al., 2012; Griffin & Ross, 1991; Lakoff & Johnson, 1980), we suggest that subjective beliefs about hierarchies affect how people pursue social rank. Just as merely framing a social coordination game as communal or competitive influences behavior in it (Liberman et al., 2004), we suggest that viewing social hierarchies as zero-sum influences how people navigate them. Similar to their influence on greed (Jiang et al., 2020) and economic decisions (Andrews Fearon et al., 2021), we predict that zero-sum beliefs will influence how people try to rise in rank. Specifically, we argue that zero-sum beliefs about social hierarchies lead people to pursue social rank in more dominance-oriented (but not more prestige-oriented) ways. Because social hierarchies can be seen as either zero-sum (i.e., one person's elevated rank is offset by others' lower rank) or non–zero-sum (i.e., multiple people can attain elevated rank without undermining each other), *beliefs* about the nature of social hierarchies may influence which behavioral strategy people will deem most promising. Thus, we predict that subjective perceptions of social hierarchies as zero-sum lead people to approach them in more dominance-oriented ways.

Notice, however, that seeing situations as zero-sum is not the same as seeing them as competitive. Competitions can be either zero-sum (i.e., attempting to outdo others) or non–zero-sum (i.e., attempting to outdo certain benchmarks), such as when marathon runners compete against each other for the fastest running-time as well as for running times under certain official standards. From the Latin for "striving for [something] in the company of another," the

origin of the word competition contains both zero-sum and non–zero-sum forms of competition (Hoad, 1996). Similarly, hierarchies can involve both zero-sum competitions, in which people strive for a rank that is *higher than others*, and non–zero-sum competitions, in which people strive for a rank that is *higher than a certain level* or criteria (e.g., level of compensation or prominence). In the same way, although dispositional competitiveness—an individual difference in the drive for performance or success—can sometimes refer to a desire to outdo others, it can also refer to a substantially different "desire for excellence, obtaining a goal, bringing out the best one can do, mastering the task, and developing oneself" (Orosz et al., 2018, p. 2). For instance, one might behave competitively by working nights and weekends and taking-on additional responsibilities—striving for personal and organizational success *without* considering their colleagues as rivals and without trying to outdo them or acting in forceful or aggressive manners. Thus, we predict that zero-sum beliefs about social hierarchies affect the pursuit of dominance beyond any effect of competitiveness.

At the same time, a high dominance orientation does not preclude the possibility of pursuing social rank through both dominance *and* prestige. Though prestige-oriented people prefer complaisant strategies and avoid coercive tactics, dominance-oriented people readily use *both* tactics to pursue social rank (Anderson et al., 2015, 2020; Durkee et al., 2020; Ketterman & Maner, 2021). Consequently, we predict that zero-sum beliefs about hierarchies will lead to a dominance orientation, but will be unrelated to a prestige orientation, toward social rank. Whereas high zero-sum beliefs may increase people's preference for both complaisant and coercive tactics (i.e., dominance orientation), low zero-sum beliefs may lead people to prefer *only* complaisant tactics (i.e., a prestige orientation).

Zero-Sum Beliefs and Perceived Normative Behaviors

Why does seeing social hierarchies as zero-sum influence how people pursue social rank? We suggest that zero-sum beliefs affect the pursuit of social rank by shaping people's expectations of how *others* will try to gain rank, fostering a view of dominance behaviors as normative and, as a result, leading people to engage in them.

Zero-sum situations inversely link people's outcomes to each other, requiring them to gain by directly or indirectly harming others. It is therefore unsurprising that zero-sum beliefs are associated with negative interpersonal expectations such as reduced trust (Różycka-Tran et al., 2015), a tendency to attribute hostile intentions to others' behaviors (Andrews Fearon et al., 2021), and general cynicism about society (Zaki et al., 2021). Because gaining rank in a (seemingly) zero-sum hierarchy requires diminishing others' rank, people who view social hierarchies as zero-sum may expect others to follow a similar logic. In other words, people who see hierarchies as zero-sum may reasonably believe that self-interested *others* must pull *them* down to gain higher rank. Thus, given the widespread (yet misguided) assumption that most people are motivated by narrow self-interest (e.g., Critcher & Dunning, 2011; Gardner & Ryan, 2020; Miller, 1999; Tsay et al., 2011; Wice & Davidai, 2021), people who see hierarchies as zero-sum may overestimate other people's willingness to engage in aggressive tactics to make their way up the hierarchy. Moreover, since people often overestimate their and others' chances of moving up various hierarchies (e.g., Davidai & Gilovich, 2015), they may attempt to assert their dominance in defense of *others'* perceived upward trajectory. Regardless of whether a hierarchy is *objectively* zero-sum, *subjectively* seeing it as such may lead people to use dominance to pursue social rank because they expect others will do the same.

Because self-interest in zero-sum situations requires dominating over others, and because people typically believe that others are motivated by such narrow self-interest, we predict that the belief that social hierarchies are zero-sum would lead people to expect others to assert their dominance in the hierarchy. Given this expectation, people may assert their own dominance in anticipation of *others'* assumed attempts at doing so. Stated differently, people who view social hierarchies as zero-sum may expect most others to try and gain at their expense. As a result, expecting dominance, aggression, and hostility to be the normative courses of action, people may choose to engage in similarly dominant tactics as a defense against others' expected behaviors and as a *preemptive* attempt to outdo them.

This prediction assumes that behaviors are, at least partially, informed by expectations of others' behavior. In fact, regardless of whether their beliefs about others are correct, people's behaviors are commonly influenced by how they believe others typically act (Cialdini & Trost, 1998) and according to how they believe others expect *them* to act (Ajzen, 1991; Ratner & Miller, 2001). For instance, when people expect others to behave unethically, they preemptively behave unethically themselves (Epley et al., 2006; Kelley & Stahelski, 1970; Mason et al., 2018; Steinel & De Dreu, 2004). Similarly, seeing negotiations as zero-sum ("the fixed-pie bias") is associated with the belief that aggression is the most optimal course of action in dyadic conflicts (Halevy, Chou, & Murnighan, 2012) which, as a result, increases how much conflict people actually experience in their relationships (Halevy & Phillips, 2015). Indeed, a recent study of the prevalence of the two different strategies among a cohort of MBA students found that when the use of dominance is seen as normative it is often rewarded with higher rank (McClanahan et al., 2021). Thus, we suggest that one important path through which zero-sum beliefs promote dominance strategies is by fostering a belief that such behaviors are common and normative, leading people to view *others* as prone to dominance and therefore motivating them to pursue social rank in a manner that fits these expectations.

Of course, the influence of zero-sum beliefs on expectations of what counts as normative behavior and the pursuit of social rank has important implications. As reflected in countless articles, books, and self-improvement seminars, people are eager to improve their personal and professional social rank. Yet, advice about doing so comes in many contradictory forms. For instance, two of the most influential best-sellers of this genre—*The Art of War* and *How to Win Friends and Influence People*—suggest vastly different paths to social rank that focus on either establishing dominance over others or establishing positive relationships with them. We argue that assumptions about the nature of hierarchies as either zero-sum or non–zero-sum may influence people's receptiveness to these various forms of advice, emphasizing the need for understanding whether and how seeing hierarchies as zero-sum affects people's strategic preferences.

Thus, integrating insights from game theory, zero-sum beliefs, status, and social rank literatures, we suggest that viewing social hierarchies as zero-sum motivates more dominance-oriented (but not necessarily more prestige-oriented) strategies in the pursuit of social rank. We predict that zero-sum beliefs about hierarchies increase people's expectations that others will use aggressive and fear-based tactics for attainting social rank and, as a result, motivate them to preemptively do the same. Consequently, beliefs about the nature of social hierarchies as zero-sum or non–zero-sum determine how people navigate them using dominance and prestige-oriented strategies.

Overview of the Present Research

Across ten studies (including a high-powered, preregistered replication), we examine whether and how zero-sum beliefs about social hierarchies affect how people navigate them. Studies 1A–1C examine whether viewing hierarchies as zero-sum predicts a dominance, but not prestige, orientation to social rank and whether this is true even when controlling for differences in extraversion, assertiveness, narcissism, and competitiveness. In addition, because people's preference for (but not attainment of) dominance and prestige are correlated (Cassidy & Lynn, 1989; Maner & Mead, 2010), we follow best practices in the literature and account for this general, underlying desire for social rank by controlling for the shared variance of the two strategies. Study 2 examines whether zero-sum beliefs predict a preference for dominance independent of participants' own definitions of status (i.e., whether they personally define high social rank in terms of power, influence, respect, and so forth). Study 3 examines whether, in addition to cultivating a preference for dominance, zero-sum beliefs lead people to seek advice on how to achieve it, thus reinforcing their dominance-orientation. Studies 4, 5A, and 5B examine whether zero-sum beliefs *causally* influence the pursuit of social rank, such that increasing people's zero-sum beliefs boosts their willingness to use dominance, but not prestige, strategies. Finally, Study 6 examines whether the effect of zero-sum beliefs on dominance is attributable to people's beliefs about *others'* normative behaviors in the pursuit of social rank.

For all studies, we report a power analysis and all conditions and exclusion criteria. Sample sizes were determined in advance and analyses were conducted after data collection was complete. These studies were approved by the second author's Institutional Review Board (Protocol number: IRB-AAAS6914). All materials and data can be accessed via the Open Science Framework: https://osf.io/28z7j/?view_only=5de1eb40dbf748fb9678f02658640e34.

Studies 1A–1C

We began by examining whether seeing social hierarchies as zero-sum predicts people's preference for dominance-oriented (but not prestige-oriented) strategies to rise in social rank. In addition, we examine whether this effect of zero-sum beliefs offers explanatory power even when controlling for trait-level extraversion, and narcissism (which are associated with dominance; Anderson et al., 2020) in Study 1A and for trait-level competitiveness in Study 1B. Finally, Study 1C is a high-powered preregistered replication of our effect. In all studies, we predicted that participants who view one person's social rank as coming at others' expense would be more willing to use aggressive, fear-based tactics for attainting it.

Study 1A

Method

Participants

One hundred ninety-nine U.S. residents, recruited from Amazon's Mechanical Turk, completed Study 1A (M_{age} = 38.13, *SD* = 11.03; 64.3% female, 35.7% male; 63.8% White, 21.1% Black, 6.0% Latino/Hispanic American, 5.5% East Asian, 1.5% multiracial, 2% other). Three hundred fifty-seven fully-employed U.S. residents recruited from CloudResearch completed Study 1B. We excluded 28 participants who failed an attention check, resulting in a sample of 329 participants (M_{age} = 40.17, *SD* = 11.53; 66% female, 34% male; 68.5% White, 13.1% Black, 10.7% Latino/Hispanic American, 2.9% East Asian, 2.9% South Asian, <1% Indigenous/Native American, 1.1% Other). Finally, 362 fully employed U.S. residents recruited from CloudResearch completed Study 1C. We excluded 78 participants who failed two attention checks (see preregistration: https://aspredicted.org/blind.php?x=kk3bk3), resulting in a sample of 283 participants (M_{age} = 44.51, *SD* = 16.5; 35% female, 65% male, <1% other; 77.7% White, 6.7% Black; 6.3% East Asian; 3.2% Latino/Hispanic American; 2.5% South Asian, 3.5% other). These samples allow detection of small-to-medium effects (Study 1A: *d* = .38 at 80% power and .46 at 90% power; Study 1B: *d* = .30 at 80% power and .36 at 90% power; Study 1C: *d* = .32 at 80% power and .38 at 90% power) in multiple regression analyses with five predictors, including one hypothesized predictor and four control variables.

Procedure and Material

First, participants reported their zero-sum beliefs about social hierarchies. Next, they completed the key dependent and control variables in randomized order. Finally, participants indicated their age, gender, ethnicity, income, and education.[2]

Zero-Sum Beliefs. Participants reported whether they view social hierarchies as zero-sum by indicating their level of agreement with nine statements, including positively-keyed statements (e.g., *When status for one person is increasing it means that status for another person is decreasing*) and reverse-key statements (e.g., *When one person gains in status, it does not* mean *that someone else is losing status*; 1 = *Strongly disagree*, 7 = *Strongly agree*; α = .86, ω = .88; Appendix A).

Prestige and Dominance Strategies. We measured strategies for pursuing social rank using a 17-item scale adapted from the Prestige and Dominance Scale to measure strategic preferences for *trying to attain* higher rank rather than rank that has *already* been attained (Original scale: Cheng et al., 2010; Adapted scale: Lange et al., 2019). Participants indicated how much they seek social rank using prestige (e.g., *I try to get members of my group to*

[2] Study 1A included two additional exploratory measures: Whether participants see social hierarchies as ladders or pyramids (Yu et al., 2019) and an open-ended question about their definition of status. In addition, Studies 1A and 1C measured malicious and benign envy (see online supplemental materials).

respect and admire me) and dominance (e.g., *I am willing to use aggressive tactics to get my way*; 1 = *Strongly disagree*, 7 = *Strongly agree*; Prestige: α = .75, ω = .74; Dominance: α = .83, ω = .86; Appendix B).

Control Variables.

Narcissism (Study 1A). We measured trait-level narcissism with the Leadership/Authority and Entitlement/Exploitativeness subscales (four items each) of the Narcissistic Personality Inventory (Gentile et al., 2013; 1 = *Strongly disagree* to 7 = *Strongly agree;* Leadership/Authority: α = .91, ω = .91; Entitlement/Exploitativeness: α = .86, ω = .87).

Extraversion (Study 1A). We measured trait-level extraversion with the three-item BFI-2 measure (e.g., *I see myself as someone who is dominant, acts as a leader*; Soto & John, 2017; 1 = *Strongly disagree* to 7 = *Strongly agree*; α = .51, ω = .61).

Competitiveness (Study 1B). We measured trait-level competitiveness with the 12-item Multidimensional Competitive Orientation Inventory, which examines Hyper-Competitiveness (e.g., *The most important thing is winning, no matter what;* α = .85, ω = .85), Self-developmental Competitiveness (e.g., *I enjoy competition as it allows me to discover my abilities;* α = .82, ω = .82), Lack of Interest in Competition (e.g., *I don't care about competitions;* α = .67, ω = .67), and Anxiety-driven Competition Avoidance (e.g., *I feel pressured in competitive situations;* α = .78, ω = .79) (Orosz et al., 2018; 1 = *Strongly disagree*, 7 = *Strongly agree*).

Results

We hypothesized that viewing social hierarchies as zero-sum would predict a preference for dominance (but not prestige) strategies for attainment of social rank. Indeed, we found a strong positive relationship in all three studies between zero-sum beliefs and the willingness to pursue social rank using dominance-oriented strategies (Study 1A: $r[197] = .47$, 95% CI [.37, .57], $p < .001$; Study 1B: $r[328] = .45$, 95% CI [.35, .55], $p < .001$; Study 1C $r[280] = .43$, 95% CI [.33, .52], $p < .001$). In contrast, zero-sum beliefs were only weakly and not significantly related to prestige in Study 1A, $r(197) = .12$, $p = .10$, 95% CI [−.02, .25], and Study 1B, $r(328) = .02$, 95% CI [−.06, .10], $p = .62$, and marginally significant in Study 1C, $r(280) = .12$, 95% CI [.00, .23], $p = .05$ (see Tables S1 and S2 in the online supplemental materials for correlation tables).

Next, we examined the robustness of these relationships by accounting for the shared variance between prestige and dominance in the pursuit of social rank. To do so, we ran two multiple-regression analyses predicting each approach from participants' zero-sum beliefs and their willingness to use the alternative strategy. As hypothesized, viewing social hierarchies as zero-sum *uniquely* predicted a dominance-orientation toward it when controlling for the willingness to also use prestige strategies (Study 1A: β = .44, 95% CI [.32, .56]; $p < .001$, Study 1B: β = .41, 95% CI [.32, .51], $p < .001$; Study 1C: β = .40, 95% CI [.29, .50], $p < .001$). In contrast, zero-sum beliefs did not predict prestige when controlling for its shared variance with dominance (Study 1A: β = −.04, $p = .59$, 95% CI [−.19, .11]; Study 1B: β = −.07, 95% CI [−.15, .26], $p = .21$; Study 1C: β = −.04, 95% CI [−.16, .08], $p = .52$). Moreover, zero-sum beliefs about hierarchies predicted a dominance-orientation even when controlling in Study 1A for trait-extraversion, age, sex, and education (β = .39, 95% CI [.27, .50], $p < .001$; Table S2 in the online supplemental materials), as well as when controlling for narcissism ($p < .001$; although its high correlation with a dominance-orientation limits the interpretation of the regression coefficients) and when controlling for various facets of trait-competitiveness in Study 1B (β = .14, 95% CI [.05, .24], $p = .002$).

Finally, we ran a linear mixed-effect regression analysis to examine the interaction between zero-sum beliefs and type of strategy (Dominance vs. Prestige) on participants' willingness to enact that strategy. To do so, we reshaped the data from "wide" to "long," which creates a categorical variable (i.e., column) for "strategy type" with two levels (dominance or prestige) that correspond to the two ratings (i.e., rows) for each participant as a within-person repeated measure. We then predicted participants' willingness to pursue social rank from their zero-sum beliefs, the type of strategy (dominance or prestige), and the interaction of the two while including participant ID as a random effect to account for within-participant dependence. These analyses revealed, in all three studies, a significant interaction (Study 1A: β = .42, $p < .001$, 95% CI [.27, .56]; Study 1B: β = .43 $p < .001$, 95% CI [.31, .54]; Study 1C (β = .33, 95% CI [.23, .43], $p < .001$), suggesting that zero-sum beliefs increase dominance-oriented, but not prestige-oriented, strategies (see Figure 1). Thus, three different studies found robust and consistent evidence that zero-sum beliefs predict people's willingness to pursue social rank by using aggressive and fear-based tactics, but not by gaining others' respect and admiration.

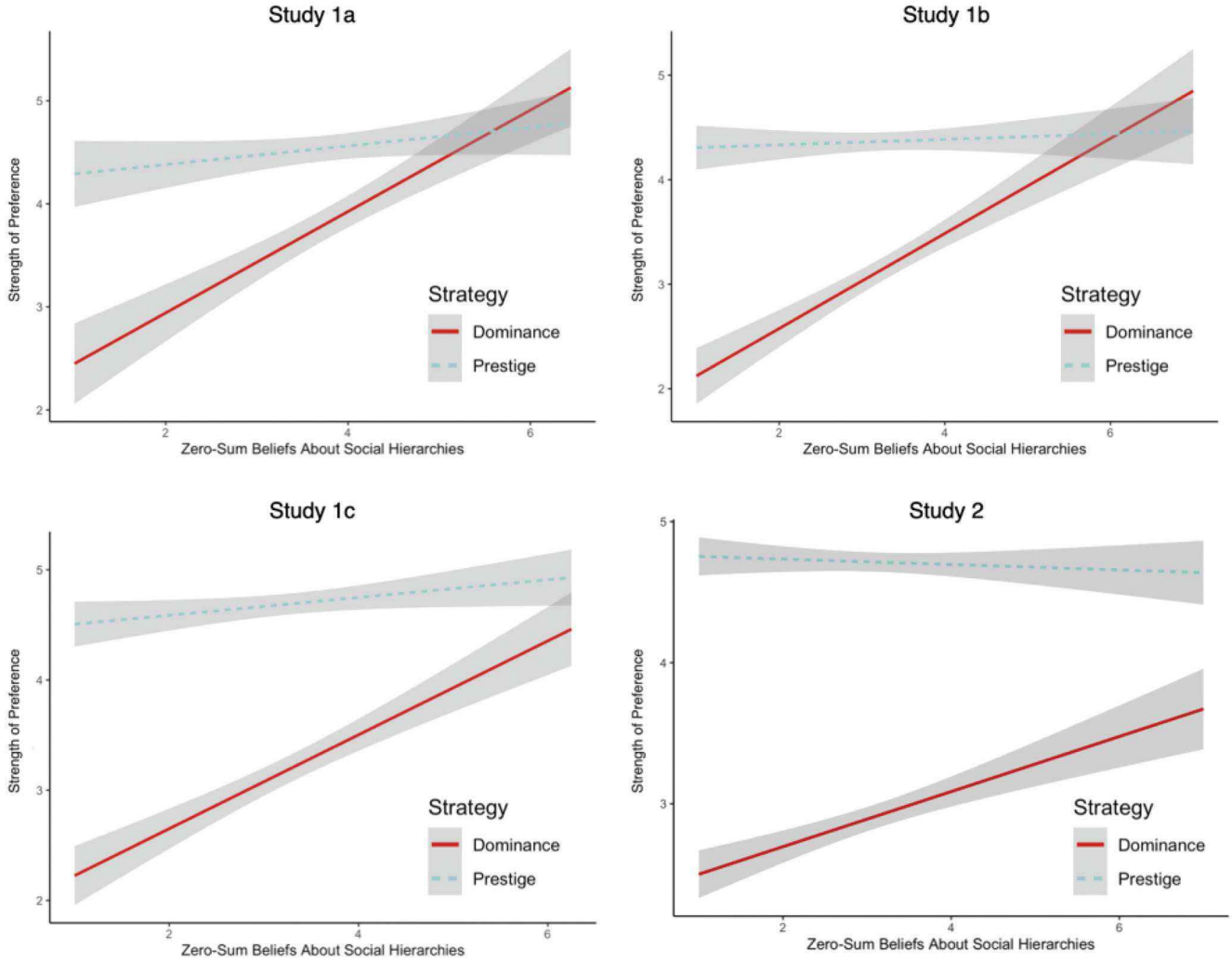
Study 2

The more participants believed that social rank can only be acquired at others' expense, the more they were willing to use dominance to get ahead. There are two distinct, but not mutually exclusive, ways in which zero-sum beliefs may impact this preference for dominance. On the one hand, people's notions of status—what comes to mind when they think about "status"—may vary based on their zero-sum beliefs, leading them to pursue it using dominance tactics. For instance, people who view status as zero-sum may be more likely to equate high social rank as having power over others (rather than having others' respect and admiration) and, as a result, may feel more motivated to pursue high rank using dominance.[3] On the other hand, it is possible that zero-sum beliefs shape how people approach the pursuit of social rank regardless of how they construe it. That is, regardless of their personal definitions of status (whether they conceive it more in terms of power, respect, influence, and so forth), zero-sum beliefs may motivate people to seek high rank through dominance rather than prestige. We investigate this in Study 2, by examining whether zero-sum beliefs impact people's definition of social rank as well as whether zero-sum beliefs impact the strategies that people use to pursue social rank beyond their personal definitions of it.

[3] We thank Sam Johnson for this interesting hypothesis.

Figure 1

The Interaction Between Zero-Sum Beliefs About Social Hierarchies and Strategy (Dominance Versus Prestige) for Attaining High Rank



Note. Gray shaded area indicates 95% CI. See the online article for the color version of this figure.

Method

Participants

Six hundred four U.S. residents were recruited from Prolific Academic. We excluded 13 participants who failed an attention check or didn't complete the study, resulting in a sample of 591 participants (M_{age} = 37.12, *SD* = 11.26; 51.4% female, 46.9% male; 71.4% White, 3.7% Black, 5.8% Latino/Hispanic American, 6.9% East Asian, 4.4% South Asian, 6.4% multiracial, <1% Indigenous/Native American, <1% Middle Eastern/Arab, <1% other). This sample allows detection of small-to-medium effects (*d* = .29 at 80% power and .34 at 90% power) in multiple regression analyses with five predictors, including one hypothesized predictor and four control variables.

Material and Procedure

After reporting their zero-sum beliefs about hierarchies and their willingness to pursue social rank through dominance and prestige, participants indicated how they personally define having high social rank. Finally, participants reported their age, gender, ethnicity, income, and education.

Zero-Sum Beliefs. Using the nine-item measure from Studies 1A-1C, participants indicated the extent to which they view social hierarchies as zero-sum (α = .92, ω = .92).

Prestige and Dominance Strategies. As before, participants indicated their willingness to pursue social rank through prestige and dominance using the adapted 17-item Prestige and Dominance Scale (Prestige: α = .77, ω = .73; Dominance: α = .87, ω = .88).

Personal Definition of Status. Participants were asked to consider the "many different ways that people think about the concept of 'status.'" They were then presented with several common definitions of *status* (drawn from participants' open-ended responses in Studies 1A and 1C; see online supplemental materials), and were asked to select the definition that most closely reflects how they think about it: status as power (*having a lot of*

power over others), status as ordinal position (*having a high rank or position in a hierarchy*), status as social influence (for example, *in decision-making*), status as valued achievements (for example, *graduating from a prestigious school or having a prestigious job*), and status as respect (*being respected and admired by others*).

Results

First, we examined whether seeing social hierarchies as zero-sum predicts a willingness to pursue social rank through dominance (but not prestige). Replicating Studies 1A-1C, we found a positive relationship between zero-sum beliefs and the preference for dominance ($\beta = .22$, 95% CI [.14, .30], $p < .001$) but not prestige ($\beta = -.03$, 95% CI [−.11, .05]), $p = .50$). As before, two multiple-regression analyses predicting each approach from participants' zero-sum beliefs while accounting for the shared variance between prestige and dominance revealed that zero-sum beliefs about hierarchies *uniquely* predicted a dominance-orientation when controlling for the willingness to also use prestige-oriented strategies ($\beta = .24$, 95% CI [.15, .30]; $p < .001$). In contrast, zero-sum beliefs *negatively* predicted prestige-oriented strategies when controlling for its shared variance with dominance ($\beta = -.08$, 95% CI [−.16, .00], $p = .043$). Finally, as in Studies 1A–1C, a linear mixed effect model revealed a significant interaction between zero-sum beliefs and strategy (*Dominance* vs. *Prestige*; $\beta = .20$, 95% CI [.13, .27], $p < .001$), suggesting that zero-sum beliefs increased dominance-oriented, but not prestige-oriented, strategies.

Next, we examined whether there was an association between participants' definitions of social rank and the extent to which they viewed it as zero-sum. Indeed, an analysis of variance (ANOVA) examining zero-sum beliefs as a product of participants' definitions was significant, $F(4, 586) = 3.25$, $p = .012$, finding that those most prone to view status as zero-sum defined it as "having power over others" (Table 1). In addition, relative to other definitions of status, defining status in terms of power predicted a higher preference for dominance ($\beta = .46$, 95% CI [.06, .86], $p < .025$). Thus, zero-sum beliefs may not only predict how participants approach the pursuit of social rank but may also predict how they define it in the first place.[4]

Finally, we examined whether zero-sum beliefs impacted dominance tactics above and beyond participants' personal definition of status (Figure 2). A multiple regression analysis revealed a significant positive relationship between zero-sum beliefs and dominance even when controlling for participants' own definitions of status ($\beta = .23$, 95% CI [.15, .31], $p < .001$). Regardless of whether they construed high social rank as having power, respect, admiration, or any other definition, participants who viewed hierarchies as zero-sum exhibited a preference for dominance, but not prestige, in their pursuit of such high rank.

Study 3

Four studies found a robust, positive relationship between zero-sum beliefs and participants' willingness to use dominance tactics. Study 3 examines the relationship between zero-sum beliefs about social hierarchies and the advice people seek when navigating them.

Leafing through any bookstore's business and self-help sections quickly reveals an abundance of advice on how to achieve higher status. The $11 billion self-help industry promises consumers myriad ways to increase their personal and professional influence. Yet, it is unclear what leads people to invest their time and money in one approach over another. Thus, we examined whether zero-sum beliefs about hierarchies predict interest in books that encourage readers to use dominance tactics (for example, Robert Greene's *The 48 Laws of Power*) versus prestige tactics (for example, Adam Grant's *Give and Take: Why Helping Others Drives Our Success*). In addition to cultivating a preference for dominance, we predicted that seeing social hierarchies as zero-sum would reinforce participants' existing preferences by leading them to further learn about *how* to use such tactics.

Method

Participants

Two hundred two U.S. residents were recruited from Amazon's Mechanical Turk to participate in the study ($M_{age} = 36.78$, $SD = 10.04$; 40% female, 59% male, 1% nonbinary; 66.8% White, 15.3% Black; 8.4% East Asian; 4% Latino/Hispanic American; 3% multiracial; 2.5% other), allowing detection of effects as small as $d = .40$ at 80% power and .46 at 90% power in multiple linear regression analyses with one predicted variable and one control variable.

Material and Procedure

Participants completed the same measure of zero-sum beliefs about social hierarchies from Studies 1A–1C. They then imagined being at a bookstore and saw 12 book covers, each accompanied by a short description of the book's content. Six of these books were selected to invoke a dominance-oriented approach to social rank (for example, *The Art of Being Ruthless*, *Machiavelli Mindset*, and *The 48 Laws of Power*), advising readers on how to "use manipulation to get things that are desired in life," "crush your enemy totally," and for "gaining, observing, or defending against ultimate control." The remaining six books were selected to invoke a prestige-oriented approach to social rank (for example, *Leaders Eat Last*, *Taking People With You*, and *Give and Take*), including advice on how to lead with "respect, honesty, love, and spirituality" and inspire others "to give back to the community."

After reading each book's description, participants indicated what kind of strategies they expected the book to endorse by rating how likely it would be to teach them three dominance strategies (for example, *How to intimidate others and make them afraid of you*) and three prestige strategies (for example, *How to earn the respect of others and gain recognition for expertise or abilities)* (1 = *This book is very unlikely to teach this strategy*; 5 = *This book is very likely to teach this strategy*). Reliability (ω) for each book's dominance ratings ranged from

[4] Of course, given the study's correlational nature, it is also possible that people's definition of social rank predicts both their zero-sum beliefs about hierarchies and the way they approach its pursuit.

Table 1
Zero-Sum Beliefs About Social Rank by Participants' Definitions of Status (Study 2)

	Participants' personal definitions of status				
Measure	Achievement (n = 101; 17%)	Influence (n = 121; 20%)	Power (n = 31; 5%)	Rank (n = 142, 24%)	Respect (n = 196; 33%)
Mean zero-sum beliefs	2.984	3.249	3.315	3.281	2.879
SD	1.183	1.145	1.313	1.368	1.179

Note. n represents the number of participants that selected each definition of status. % represents the proportion that selected this definition.

.76 to .93 (mean ω = .87) and for prestige ratings ranged from .76 to .91 (mean ω = .84).

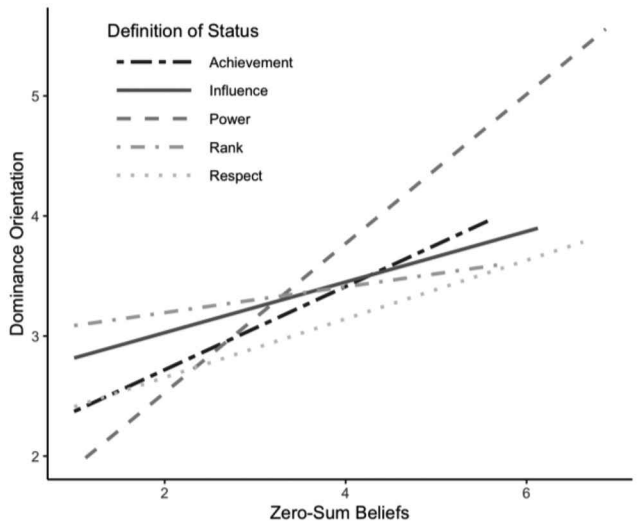
Next, participants indicated their interest in each book by rating its usefulness (*In your opinion, how useful would this book be for your life?*; *Not at all useful–Extremely useful),* their desire to read it (*How likely would you be read this book?; Extremely unlikely–Extremely likely),* and their interest in purchasing it (*If you saw this book at a bookstore, how likely would you be to buy it?; Extremely unlikely–Extremely likely; Prestige* books: α = .98, ω = .98; Dominance books: α = .97, ω = .97). They then selected the five books they most wanted for themselves (*Now, if you had to pick five of these books for yourself, which books would you pick?*).

Finally, participants rated each book's cover design (1 = *I strongly dislike it*; 5 = *I like it very much*), indicated whether they had read any of the books, and reported their age, gender, ethnicity, income, and education.

Results

First, we examined what advice participants expected to read in each book. Confirming our a priori categorizations, participants expected to learn more dominance strategies (M = 4.13, SD = .61) and fewer prestige strategies (M = 2.60, SD = .97) from the six books selected to reflect a dominance approach than the six books selected to reflect a prestige approach ($M_{dominance\text{-}rating}$ = 1.94, SD = 1.02; $M_{prestige\text{-}rating}$ = 4.18, SD = .53; Wilcoxon signed rank tests, $ps < .001$, $r_{rb} > .95$; for all book ratings, see Table S3 in the online supplemental materials).

Figure 2
Effect of Zero-Sum Beliefs About Social Hierarchies on Dominance Across Different Definitions of Status



Next, we examined whether viewing social hierarchies as zero-sum predicted interest in each type of book. Participants who viewed hierarchies as zero-sum were significantly more interested in purchasing and reading books that promote dominance strategies (β = .46, 95% CI [.34, .58], $p < .001$), and this was true even when controlling for the shared variance of interest in the prestige books (β = .33, 95% CI [.22, .44], $p < .001$) and for participants' age, sex, income, and judgment of book covers (Table S4 in the online supplemental materials).[5] In contrast, zero-sum beliefs did not predict interest in prestige books when controlling for its shared variance with dominance books (β = −.01, 95% CI [−.12, .09], p = .83). Thus, the more participants viewed social hierarchies as zero-sum, the more they expressed interest in books about dominance.

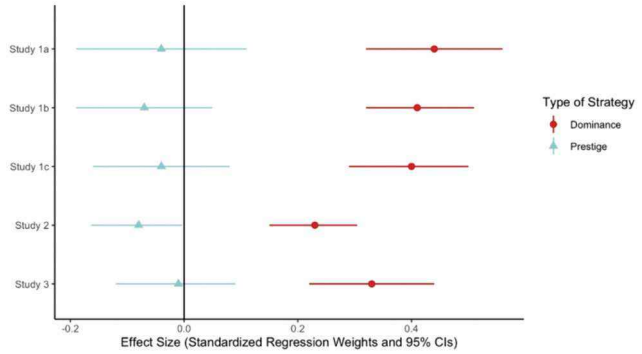
We next examined whether seeing social hierarchies as zero-sum predicted which books participants chose for themselves. Although participants expressed overall more interest in prestige-focused books, this was moderated by their zero-sum beliefs. A generalized linear regression (quasi-Poisson) found that the more participants viewed hierarchies as zero-sum, the more dominance books, and the fewer prestige books, they chose for themselves (IRR = 1.16, 95% CI [1.04,1.29], p = .007). Moreover, an analysis based on *participants' own ratings* of what they expected to learn from each book rather than on our own categorizations of them (i.e., the extent to which participants expected to receive dominance advice from each of the books they chose, irrespective of whether it was a priori categorized as focused on dominance or prestige) reveals the same pattern.[6] Participants with higher zero-sum beliefs selected books that *they* expected to provide advice about dominance (β = .40, 95% CI [.27, .53], $p < .001$) but not prestige (β = −.07, 95% CI [−.21, .07], p = .32). Thus, in addition to fostering a preference for dominance, viewing social hierarchies as zero-sum predicted participants' interest in learning about dominance strategies in the pursuit of high social rank.

[5] Results are not meaningfully altered when excluding participants who reported having read any of the books.

[6] To calculate this measure, we summed participants' expected dominance and prestige ratings for each of the five books they selected for themselves. These ratings could range from 5 (all selected books rated as minimally related to dominance/prestige) to 25 (all selected books rated as the most relevant to dominance/prestige).

Figure 3

Strength of Relationship Between Zero-Sum Beliefs About Social Hierarchies and Dominance Versus Prestige



Note. Standardized regression weights and 95% confidence intervals when both types of strategies are included simultaneously in the model to account for shared variance. See the online article for the color version of this figure.

Studies 4A and 4B

Studies 1–3 reveal a consistent pattern, finding that zero-sum beliefs about hierarchies predict a preference for dominance but not prestige (Figure 3). Participants who view social hierarchies as zero-sum were more willing to use dominance strategies in the pursuit of social rank (Studies 1 and 2) and were more interested in books that reinforce their dominance-oriented ways (Study 3). Studies 4 and 4B examine the *causal* effect of zero-sum beliefs, investigating whether they lead to a preference for dominance strategies. Specifically, we manipulated zero-sum beliefs before measuring participants' interest in navigating social hierarchies in dominance-oriented and prestige-oriented ways.

Study 4A

Method

Participants

Three hundred five U.S. residents employed full-time were recruited from CloudResearch to participate in the study. We excluded nine participants who failed an attention check, leaving a sample of 296 participants (M_{age} = 38.45, *SD* = 11.9; 43% female, 55% male, 2% nonbinary/other; 67.2% White, 10.1% Black, 8.4% East Asian, 5.4% Latino/Hispanic American, 8.8% Multiracial/other). This sample allows detection of effects as small as $d = .32$ at 80% power and $d = .38$ at 90% power in a two-tailed independent samples *t* test, and $f = .11$ at 80% power and $f = .12$ at 90% power in a 2x2 ANOVA with between-within design.

Material and Procedure

Participants rated their desire for social rank (*How personally important is it to you to attain high status in your organization?* 1 = *Not at all important*; 5 = *Extremely important*) and were randomly assigned to one of two conditions in which they watched short, animated, tutorial-style educational videos about the nature of social hierarchies (using the same narrator and style of illustrations; Figure 4). In the *zero-sum condition,* the video described social rank as a limited resource (such that one person's gains inevitably come at others' expense) and encouraged participants to think of social hierarchies as ladders, in which only one person can stand on any given rung. In the *non–zero-sum condition*, the video described social rank as something that does not exist in a finite amount and encouraged participants to think of hierarchies as wide staircases in which several people can simultaneously move up or down.

Participants then completed the same measure of zero-sum beliefs from Studies 1–3. They were then asked to think about a group or organization to which they personally belong and to indicate their willingness to engage in various dominance (for example, *In the future I would like to use aggressive tactics to get my way*) and prestige (for example, *In the future I would like to inspire people to want to be like me*) strategies to gain rank (1 = *Strongly disagree*, 7 = *Strongly agree*; Dominance: $\alpha = .93$, $\omega = .93$; Prestige: $\alpha = .92$, $\omega = .92$). Finally, participants reported their age, gender, ethnicity, income, and education.

Results

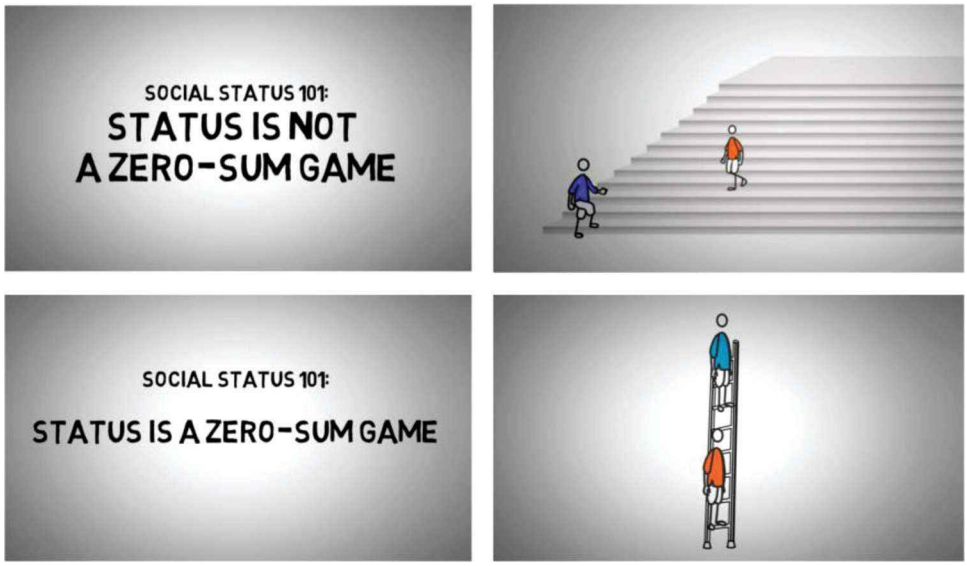
To begin, we examined whether the video affected the belief that social hierarchies are zero-sum. Indeed, participants were significantly more prone to view hierarchies as zero-sum in the *zero-sum condition* ($M = 5.02$ $SD = 1.51$, $n = 147$) than the *non–zero-sum condition* ($M = 2.24$, $SD = 1.24$, $n = 150$), $t(281.7) = 17.27$, $d = 2.06$, 95% CI [1.72,2.29], $p < .001$.

Next, we examined whether viewing social hierarchies as zero-sum affected strategic preferences for pursuing high social rank. We predicted that leading participants to view hierarchies as zero-sum would increase their willingness to use dominance, but not prestige, strategies when navigating them. Indeed, participants were significantly more willing to use dominance strategies in the *zero-sum condition* ($M = 3.39$, $SD = 1.31$) than *the non–zero-sum condition* ($M = 2.91$, $SD = 1.10$, $t(282.83) = 3.40$, $d = .40$, 95% CI [.17, .63], $p < .001$). In contrast, there was no difference between conditions in willingness to use prestige strategies in the pursuit of social rank ($M_{zero\text{-}sum} = 5.43$, $SD = 1.05$; $M_{non\text{–}zero\text{-}sum} = 5.30$, $SD = 1.08$), $t(295.00) = 1.06$, $p = .30$). Finally, a 2 × 2 mixed-model ANOVA with condition (*zero-sum* vs. *non–zero-sum*) as a between-participants factor and orientation (*dominance* vs. *prestige*) as a within-participant factor revealed a significant interaction, $F(1, 294) = 5.28$, $\omega^2 = .01$, $p = .02$, suggesting that zero-sum beliefs *uniquely* affected dominance, but not prestige. Thus, viewing social hierarchies as zero-sum encouraged participants to use aggressive, fear-based tactics, but not more prestige-oriented strategies, in pursuit of higher rank.

Study 4B

Study 4B replicates and builds on Study 4A in several important ways. First, using a prescreen, we only recruited participants with at least a minimal desire for high social rank. Second, we examined whether fostering zero-sum beliefs about status increases participants' competitiveness in addition to their preference for dominance. Third, we slightly edited the manipulation videos, removing any language which may have inadvertently alluded to either dominance or prestige (Appendix C). Fourth, we edited the

Figure 4
Sample Screenshots From Videos Used in Studies 4A and 4B



Note. Screenshots from the *zero-sum condition* are in the top two panels. Screenshots from the *non–zero-sum condition* are in the two bottom panels. Animations created using VideoScribe software Version 3. See the online article for the color version of this figure.

dependent variables to more directly refer to behavioral *intentions* to use dominance or prestige strategies (e.g., I would *try* to make some people afraid of me instead of I would *like* to make some people afraid of me). Finally, to maximize power, we more than doubled our sample size.

Method

Participants

Six hundred seventy U.S. residents (who, in a prescreen survey, indicated that achieving high status was *moderately important, very important,* or *extremely important* to them) were recruited from Prolific (M_{age} = 34.24, *SD* = 11.21; 43.6% female, 55.5% male, <1% nonbinary/other; 61.9% White, 9.9% East Asian, 9.9% Black, 6.3%, 4.2% South Asian, 6.3% Latino/Hispanic American, <1% Indigenous/Native American, 7.9% Multiracial/other). This sample allows detection of effects as small as $d = .22$ at 80% power and $d = .25$ at 90% power in a two-tailed independent samples *t* test, and $f = .06$ at 80% power and $f = .07$ at 90% power in a 2x2 ANOVA in a between-within design.

Material and Procedure

First, we prescreened participants (*How personally important is it to you to attain high status?*), only recruiting those with at least minimal interest in social rank. Recruited participants followed the same procedure as in Study 4A. However, after rating their intention to use dominance or prestige strategies to attain social rank, participants also completed measures of competitiveness from the Multidimensional Competitive Orientation Inventory (Orosz et al., 2018): the three-item Lack of Interest toward Competition subscale (e.g., "I do not care about competitions") and the three-item Self-developmental Competitive subscale (e.g., "Competitive situations allow me to bring the best out of myself").

Results

As before, participants were significantly more prone to view hierarchies as zero-sum in the *zero-sum condition* ($M = 4.39$, $SD = 1.43$, $n = 336$) than the *non–zero-sum condition* ($M = 2.32$, $SD = 1.15$, $n = 334$), $t(638.7) = 20.66$, $d = 1.60$, 95% CI [1.42,1.77], $p < .001$. In contrast, watching a video depicting status as zero-sum or non–zero-sum did not affect competitiveness ($M_{zero\text{-}sum} = 4.89$, $SD = 1.41$; $M_{non\text{–}zero\text{-}sum} = 4.83$, $SD = 1.38$) or interest in competitions ($M_{zero\text{-}sum} = 3.67$, $SD = 1.49$; $M_{non\text{–}zero\text{-}sum} = 3.75$, $SD = 1.38$), $ds < .06$, $ps > .49$. Thus, the manipulation uniquely impacted zero-sum beliefs, not the general proclivity for competitions.

Next, we examined whether viewing social hierarchies as zero-sum affected strategic preferences for pursuing high social rank. Replicating Study 4B, participants were significantly more willing to use dominance strategies in the *zero-sum condition* ($M = 3.23$, $SD = 1.22$) than *the non–zero-sum condition* ($M = 2.96$, $SD = 1.10$), $t(661.89) = 2.98$, $d = .23$, 95% CI [.08, .38], $p = .003$. In contrast, there was no between-conditions difference in the willingness to use prestige strategies ($M_{zero\text{-}sum} = 5.59$, $SD = .87$; $M_{non\text{–}zero\text{-}sum} = 5.52$, $SD = .87$), $t(667.96) = .98$, $p = .328$. A 2 × 2 mixed-model ANOVA with condition (*zero-sum* vs. *non–zero-sum*) as a between-participants factor and orientation (*dominance* vs. *prestige*) as a within-participant factor revealed a marginally significant interaction $F(1, 668) = 3.75$, $\omega^2 = .002$, $p = .05$. Moreover, controlling for an unexpected between-condition difference in age and education revealed a significant Condition × Orientation interaction, $F(1,666) = 4.03$, $\omega^2 = .002$, $p = .035$, suggesting that the preference for dominance was amplified in the zero-sum

condition. Thus, offering additional support for our hypothesis, we found that manipulating zero-sum beliefs encouraged participants to use aggressive tactics, but not more prestige-oriented strategies, in pursuit of higher rank.

Studies 5A and 5B

Watching a video depicting hierarchies as zero-sum increased participants' willingness to pursue social rank through dominance, but not prestige. However, although zero-sum beliefs may be influenced by broad, persuasive arguments like those presented in the videos, these beliefs do not exist in a vacuum. People's subjective beliefs about the nature of social hierarchies are likely to be shaped by objective factors in their environments, including disparities in resource allocation between different employees (Davidai, 2021), organizational cues of impending losses (e.g., Sirola & Pitesa, 2017), the leadership styles of their managers and supervisors (Kakkar & Sivanathan, 2017), the salience of higher-income others (Ongis & Davidai, 2021), the stakes involved in promotion decisions (Roberts & Davidai, 2021), and so forth.

Studies 5A and 5B examine how organizational practices might affect zero-sum beliefs and the preference for dominance. Drawing on real-world business practices that create zero-sum reward structures (for example, "rank-and-yank" performance reviews used by General Electric, Microsoft, and Amazon, in which performance is evaluated relative to one's immediate peers such that relatively high-performers are rewarded and relatively low-performers are reprimanded or fired regardless of their absolute performance; Spicer, 2015), Study 5A examined whether an objective zero-sum environment increases zero-sum beliefs about an organization and thus increases the appeal of dominance. Next, using a more subtle manipulation, Study 5B replicates and extends these results by indirectly manipulating participants' *subjective* zero-sum beliefs. In both studies, we predicted that directly (Study 5A) or indirectly (Study 5B) manipulating zero-sum beliefs about an organization would increase interest in honing one's dominance-oriented skills.

Study 5A

Method

Participants

Three hundred U.S. residents recruited from Amazon's Mechanical Turk completed the study. We excluded three participants who failed an attention check, leaving a sample of 297 participants (M_{age} = 41.98, *SD* = 11.99; 42.1% female, 57.2% male, <1% nonbinary/other; 75.8% White, 5.7% Black, 10.1% East Asian, 3.4% Latino/Hispanic American, 2% South Asian, 1% Multiracial, 2.4% Other). This sample allows detection of effects as small as $d = .33$ at 80% power and .38 at 90% power in a two-tailed independent samples *t* test.

Material and Procedure

Participants imagined starting a new job and were randomly assigned to one of two conditions. In the *zero-sum condition*, they read that their new company uses an organizational review procedure that evaluates employees relative to *each other* and rewards those ranked highest, such that only a set number of rewards are granted (i.e., zero-sum). In the *non–zero-sum condition*, participants read that the company uses a procedure that independently evaluates each employee and rewards any employee that outdoes a given *criteria* such that the number of rewards to be granted is not predetermined or fixed (i.e., non–zero-sum).

Next, participants rated, on six items, the extent to which success in this specific company is zero-sum (e.g., "More good jobs for some employees in this company means fewer good jobs for other employees"; 1 = *Strongly Disagree*, 7 = *Strongly Agree;* α = .92, ω = .93; Appendix D). They then imagined shopping for "books with advice about how to succeed at work." Participants were presented with eight books (four of which depicted mainly dominance-oriented advice and four of which depicted mainly prestige-oriented advice), chose the four books they would most want to read to prepare for their new job, and ranked their selected books in order of preference. Finally, participants completed an attention check and reported their age, gender, ethnicity, education, and income.

Results

First, we examined whether reading about an organization where employees are evaluated relative to each other increased zero-sum beliefs. Indeed, participants were more prone to view the organization's hierarchy as zero-sum in the *zero-sum condition* ($M = 5.56$, $SD = .97$, $n = 146$) than the *non–zero-sum condition* ($M = 3.76$, $SD = 1.43$, $n = 151$), $t(264.75) = 12.71$, $d = 1.47$, 95% CI [1.21, 1.73], $p < .001$. Thus, participants' zero-sum beliefs about success in the organization were significantly impacted by the zero-sum structure of the organization's evaluation process.

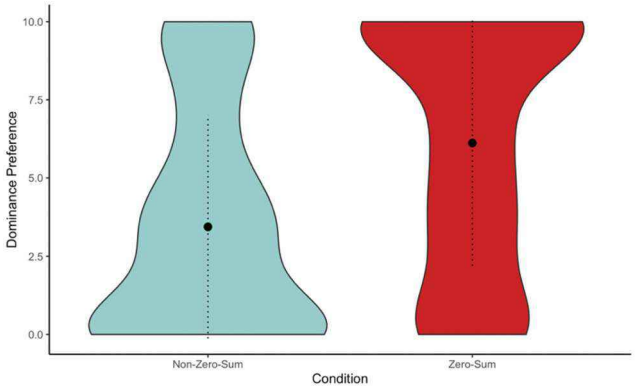
Next, we examined whether fostering zero-sum beliefs increased participants' preference for books that focus on dominance. For each participant, we created two measures of the preference for dominance: (a) the number of dominance-focused books they selected (ranging from 0–4) and (b) the strength of preference for these books based on how they ranked dominance books within their four books (ranging from 0–10).[7]

As predicted, participants picked significantly more dominance-focused books in the *zero-sum condition* ($M = 2.50$, $SD = 1.49$) than the *non–zero-sum condition* ($M = 1.40$, $SD = 1.36$), $t(290.27) = 6.45$, $d = .75$, 95% CI [.51, .98]. In addition, participants' ranking of their selected books revealed a stronger preference for dominance books in the *zero-sum condition* ($M = 6.12$, $SD = 3.92$) than the *non–zero-sum condition* ($M = 3.44$, $SD = 3.57$), $t(290.37) = 6.14$, $p < .001$, $d = .71$, 95% CI [.48, .95] (Figure 5). Thus, reading about an organization that ranks employees relative to each other fostered zero-sum beliefs, leading participants to choose books on how to use dominance to attain social rank. In contrast, reading about non–zero-sum evaluations reduced zero-sum beliefs and weakened the preference for dominance books.

[7] To calculate the strength of participants' preference for dominance, we gave each selected dominance-oriented book a score inverse to its ranking (i.e., a dominance-oriented book ranked number 1 was scored as 4, a dominance-oriented book ranked number 2 was scored as 3, etc.), gave each selected prestige-oriented book a score of 0, and summed the scores of the four books. As a result, this measure could range from 0 (no dominance-oriented books were selected) to 10 (only dominance-oriented books were selected).

Figure 5

Preference for Dominance Books in the Zero-Sum and Non–Zero-Sum Conditions



Note. Probability density plots, means (points), and standard deviations (dotted lines), indicating the preference for dominance-oriented books in the two experimental conditions (Study 5A). See the online article for the color version of this figure.

Study 5B

Although *subjective* zero-beliefs are clearly shaped by objectively zero-sum organizational practices, manipulating the evaluation process in Study 5A may have impacted participants' preference for dominance independent of their beliefs. In Study 5B we therefore replicate this result with a much subtler and indirect manipulation of zero-sum beliefs. Because people are more prone to zero-sum beliefs when facing potential losses (Sirola & Pitesa, 2017), when feeling relative deprivation (Ongis & Davidai, 2021), and when experiencing psychological threat (Roberts & Davidai, 2021), we manipulated zero-sum beliefs by having participants contemplate their chances of losing (vs. gaining) rank in an organization. Despite reading about the same objective environment, we predicted that participants would be more prone to *subjectively* view the organization as zero-sum when contemplating potential status loss (rather than status gain) and, consequently, that they would exhibit a higher preference for dominance.

Method

Participants

Two hundred U.S. residents recruited from Amazon's Mechanical Turk completed the study. We excluded one participant who failed an attention check, leaving a sample of 199 participants (M_{age} = 41.65, *SD* = 11.10; 44.2% female, 55.8% male; 74.9% White, 8.7% Black, 8.7% East Asian, 3.9% Latino/Hispanic American, 1.9% South Asian, <1% Middle Eastern/Arab, 1.5% Other). This sample allows us to detect effects as small as $d = .40$ at 80% power and .46 at 90% power in a two-tailed independent samples *t* test.

Material and Procedure

Participants imagined working at an organization that was "going through a restructuring process" and were randomly assigned to one of two conditions. In the *gain status condition*, participants read that during the restructuring process employees who warrant a higher status will be identified and moved up the organizational ladder (i.e., promoted). In the *maintain status condition*, they read that during this process employees who do not warrant their current status will be moved down the ladder (i.e., demoted). Importantly, to control for perceived competition, participants in both conditions were told that "there is going to be fierce competition for who gets to [move up/keep their current position] in the organization, especially since it's unclear how many people will be [promoted/demoted]."

Next, participants completed the same zero-sum measure from Study 5A ($\alpha = .89$, $\omega = .90$). They then completed the measure that asked them to pick the five books they would most want to read to prepare for the coming changes at their job and rank their selected books from their top choice to their least preferred choice. Finally, participants completed an attention check and reported their age, gender, ethnicity, education, and income.

Results

First, we examined whether imagining a potential loss (vs. gain) of status fostered higher zero-sum beliefs. As predicted, participants were more prone to view the organization as zero-sum in the *maintain status condition* ($M = 5.25$, $SD = 1.19$, $n = 99$) than the *gain status condition* ($M = 4.34$, $SD = 1.14$, $n = 100$), $t(197) = 5.54$, $d = .79$, 95% CI [.59,1.24], $p < .001$.

Next, we examined whether seeing the hierarchy as zero-sum increased the preference for dominance-focused books. Indeed, participants picked more dominance books in the *maintain status condition* ($M = 1.65$, $SD = 1.33$) than the *gain status condition* ($M = 1.27$, $SD = 1.20$), $t(197) = 2.10$, $p = .037$, $d = .30$, 95% CI [.02, .73]. Similarly, their ranking of the books showed a preference for dominance books in the *maintain status condition* ($M = 4.07$, $SD = 3.59$) than the *gain status condition* ($M = 3.11$, $SD = 3.27$), $t(197) = 1.98$, $p = .05$, $d = .28$, 95% CI [.00, .56].

Finally, we examined whether zero-sum beliefs statistically mediated the effect of potential status loss (vs. gain) and the preference for dominance. To do so, we ran 5,000 bootstrapped samples in the PROCESS macro for SPSS, with condition (0 = *Gain status*s, 1 = *Maintain status*) as the independent variable, number of dominance books as the dependent variable, and zero-sum beliefs as the mediator. As predicted, we found an indirect effect of condition on book selection through zero-sum beliefs (*indirect effect* = .206, *SE* = .091, 95% CI [.05, .41]; *direct effect* = .16, *SE* = .19, 95% CI [−.20, .53]; *total effect* = .37, *SE* = .18, 95% CI [.02, .72]). An identical mediation analysis with participants' rankings of the book as the dependent variable yielded similar results (*indirect effect* = .56, *SE* = .21, $p = .008$, 95% CI [.14,1.12]; *direct effect* = .40, *SE* = .51, $p = .43$, 95% CI [−.68,1.47]; *total effect* = .96, *SE* = .48, $p = .05$, 95% CI [−.01,1.91]). While interpreting statistical mediation with some caution, these results suggest that contemplating a potential status loss led participants to view success in the organization as zero-sum, which in turn promoted their interest in books on dominance.

Study 6

Watching a video depicting social hierarchies as zero-sum (Studies 4A and 4B), reading about an organization where

employees are evaluated in an objectively zero-sum manner (Study 5A), and indirectly manipulating participants' *subjective* zero-sum beliefs about an organization (Study 5B) all increased their preference for dominance. In Study 6, we examine a potential underlying mechanism for this effect. Specifically, we examine whether zero-sum beliefs lead people to view the normative behavior in an organization as dominance-oriented and, as a result, motivate them to pursue social rank in a way that fits these expectations. People often act according to how they believe others expect them to act, even when their perceptions of such norms are biased or misguided (Ratner & Miller, 2001). For instance, when they expect others to act in a competitive, deceptive, and dishonest manner, people preemptively become more competitive, deceptive, and dishonest themselves (Caruso et al., 2006; Kelley & Stahelski, 1970; Mason et al., 2018; Pierce et al., 2013; Steinel & De Dreu, 2004). Thus, to the extent that people who see hierarchies as zero-sum expect self-interested others to assert their dominance in the pursuit of high social rank, they may preemptively act in a similar manner in anticipation of these assumed attempts. In Study 6, we examined whether zero-sum beliefs increase dominance-oriented behaviors in the pursuit of social rank by fostering a belief that such behaviors are common and normative. We predicted that seeing hierarchies as zero-sum would lead participants to view *others* as prone to dominance and therefore increase their willingness to preemptively engage in such behaviors themselves.

Method

Participants

Three hundred twenty U.S. residents recruited from Amazon's Mechanical Turk completed the study. We excluded 23 participants who failed an attention check, leaving a sample of 297 participants (M_{age} = 39.92, *SD* = 11.84; 49% female, 50% male, <1% nonbinary/other; 74% White, 6% Black, 4% East Asian, 6% Latino/Hispanic American, 2% South Asian, 7% Multiracial, <1% Other). A Monte Carlo simulation suggests approximately 82% power (95% CI [.74, .88]) to detect an indirect effect with one mediating variable given correlations between variables as low as $r = .2$ using observed standard deviations.

Material and Procedure

As in Study 5A, participants were randomly assigned to read about a company that either evaluates employees relative to each other and only rewards a set number each year (*zero-sum condition*) or independently evaluates each employee and rewards all those who outdo a given criteria (*non–zero-sum condition*). They then completed the same zero-sum measure from Studies 5A and 5B ($\alpha = .93$, $\omega = .94$).

Following this, participants indicated their beliefs about the norms in the company by reporting how much they expect their colleagues to pursue social rank in dominance-oriented ways. Participants rated, on eight items (adapted from Cheng et al., 2010), how much they believe that employees at the company would act in aggressive, hostile, and dominant ways (e.g., "Most people at this company likely try to get their own way regardless of what others may want"; 1 = *Strongly disagree*, 7 = *Strongly Agree;* $\alpha = .91$, $\omega = .91$).

Finally, participants imagined shopping for business-advice books in preparation for their new job and completed the same measure from Study 5A, picking four books they would most want to read and ranking their selected books in order of preference. They then completed an attention check and indicated their age, gender, ethnicity, education, and income.

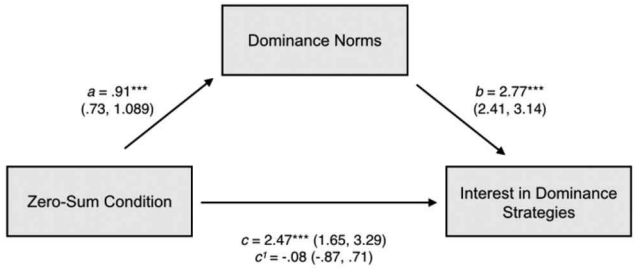
Results

As intended, participants exhibited higher zero-sum beliefs in the *zero-sum condition* ($M = 5.57$, $SD = 1.05$, $n = 149$) than the *non–zero-sum condition* ($M = 3.97$, $SD = 1.47$, $n = 148$), $t(295) = 10.78$, $d = 1.25$, 95% CI [1.00,1.50], $p < .001$.

Next, we examined whether zero-sum beliefs increased participants' interest in books about pursuing social rank through dominance. As before, we created for each participant two measures of their preference for dominance: (a) the number of dominance books they selected (ranging from 0–4) and (b) the strength of preference for these books based on their ranking within their selected books (ranging from 0–10). Replicating Study 5A, participants picked significantly more dominance books in the *zero-sum condition* than the *non–zero-sum condition* (*zero-sum:* $M = 2.30$, $SD = 1.42$; *non–zero-sum:* $M = 1.37$, $SD = 1.28$), $t(292.30) = 5.98$, $d = .69$, 95% CI [.46, .93], $p < .001$, and exhibited a stronger preference for such books (*zero-sum condition:* $M = 5.75$, $SD = 3.77$; *non–zero-sum:* $M = 3.28$, $SD = 3.49$), $t(295) = 5.86$, $d = .68$, 95% CI [.45, .91], $p < .001$. Thus, participants who read about an organization where evaluations are zero-sum chose more books about how to pursue social rank through dominance.

Finally, we examined whether experimentally increasing zero-sum beliefs increased perceptions of dominance as normative behavior, and whether these perceptions accounted for the observed increase in preference for dominance books. As predicted, participants expected their peers and colleagues to use more aggressive tactics in the *zero-sum condition* ($M = 3.57$, $SD = .73$) than the *non–zero-sum condition* ($M = 2.65$, $SD = .84$), $t(288.11) = 10.0$, $d = 1.16$, 95% CI [.91,1.41]. In turn, viewing the normative climate as prone to dominance predicted a preference for books on how to pursue social rank in dominance-oriented ways ($\beta = .66$, 95% CI [.57, .74]). A bias-corrected percentile bootstrap mediation analysis (using the *lavaan* R package with 1000 replications) with condition as the independent variable, perceived dominance norms as the mediator, and interest in dominance books as the dependent variable revealed an indirect effect through perceived norms ($b = 2.55$, 95% CI [1.96, 3.13], $p < .001$) as well as a nonsignificant direct effect ($b = -.08$, 95% CI [−.87, .71], $p = .84$; Figure 6). In contrast, an alternative mediation model with condition as the independent variable, interest in dominance as the mediator, and perceived norms as the dependent variable found a substantially weaker indirect effect that was seven to eight times smaller ($b = .35$, 95% CI [.24, .48]), and a direct effect which remained significant ($b = .57$, [.43, .72], $p < .001$). Although caution in interpreting statistical mediation is warranted, these results support the hypothesis that zero-sum beliefs increase dominance behaviors by increasing the perceived normativity of such behaviors. Participants who read about an organization that evaluates employees in a zero-sum manner expected it to be rife with aggression and hostility and were therefore more interested in books about how to preemptively assert their dominance over

Figure 6
Perceived Dominance Norms Mediate the Effect of Zero-Sum Condition on Dominance



Note. Estimates are unstandardized regression coefficients, with 95% confidence intervals in parentheses. The *a* path depicts the effect of zero-sum condition on perceived dominance norms. The *b* path depicts the effect of perceived dominance norms, on interest in using dominance strategies. The *c* path depicts the total effect of condition on interest in dominance. The c^1 path depicts the direct effect of condition when controlling for perceived dominance norms.
*** $p < .001$.

others. In contrast, imagining an organization that evaluates employees in a non–zero-sum manner led participants to view such behaviors as nonnormative, thus dampening their interest in books about attaining rank through dominance.

General Discussion

What leads people to use coercive tactics grounded in aggression and fear to attain social rank? More generally, why do people sometimes pursue social rank in dominance-oriented ways and other times in prestige-oriented ways? Across 10 studies, we find robust evidence that zero-sum beliefs about social hierarchies determine how people approach them. Filling a gap in the literature, we find that seeing hierarchies as zero-sum increases the preference for dominance and motivates people to learn more about how to use it. Moreover, we find that zero-sum beliefs increase the preference for dominance beyond participants' personal definitions of status (Study 2) and that this effect is exhibited when such beliefs result from short "tutorials" about social hierarchies (Studies 4A and 4B), from objective organizational practices (Study 5A), or from subjective perceptions of such practices (Study 5B). Finally, we find that the effect of zero-sum beliefs on dominance is due, at least partially, to people's beliefs about what is normative and appropriate (Study 6). Thus, people's theories about the nature of social hierarchies substantially influence how they seek to navigate them.

Seeking Both Dominance and Prestige

Although zero-sum beliefs about social hierarchies fostered a preference for dominance, they did not appear to alter people's preference for prestige. Rather, people who view hierarchies as zero-sum seem to pursue social rank through both dominance *and* prestige (e.g., autocratic leaders who seek their subjects' approval even while using force to solidify their dominance). This is in line with recent research showing that highly dominant people often engage in both aggressive *and* conciliatory behaviors to rise in rank (Ketterman & Maner, 2021). Of course, just as a stronger preference for dominance in our studies entailed a *weaker* preference for prestige-focused books, the preference for dominance will inevitably come at the expense of prestige in any situation where the two strategies are incompatible.

The assertiveness of dominant people can signal competence that garners short-term influence (Anderson & Kilduff, 2009) and using dominance can effectively increase one's social rank (McClanahan et al., 2021). At the same time, dominance strategies that involve morally dubious behaviors can also compromise one's perceived competencies (Stellar & Willer, 2018) and therefore undermine the attainment of prestige. Because the hallmark of prestige is that people weigh, but do not simply obey, one's opinions (Henrich & Gil-White, 2001), it must be freely conferred by others, not forced on them. Indeed, the rank-enhancing effects of dominance are negated for people low in communalism and competence (Anderson et al., 2020), and refusing to help others can reduce one's prestige (Yin & Smith, 2021). Similarly, forceful leaders may be preferred only when they serve the group's goals (Halevy, Chou, et al., 2012; Sprong et al., 2019) but not when submission is more costly than challenging the dominant figure or leaving the group altogether (Cheng, 2020; Van Vugt et al., 2004). In other words, although those who see rank as zero-sum may try to climb social hierarchies using both dominance and prestige strategies, they may find that the benefits of a prestige strategy are offset by the costs of a dominance strategy.

The Role of Class and Ambition

Although people who see hierarchies as zero-sum believe that they should use dominance in their pursuit of social rank, it is possible that they will not actually do so. For instance, even when people of low socioeconomic status (SES) believe that getting ahead requires ruthlessness, they often prefer to avoid such behaviors because of the social costs of doing so (Belmi & Laurin, 2016). Yet, our findings suggest that the effect of zero-sum beliefs on dominance may persist across social classes. First, we found that zero-sum beliefs in Studies 1A–1C predicted the willingness to use dominance even when controlling for objective indicators of SES such as education and income (βs $>.39$, ps $< .001$). Second, we found that independent of their SES, leading participants to view hierarchies as zero-sum increased their willingness to use dominance strategies to gain rank (e.g., Studies 4A and 4B). At the same time, although social class may not alter the preference for dominance, it may shape how it manifests. For instance, although the fear of censure and retaliation may inhibit people with lower status from being *overtly* dominant, they might still be willing to engage in *indirect* dominance tactics that attempt to undermine higher status others (e.g., spreading gossip, covertly inciting resistance, etc.).[8]

Similarly, how much people care about social rank may moderate the effect of zero-sum beliefs on dominance. Although we found a consistent effect on dominance even when controlling for participants' desire for status, an exploratory analysis in Studies 1B, 2, and 4B revealed a modest interaction between zero-sum beliefs and the desire for status on the preference for dominance

[8] We thank Sa-kiera Hudson for this insight on direct and indirect acts of dominance.

(Study 1B: β = .07, 95% CI [.00, .14], p = .068; Study 2: β = .09, 95% CI [.02, .16], p = .008; Study 4B: β = .15, $p < .001$). Thus, the more people value social rank, the more their zero-sum beliefs may promote their willingness to use dominance tactics to attain it.

The Role of Culture

When examining how zero-sum beliefs affect the pursuit of social rank, it is important to take potential cultural variations into consideration. Cultures vary in the size, rigidity, structure, and relational mobility of their social networks (Yuki & Schug, 2020). Consequently, social hierarchies may seem more zero-sum in cultures where networks are rigid and relational mobility is low (i.e., where it is difficult to alter or replace one's social relationships) than in cultures with high relational mobility, where social rank can be attained across different contexts. Indeed, cultures that are low in relational mobility tend to be more hierarchical, put less weight on personal achievement (Thomson et al., 2018), and have stronger zero-sum beliefs about social and economic relationships (Różycka-Tran et al., 2015), suggesting that people might be more prone to dominance in them. At the same time, overt dominance may be less successful in cultures that prioritize group cohesion and where self-interested "tall poppies" are readily censured (Feather & McKee, 1993). Future research should examine the role of these and other cultural factors in zero-sum beliefs about hierarchies and their effect on dominance and prestige.

The Role of Scarcity

Future research might similarly benefit from examining how material factors in one's immediate environment—such as whether the environment is objectively resource-scarce—affect the pursuit of social rank. Scarcity may lead people to see their outcomes as inversely linked to others' outcomes (i.e., zero-sum), motivating the assertion of dominance over others, such as when dominant chimpanzees control access to scarce food and mates (de Waal, 1982; Ronay et al., 2020). At the same time, just as elephants defer to prestige-like matriarchs for their survival expertise (McComb et al., 2001), the increased interdependency brought about by scarcity might inhibit overt dominance. Indeed, research on hunter-gatherer societies suggests that scarcity and resource unpredictability promote vigilance over equitable resource sharing rather than dominance behaviors (Cashdan, 1980).

Regardless of the objective environment, we predict that *subjective beliefs* about hierarchies would mediate the relationship between scarcity and the pursuit of social rank. When resource scarcity fosters zero-sum beliefs about hierarchies, we expect it to increase dominance behaviors. In contrast, when scarcity highlights the potential for joint gains (or the need to avoid joint losses), we expect it to inhibit such behaviors. Indeed, we found that both people's objective environment (i.e., the actual 'zero-sumness' of status in an organization; Study 5A) and their subjective reactions to it (i.e., people's perceptions of status in an organization, independent of whether or not it is actually zero-sum; Study 5B) can impact zero-sum beliefs and therefore people's preference for dominance. Thus, regardless of whether a situation is zero-sum, people's *subjective beliefs* about it may still impact their use of dominance. For instance, participants in Study 5B were more prone to zero-sum beliefs when expecting a decision about a potential *loss* in rank than when expecting a decision about a potential *gain* in rank. Consequently, these beliefs increased participants' interest in dominance. Just as economic downturns (Sirola & Pitesa, 2017) and upward comparisons (Ongis & Davidai, 2021) foster zero-sum beliefs, any impending loss may foster such beliefs and therefore lead people to engage in more dominant behaviors.

Intragroup and Intergroup Contexts

Given the potentially adverse consequences of a dominance approach to social rank, understanding when and why people use such strategies is important in intragroup contexts. Dominant leaders often diminish and ostracize talented group members, hoard important information, prevent bonding among subordinates, and intentionally underuse others' skills to protect their own social rank and prevent others from rising (Case & Maner, 2014; Maner & Mead, 2010). Thus, optimizing performance and cooperation may require a consideration of how hierarchies are defined and understood within one's group, team, or organization. As shown in Studies 5 and 6, organizational practices can shape zero-sum beliefs about hierarchies both directly and indirectly and, consequently, the way people approach them.

Although we focused on *intra*group contexts, the effect of zero-sum beliefs may be equally important in more complex *inter*group contexts. People often seek to enhance their self- and group-esteem in a zero-sum manner by degrading other groups and their members (Rubin & Hewstone, 1998), and zero-sum beliefs are associated with preference for group-based dominance (Andrews Fearon et al., 2021; Esses et al., 2001). Because zero-sum beliefs affect the preference for dominance and coercion in *intra*group relationships, we may similarly expect them to affect such behaviors in *inter*group relations. Indeed, people who benefit their ingroup at the outgroup's expense are often seen as more dominant than those who benefit their ingroup in a non–zero-sum manner (Halevy, Chou, et al., 2012). In contrast, viewing intergroup relationships as *non–zero-sum* may reduce the "self-enhancing" function of prejudice (Fein & Spencer, 1997) and focus people on increasing their groups' status in more prestige-oriented manners.

The surge in White nationalism across the United States and other Western countries offers a prominent example of zero-sum beliefs in intergroup contexts. As society undergoes fundamental structural and demographics changes, members of historically privileged groups increasingly fear a loss in their groups' status and, as a result, view other groups as gaining at their expense (Davidai & Ongis, 2019; Kimmel, 2013; McGhee, 2021; Norton & Sommers, 2011). And, just as fearing status loss increases dominance in intragroup contexts (Study 5B), such fear may similarly drive dominance in intergroup contexts. As a result, zero-sum beliefs about group-based status can motivate the use of intimidation to assert group-based dominance, as was displayed by a mob of White nationalists vehemently chanting "Jews will not replace us" through the streets of Charlottesville, Virginia (Spencer & Stolberg, 2017). If cultivating a non–zero-sum mindset reduces the preference for dominance in intragroup contexts, uprooting destructive zero-sum beliefs about *group*-based status may be similarly fruitful in intergroup settings. For instance, although they may neglect important moral motivations for equality (Starck et al., 2021), narratives that highlight the contributions of

historically underserved groups in non–zero-sum terms (e.g., emphasizing the success of diverse companies or celebrating minority member contributions to national achievements) may signal to members of historically-privileged groups that social hierarchies are not zero-sum and reduce their preference for dominance over others (Martinez et al., 2021).

Conclusion

Social hierarchies are often made and remade in a continuous quest for status, power, and influence. Although most people desire higher social rank within their groups, teams, and organizations, they often differ in how they view the nature of the social hierarchy itself. When people view social hierarchies as zero-sum, they tend to navigate them using fear-based coercion and dominance. In contrast, when social hierarchies are viewed as non–zero-sum and people realize the potential for mutually beneficial gains, they navigate them in noncoercive, prestige-oriented ways, making room for benefiting others as they make their way to the top. Thus, the beliefs we hold about the nature of social hierarchies critically shape what we think we must do to climb the ranks. Although social hierarchies may or may not be *inherently* zero-sum, how much room *we believe* exists at the top determines how we try to get there.

References

Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, *50*(2), 179–211. https://doi.org/10.1016/0749-5978(91)90020-T

Alami, S., Von Rueden, C., Seabright, E., Kraft, T. S., Blackwell, A. D., Stieglitz, J., Kaplan, H., & Gurven, M. (2020). Mother's social status is associated with child health in a horticulturalist population. *Proceedings of the Royal Society B*, *287*(1922), 20192783.

Anderson, C., Hildreth, J. A. D., & Howland, L. (2015). Is the desire for status a fundamental human motive? A review of the empirical literature. *Psychological Bulletin*, *141*(3), 574–601. https://doi.org/10.1037/a0038781

Anderson, C., & Kilduff, G. J. (2009). Why do dominant personalities attain influence in face-to-face groups? The competence-signaling effects of trait dominance. *Journal of Personality and Social Psychology*, *96*(2), 491–503. https://doi.org/10.1037/a0014201

Anderson, C., Kraus, M. W., Galinsky, A. D., & Keltner, D. (2012). The local-ladder effect: Social status and subjective well-being. *Psychological Science*, *23*(7), 764–771. https://doi.org/10.1177/0956797611434537

Anderson, C., Sharps, D. L., Soto, C. J., & John, O. P. (2020). People with disagreeable personalities (selfish, combative, and manipulative) do not have an advantage in pursuing power at work. *Proceedings of the National Academy of Sciences of the United States of America*, *117*(37), 22780–22786. https://doi.org/10.1073/pnas.2005088117

Andrews Fearon, P., Götz, F. M., Serapio-Garcia, G., & Good, D. (2021). *Zero-sum mindset and its discontents* (No. SM-WP-2021-001). https://www.bsg.ox.ac.uk/research/publications/zero-sum-mindset-and-its-discontents

Asch, S. E. (1948). The doctrine of suggestion, prestige and imitation in social psychology. *Psychological Review*, *55*(5), 250–276. https://doi.org/10.1037/h0057270

Baker, E. H. (2014). Socioeconomic status, definition. In W. Cockerham, R. Dingwall, & S. Quah (Eds.), *The Wiley Blackwell encyclopedia of health: Illness, behavior, and society* (pp. 2210–2214). Wiley. https://doi.org/10.1002/9781118410868.wbehibs395

Belmi, P., & Laurin, K. (2016). Who wants to get to the top? Class and lay theories about power. *Journal of Personality and Social Psychology*, *111*(4), 505–529. https://doi.org/10.1037/pspi0000060

Bobo, L., & Hutchings, V. L. (1996). Perceptions of racial group competition: Extending Blumer's theory of group position to a multiracial social context. *American Sociological Review*, *61*(6), 951–972. https://doi.org/10.2307/2096302

Boyer, P., & Petersen, M. B. (2017). Folk-economic beliefs: An evolutionary cognitive model. *Behavioral and Brain Sciences*, *41*, 1–51. https://doi.org/10.1017/S0140525X17001960

Brown, D. N., & Jacoby-Senghor, D. S. (2021). Majority members misperceive even 'win-win' diversity policies as unbeneficial to them. *Journal of Personality and Social Psychology*, *122*(6), 1075–1097. https://doi.org/10.1037/pspi0000372

Caruso, E. M., Epley, N., & Bazerman, M. H. (2006). The good, the bad, and the ugly of perspective taking in groups. In A. E. Tenbrunsel (Ed.), *Ethics in groups (Research on managing groups and teams)* (Vol. 8, pp. 201–204). Emerald Group Publishing Limited. https://doi.org/10.1016/S1534-0856(06)08010-8

Case, C. R., & Maner, J. K. (2014). Divide and conquer: When and why leaders undermine the cohesive fabric of their group. *Journal of Personality and Social Psychology*, *107*(6), 1033–1050. https://doi.org/10.1037/a0038201

Case, C. R., Bae, K. K., & Maner, J. K. (2018). To lead or to be liked: When prestige-oriented leaders prioritize popularity over performance. *Journal of Personality and Social Psychology*, *115*(4), 657–676. https://doi.org/10.1037/pspi0000138

Case, C. R., Bae, K. K., Larsen, K. T., & Maner, J. K. (2021). The precautious nature of prestige: When leaders are hypervigilant to subtle signs of social disapproval. *Journal of Personality and Social Psychology*, *120*(3), 694–715. https://doi.org/10.1037/pspi0000284

Cashdan, E. A. (1980). Egalitarianism among hunters and gatherers. *American Anthropologist*, *82*(1), 116–120. https://doi.org/10.1525/aa.1980.82.1.02a00100

Cassidy, T., & Lynn, R. (1989). A multifactorial approach to achievement motivation: The development of a comprehensive measure. *Journal of Occupational Psychology*, *62*(4), 301–312. https://doi.org/10.1111/j.2044-8325.1989.tb00001.x

Chen, F. X., Zhang, X., Laustsen, L., & Cheng, J. T. (2021). Harsh but expedient: Dominant leaders increase group cooperation via threat of punishment. *Psychological Science*, *32*(12), 2005–2022. https://doi.org/10.1177/09567976211031208

Cheng, J. T. (2020). Dominance, prestige, and the role of leveling in human social hierarchy and equality. *Current Opinion in Psychology*, *33*, 238–244. https://doi.org/10.1016/j.copsyc.2019.10.004

Cheng, J. T., Kornienko, O., & Granger, D. A. (2018). Prestige in a large-scale social group predicts longitudinal changes in testosterone. *Journal of Personality and Social Psychology*, *114*(6), 924–944. https://doi.org/10.1037/pspi0000126

Cheng, J. T., Tracy, J. L., & Henrich, J. (2010). Pride, personality, and the evolutionary foundations of human social status. *Evolution and Human Behavior*, *31*(5), 334–347. https://doi.org/10.1016/j.evolhumbehav.2010.02.004

Cheng, J. T., Tracy, J. L., Foulsham, T., Kingstone, A., & Henrich, J. (2013). Two ways to the top: Evidence that dominance and prestige are distinct yet viable avenues to social rank and influence. *Journal of Personality and Social Psychology*, *104*(1), 103–125. https://doi.org/10.1037/a0030398

Chernyak-Hai, L., & Davidai, S. (2022). "Do not teach them how to fish": The effect of zero-sum beliefs on help giving. *Journal of Experimental Psychology: General*. Advance online publication. https://doi.org/10.1037/xge0001196

Cialdini, R. B., & Trost, M. R. (1998). Social influence: Social norms, conformity and compliance. In D. T. Gilbert, S. T. Fiske, & G. Lindzey

(Eds.), *The handbook of social psychology* (pp. 151–192). McGraw-Hill.

Critcher, C. R., & Dunning, D. (2011). No good deed goes unquestioned: Cynical reconstruals maintain belief in the power of self-interest. *Journal of Experimental Social Psychology*, *47*(6), 1207–1213. https://doi.org/10.1016/j.jesp.2011.05.001

Davidai, S. (2021). *Economic inequality and the belief that life is a zero-sum game*. Manuscript submitted for publication.

Davidai, S., & Gilovich, T. (2015). What goes up apparently needn't come down: Asymmetric predictions of ascent and descent in rankings. *Journal of Behavioral Decision Making*, *28*(5), 491–503. https://doi.org/10.1002/bdm.1865

Davidai, S., & Ongis, M. (2019). The politics of zero-sum thinking: The relationship between political ideology and the belief that life is a zero-sum game. *Science Advances*, *5*(12), eaay3761. https://doi.org/10.1126/sciadv.aay3761

Davidai, S., Gilovich, T., & Ross, L. D. (2012). The meaning of default options for potential organ donors. *Proceedings of the National Academy of Sciences of the United States of America*, *109*(38), 15201–15205. https://doi.org/10.1073/pnas.1211695109

de Waal, F. B. M. (1982). *Chimpanzee politics: Power and sex among apes*. Harper & Row.

de Waal-Andrews, W., Gregg, A. P., & Lammers, J. (2015). When status is grabbed and when status is granted: Getting ahead in dominance and prestige hierarchies. *British Journal of Social Psychology*, *54*(3), 445–464. https://doi.org/10.1111/bjso.12093

Durkee, P. K., Lukaszewski, A. W., & Buss, D. M. (2020). Psychological foundations of human status allocation. *Proceedings of the National Academy of Sciences of the United States of America*, *117*(35), 21235–21241. https://doi.org/10.1073/pnas.2006148117

Dweck, C. S. (2017). From needs to goals and representations: Foundations for a unified theory of motivation, personality, and development. *Psychological Review*, *124*(6), 689–719. https://doi.org/10.1037/rev0000082

Epley, N., Caruso, E., & Bazerman, M. H. (2006). When perspective taking increases taking: Reactive egoism in social interaction. *Journal of Personality and Social Psychology*, *91*(5), 872–889. https://doi.org/10.1037/0022-3514.91.5.872

Esses, V. M., Dovidio, J. F., Jackson, L. M., & Armstrong, T. L. (2001). The immigration dilemma: The role of perceived group competition, ethnic prejudice, and national identity. *Journal of Social Issues*, *57*(3), 389–412. https://doi.org/10.1111/0022-4537.00220

Esses, V. M., Jackson, L., & Armstrong, T. (1998). Intergroup conflict and attitudes toward immigrants and immigration: An instrumental model of group conflict. *Journal of Social Issues*, *54*(4), 699–724. https://doi.org/10.1111/j.1540-4560.1998.tb01244.x

Feather, N. T., & McKee, I. R. (1993). Global self-esteem and attitudes toward the high achiever for Australian and Japanese students. *Social Psychology Quarterly*, *56*(1), 65–76. https://doi.org/10.2307/2786646

Fein, S., & Spencer, S. J. (1997). Prejudice as self-image maintenance: Affirming the self through derogating others. *Journal of Personality and Social Psychology*, *73*(1), 31–44. https://doi.org/10.1037/0022-3514.73.1.31

Gardner, D. M., & Ryan, A. M. (2020). What's in it for you? Demographics and self-interest perceptions in diversity promotion. *Journal of Applied Psychology*, *105*(9), 1062–1072. https://doi.org/10.1037/apl0000478

Gentile, B., Miller, J. D., Hoffman, B. J., Reidy, D. E., Zeichner, A., & Campbell, W. K. (2013). A test of two brief measures of grandiose narcissism: The Narcissistic Personality Inventory-13 and the Narcissistic Personality Inventory-16. *Psychological Assessment*, *25*(4), 1120–1136. https://doi.org/10.1037/a0033192

Griffin, D. W., & Ross, L. (1991). Subjective construal, social inference, and human misunderstanding. *Advances in Experimental Social Psychology*, *24*(C), 319–359. https://doi.org/10.1016/S0065-2601(08)60333-0

Halevy, N., & Phillips, L. T. (2015). Conflict templates in negotiations, disputes, joint decisions, and tournaments. *Social Psychological & Personality Science*, *6*(1), 13–22. https://doi.org/10.1177/1948550614542347

Halevy, N., Chou, E. Y., Cohen, T. R., & Livingston, R. W. (2012). Status conferral in intergroup social dilemmas: Behavioral antecedents and consequences of prestige and dominance. *Journal of Personality and Social Psychology*, *102*(2), 351–366. https://doi.org/10.1037/a0025515

Halevy, N., Chou, E. Y., & Murnighan, J. K. (2012). Mind games: The mental representation of conflict. *Journal of Personality and Social Psychology*, *102*(1), 132–148. https://doi.org/10.1037/a0025389

Henrich, J., & Gil-White, F. J. (2001). The evolution of prestige: Freely conferred deference as a mechanism for enhancing the benefits of cultural transmission. *Evolution and Human Behavior*, *22*(3), 165–196. https://doi.org/10.1016/S1090-5138(00)00071-4

Henrich, J., Chudek, M., & Boyd, R. (2015). The big man mechanism: How prestige fosters cooperation and creates Prosocial leaders. *Philosophical Transactions of the Royal Society B: Biological Sciences*, *370*(1683), 20150013. https://doi.org/10.1098/rstb.2015.0013

Hoad, T. F. (Ed.). (1996). *The concise Oxford dictionary of English etymology*. Oxford University Press.

Inesi, M. E., Botti, S., Dubois, D., Rucker, D. D., & Galinsky, A. D. (2011). Power and choice: Their dynamic interplay in quenching the thirst for personal control. *Psychological Science*, *22*(8), 1042–1048. https://doi.org/10.1177/0956797611413936

Jiang, X., Hu, X., Liu, Z., Sun, X., & Xue, G. (2020). Greed as an adaptation to anomie: The mediating role of belief in a zero-sum game and the buffering effect of internal locus of control. *Personality and Individual Differences*, *152*, Article 109566. https://doi.org/10.1016/j.paid.2019.109566

Johnson, S. G. B., Zhang, J., & Keil, F. C. (2022). Win-win denial: The psychological underpinnings of zero-sum thinking. *Journal of Experimental Psychology. General*, *151*(2), 455–474. https://doi.org/10.1037/xge0001083

Johnson, R. T., Burk, J. A., & Kirkpatrick, L. A. (2007). Dominance and prestige as differential predictors of aggression and testosterone levels in men. *Evolution and Human Behavior*, *28*(5), 345–351. https://doi.org/10.1016/j.evolhumbehav.2007.04.003

Johnson, S. G. B. (2018). Why do people believe in a zero-sum economy? *Behavioral and Brain Sciences*, *41*, e172. https://doi.org/10.1017/S0140525X18000389

Kakkar, H., & Sivanathan, N. (2017). When the appeal of a dominant leader is greater than a prestige leader. *Proceedings of the National Academy of Sciences of the United States of America*, *114*(26), 6734–6739. https://doi.org/10.1073/pnas.1617711114

Kakkar, H., Sivanathan, N., & Gobel, M. S. (2020). Fall from grace: The role of dominance and prestige in the punishment of high-status actors. *Academy of Management Journal*, *63*(2), 530–553. https://doi.org/10.5465/amj.2017.0729

Kelley, H. H., & Stahelski, A. J. (1970). Social interaction basis of cooperators' and competitors' beliefs about others. *Journal of Personality and Social Psychology*, *16*(1), 66–91. https://doi.org/10.1037/h0029849

Keltner, D., Gruenfeld, D. H., & Anderson, C. (2003). Power, approach, and inhibition. *Psychological Review*, *110*(2), 265–284. https://doi.org/10.1037/0033-295X.110.2.265

Ketterman, A. B., & Maner, J. K. (2021). Complaisant or coercive? The role of dominance and prestige in social influence. *Personality and Individual Differences*, *177*, Article 110814. https://doi.org/10.1016/j.paid.2021.110814

Kimmel, M. (2013). *Angry white men: American masculinity at the end of an era*. Nation Books.

Kraus, M. W., & Stephens, N. M. (2012). A road map for an emerging psychology of social class. *Social and Personality Psychology Compass*, *6*(9), 642–656. https://doi.org/10.1111/j.1751-9004.2012.00453.x

Kuchynka, S. L., Bosson, J. K., Vandello, J. A., & Puryear, C. (2018). Zero-sum thinking and the masculinity contest: Perceived intergroup

competition and workplace gender bias. *Journal of Social Issues*, *74*(3), 529–550. https://doi.org/10.1111/josi.12281

Lakoff, G., & Johnson, M. (1980). *Metaphors we live by*. University of Chicago.

Lange, J., Redford, L., & Crusius, J. (2019). A status-seeking account of psychological entitlement. *Personality and Social Psychology Bulletin*, *45*(7), 1113–1128. https://doi.org/10.1177/0146167218808501

Laustsen, L., & Petersen, M. B. (2017). Perceived conflict and leader dominance: Individual and contextual factors behind preferences for dominant leaders. *Political Psychology*, *38*(6), 1083–1101. https://doi.org/10.1111/pops.12403

Liberman, V., Samuels, S. M., & Ross, L. (2004). The name of the game: Predictive power of reputations versus situational labels in determining prisoner's dilemma game moves. *Personality and Social Psychology Bulletin*, *30*(9), 1175–1185. https://doi.org/10.1177/0146167204264004

Lukaszewski, A. W., Simmons, Z. L., Anderson, C., & Roney, J. R. (2016). The role of physical formidability in human social status allocation. *Journal of Personality and Social Psychology*, *110*(3), 385–406. https://doi.org/10.1037/pspi0000042

Magee, J. C., & Galinsky, A. D. (2008). Social hierarchy: The self-reinforcing nature of power and status. *The Academy of Management Annals*, *2*(1), 351–398. https://doi.org/10.5465/19416520802211628

Mandalaywala, T. M. (2022). Do nonhuman animals reason about prestige-based status? *PsyArXiv*. https://doi.org/10.31234/osf.io/5s9zj

Maner, J. K. (2017). Dominance and prestige: A tale of two hierarchies. *Current Directions in Psychological Science*, *26*(6), 526–531. https://doi.org/10.1177/0963721417714323

Maner, J. K., & Hasty, C. R. (2022). Life history strategies, prestige, and dominance: An evolutionary developmental view of social hierarchy. *Personality and Social Psychology Bulletin*. Advance online publication. https://doi.org/10.1177/01461672221078667

Maner, J. K., & Mead, N. L. (2010). The essential tension between leadership and power: When leaders sacrifice group goals for the sake of self-interest. *Journal of Personality and Social Psychology*, *99*(3), 482–497. https://doi.org/10.1037/a0018559

Martinez, J. E., Feldman, L. A., Feldman, M. J., & Cikara, M. (2021). Narratives shape cognitive representations of immigrants and immigration-policy preferences. *Psychological Science*, *32*(2), 135–152. https://doi.org/10.1177/0956797620963610

Mason, M. F., Wiley, E. A., & Ames, D. R. (2018). From belief to deceit: How expectancies about others' ethics shape deception in negotiations. *Journal of Experimental Social Psychology*, *76*, 239–248. https://doi.org/10.1016/j.jesp.2018.02.013

McClanahan, K. J., Maner, J. K., & Cheng, J. T. (2021). Two ways to stay at the top: Prestige and dominance are both viable strategies for gaining and maintaining social rank over time. *Personality and Social Psychology Bulletin*. Advance online publication. https://doi.org/10.1177/01461672211042319

McComb, K., Moss, C., Durant, S. M., Baker, L., & Sayialel, S. (2001). Matriarchs as repositories of social knowledge in African elephants. *Science*, *292*(5516), 491–494. https://doi.org/10.1126/science.1057895

McGhee, H. (2021). *The sum of us*. One World.

Meegan, D. V. (2010). Zero-sum bias: Perceived competition despite unlimited resources. *Frontiers in Psychology*, *1*, Article 191. https://doi.org/10.3389/fpsyg.2010.00191

Miller, D. T. (1999). The norm of self-interest. *American Psychologist*, *54*(12), 1053–1060. https://doi.org/10.1037/0003-066X.54.12.1053

Nash, J. (1951). Non-cooperative games. *Annals of Mathematics*, *54*(2), 286–295. https://doi.org/10.2307/1969529

Norton, M. I., & Sommers, S. R. (2011). Whites see racism as a zero-sum game that they are now losing. *Perspectives on Psychological Science*, *6*(3), 215–218. https://doi.org/10.1177/1745691611406922

Ongis, M., & Davidai, S. (2021). Personal relative deprivation and the belief that economic success is zero-sum. *Journal of Experimental Psychology: General*, *151*(7), 1666–1680. https://doi.org/10.1037/xge0001144

Orosz, G., Tóth-Király, I., Büki, N., Ivaskevics, K., Bőthe, B., & Fülöp, M. (2018). The four faces of competition: The development of the Multidimensional Competitive Orientation Inventory. *Frontiers in Psychology*, *9*, Article 779. https://doi.org/10.3389/fpsyg.2018.00779

Petersen, M. B., & Laustsen, L. (2020). Dominant leaders and the political psychology of followership. *Current Opinion in Psychology*, *33*, 136–141. https://doi.org/10.1016/j.copsyc.2019.07.005

Pierce, J. R., Kilduff, G. J., Galinsky, A. D., & Sivanathan, N. (2013). From glue to gasoline: How competition turns perspective takers unethical. *Psychological Science*, *24*(10), 1986–1994. https://doi.org/10.1177/0956797613482144

Price, M. E., & Van Vugt, M. (2014). The evolution of leader-follower reciprocity: The theory of service-for-prestige. *Frontiers in Human Neuroscience*, *8*, Article 363. https://doi.org/10.3389/fnhum.2014.00363

Ratner, R. K., & Miller, D. T. (2001). The norm of self-interest and its effects on social action. *Journal of Personality and Social Psychology*, *81*(1), 5–16. https://doi.org/10.1037/0022-3514.81.1.5

Rizio, S. M., & Skali, A. (2020). How often do dictators have positive economic effects? Global evidence, 1858–2010. *The Leadership Quarterly*, *31*(3), Article 101302. https://doi.org/10.1016/j.leaqua.2019.06.003

Roberts, R., & Davidai, S. (2021). The psychology of asymmetric zero-sum beliefs. *Journal of Personality and Social Psychology*. Advance online publication. https://doi.org/10.1037/pspi0000378

Ronay, R., Maddux, W. W., & von Hippel, W. (2020). Inequality rules: Resource distribution and the evolution of dominance- and prestige-based leadership. *The Leadership Quarterly*, *31*(2), Article 101246. https://doi.org/10.1016/j.leaqua.2018.04.004

Różycka-Tran, J., Boski, P., & Wojciszke, B. (2015). Belief in a zero-sum game as a social axiom: A 37-nation study. *Journal of Cross-Cultural Psychology*, *46*(4), 525–548. https://doi.org/10.1177/0022022115572226

Rubin, M., & Hewstone, M. (1998). Social identity theory's self-esteem hypothesis: A review and some suggestions for clarification. *Personality and Social Psychology Review*, *2*(1), 40–62. https://doi.org/10.1207/s15327957pspr0201_3

Schelling, T. C. (1958). The strategy of conflict: Prospectus for a reorientation of game theory. The. *Journal of Conflict Resolution*, *2*(3), 203–264. https://doi.org/10.1177/002200275800200301

Sirola, N., & Pitesa, M. (2017). Economic downturns undermine workplace helping by promoting a zero-sum construal of success. *Academy of Management Journal*, *60*(4), 1339–1359. https://doi.org/10.5465/amj.2015.0804

Smithson, M., Sopeña, A., & Platow, M. J. (2015). When is group membership zero-sum? Effects of ethnicity, threat, and social identity on dual national identity. *PLoS ONE*, *10*(6), e0130539. https://doi.org/10.1371/journal.pone.0130539

Soto, C. J., & John, O. P. (2017). Short and extra-short forms of the Big Five Inventory–2: The BFI-2-S and BFI-2-XS. *Journal of Research in Personality*, *68*, 69–81. https://doi.org/10.1016/j.jrp.2017.02.004

Spencer, H., & Stolberg, S. (2017, August 11). White Nationalists March on University of Virginia. *The New York Times*. https://www.nytimes.com/2017/08/11/us/white-nationalists-rally-charlottesville-virginia.html

Spicer, A. (2015, August 17). The flaw in Amazon's management fad. *The Guardian*. https://www.theguardian.com/commentisfree/2015/aug/17/amazon-management-fad-rank-yank-jeff-bezos

Sprong, S., Jetten, J., Wang, Z., Peters, K., Mols, F., Verkuyten, M., Bastian, B., Ariyanto, A., Autin, F., Ayub, N., Badea, C., Besta, T., Butera, F., Costa-Lopes, R., Cui, L., Fantini, C., Finchilescu, G., Gaertner, L., Gollwitzer, M., . . . Wohl, M. J. A. (2019). "Our country needs a strong leader right now": Economic inequality enhances the

wish for a strong leader. *Psychological Science*, *30*(11), 1625–1637. https://doi.org/10.1177/0956797619875472

Starck, J. G., Sinclair, S., & Shelton, J. N. (2021). How university diversity rationales inform student preferences and outcomes. *Proceedings of the National Academy of Sciences of the United States of America*, *118*(16), e2013833118. https://doi.org/10.1073/pnas.2013833118

Stefaniak, A., Mallett, R. K., & Wohl, M. J. A. (2020). Zero-sum beliefs shape advantaged allies' support for collective action. *European Journal of Social Psychology*, *50*(6), 1259–1275. https://doi.org/10.1002/ejsp.2674

Steinel, W., & De Dreu, C. K. W. (2004). Social motives and strategic misrepresentation in social decision making. *Journal of Personality and Social Psychology*, *86*(3), 419–434. https://doi.org/10.1037/0022-3514.86.3.419

Stellar, J. E., & Willer, R. (2018). Unethical and inept? The influence of moral information on perceptions of competence. *Journal of Personality and Social Psychology*, *114*(2), 195–210. https://doi.org/10.1037/pspa0000097

Thomson, R., Yuki, M., Talhelm, T., Schug, J., Kito, M., Ayanian, A. H., Becker, J. C., Becker, M., Chiu, C. Y., Choi, H. S., Ferreira, C. M., Fülöp, M., Gul, P., Houghton-Illera, A. M., Joasoo, M., Jong, J., Kavanagh, C. M., Khutkyy, D., Manzi, C., . . . Visserman, M. L. (2018). Relational mobility predicts social behaviors in 39 countries and is tied to historical farming and threat. *Proceedings of the National Academy of Sciences of the United States of America*, *115*(29), 7521–7526. https://doi.org/10.1073/pnas.1713191115

Tsay, C.-J., Shu, L. L., & Bazerman, M. H. (2011). Naïveté and cynicism in negotiations and other competitive contexts. *The Academy of Management Annals*, *5*(1), 495–518. https://doi.org/10.5465/19416520.2011.587283

Van Vugt, M., Jepson, S. F., Hart, C. M., & De Cremer, D. (2004). Autocratic leadership in social dilemmas: A threat to group stability. *Journal of Experimental Social Psychology*, *40*(1), 1–13. https://doi.org/10.1016/S0022-1031(03)00061-1

von Neuman, J., & Morgenstern, O. (1944). *Theory of games and economic behavior*. https://pdfs.semanticscholar.org/0375/379194a6f34b818962ea947bff153adf621c.pdf

Wice, M., & Davidai, S. (2021). Benevolent conformity: The influence of perceived motives on judgments of conformity. *Personality and Social Psychology Bulletin*, *47*(7), 1205–1217. https://doi.org/10.1177/0146167220963702

Wilkins, C. L., Wellman, J. D., Babbitt, L. G., Toosi, N. R., & Schad, K. D. (2015). You can win but I can't lose: Bias against high-status groups increases their zero-sum beliefs about discrimination. *Journal of Experimental Social Psychology*, *57*, 1–14. https://doi.org/10.1016/j.jesp.2014.10.008

Witkower, Z., Tracy, J. L., Cheng, J. T., & Henrich, J. (2020). Two signals of social rank: Prestige and dominance are associated with distinct nonverbal displays. *Journal of Personality and Social Psychology*, *118*(1), 89–120. https://doi.org/10.1037/pspi0000181

Yin, Y., & Smith, P. K. (2021). When and how refusing to help decreases one's influence. *Journal of Experimental Social Psychology*, *95*, Article 104120. https://doi.org/10.1016/j.jesp.2021.104120

Yu, S., Greer, L. L., Halevy, N., & Van Bunderen, L. (2019). On ladders and pyramids: Hierarchy's shape determines relationships and performance in groups. *Personality and Social Psychology Bulletin*, *45*(12), 1717–1733.

Yuki, M., & Schug, J. (2020). Psychological consequences of relational mobility. *Current Opinion in Psychology*, *32*, 129–132. https://doi.org/10.1016/j.copsyc.2019.07.029

Zaki, J., Neumann, E., & Baltiansky, D. (2021). Market cognition: How exchange norms alter social experience. *Current Directions in Psychological Science*, *30*(3), 236–241. https://doi.org/10.1177/0963721421995492

Zizzo, D. J., & Tan, J. H. W. (2011). Game harmony: A behavioral approach to predicting cooperation in games. *American Behavioral Scientist*, *55*(8), 987–1013. https://doi.org/10.1177/0002764211407905

Appendix A

Zero-Sum Beliefs About Status Scale

To what extent do you agree or disagree with each of the following statements?

1. When status for one person is increasing it means that status for another person is decreasing.
2. Status is a limited good—when one person gains in status it inevitably comes at another person's expense.
3. When one person moves up the social hierarchy it means that another person has to move down the hierarchy.
4. If someone wants to move up the social hierarchy, they have to do so at someone else's expense.
5. Status is not a finite resource. (reverse-coded)
6. When one person has a lot of status it doesn't mean that someone else lacks status. (reverse-coded)
7. Not everyone can be high status. If one person has higher status, someone else must have lower status. (reverse-coded)
8. When one person gains in status, it does not mean that someone else is losing status. (reverse-coded)

(*Appendices continue*)

Appendix B

Willingness to Use Dominance and Prestige

(Original scale: Cheng et al., 2010; Adapted scale: Lange et al., 2019)

1. I enjoy having control over others.
2. I often try to get my own way regardless of what others may want.
3. I am willing to use aggressive tactics to get my way.
4. I try to control others rather than permit them to control me.
5. I do not aim at having a forceful or dominant personality.
6. I want others to know it is better to let me have my way.
7. I do not enjoy having authority over other people.
8. I like when some people are afraid of me.
9. I try to get members of my group to respect and admire me.
10. It does not bother me if people do not want to be like me.
11. I enjoy it when others expect me to be successful.
12. It does not bother me if others do not value my opinion.
13. I try to be held in high esteem by those I know.
14. I like it when my unique talents and abilities are recognized by others.
15. I like it when I am considered an expert on some matters by others.
16. I enjoy it when others seek my advice on a variety of matters.
17. It would not bother me if others do not enjoy hanging out with me.

Appendix C

Video Scripts

Zero-Sum Condition Video Script

What is social status? Humans are highly social creatures. Everywhere you look people are organized into groups, teams, and societies. Social status is simply the position people have in these groups. So, in our highly social world, having higher social status makes it easier to get what you want. Of course, everyone wants to have high social status. The bad news is that not everyone can. Status, like many desired resources, exists in a finite, limited amount. There's only so much of it to go around, so only a select few can actually have high status. Think of status like a ladder. When people stand on a ladder only one person can stand at any given rung. The same goes for status. When one person gains in status it inevitably comes at someone else's expense. More status for one person means less status for someone else. Just like a tennis match you cannot all be winners. For one person to win, others have to lose. Status is a zero-sum game.

Non–Zero-Sum Condition Video Script

What is social status? Humans are highly social creatures. Everywhere you look people are organized into groups, teams, and societies. Social status is simply the position people have in these groups. So, in our highly social world, having higher social status makes it easier to get what you want. Of course, everyone wants to have high social status. The good news is that many people can. Status is simply not a limited resource. There's no fixed, predetermined number of people who can or cannot get status. So, there's plenty to go around. Think of status like a very broad stairway where many people can move up or down at the same time. When you want to climb the stairway, it doesn't matter whether or not other people have already made their way up, there's enough room for you to climb up too. The same goes for status. When one person gains in status it does not have to come at anyone else's expense. In fact, sometimes people who have high status can help the status of

(*Appendices continue*)

others as well. Think of someone's status like a beam of light in a dark room. When one person shines, it doesn't make another person's light shine less bright. It actually creates even more light for everyone around. So, more status for one person doesn't mean less status for someone else. Status is not a zero-sum game.

Appendix D

Organizational Zero-Sum Beliefs

Think about what it is like to work in this company. To what extent do you agree or disagree with the following statements?

1. When some workers in this company make economic gains, others lose out economically.
2. People who want to get ahead economically in this company must do so at the expense of others.
3. The more employees this company employs, the harder it is for existing employees to advance.
4. More good jobs for some employees in this company means fewer good jobs for other employees.
5. Not everyone in this company can be wealthy.
6. For every rich employee in this company, there is usually an employee experiencing financial hardship.

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