


# Psychological foundations of human status allocation

Patrick K. Durkee<sup>a,1</sup> , Aaron W. Lukaszewski<sup>b</sup>, and David M. Buss<sup>a</sup>

<sup>a</sup>Department of Psychology, University of Texas at Austin, Austin TX 78712; and <sup>b</sup>Department of Psychology, California State University, Fullerton, CA 92831

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**Competing theories of status allocation posit divergent conceptual foundations upon which human status hierarchies are built. We argue that the three prominent theories of status allocation—competence-based models, conflict-based models, and dual-pathway models—can be distinguished by the importance that they place on four key affordance dimensions: benefit-generation ability, benefit-generation willingness, cost-infliction ability, and cost-infliction willingness. In the current study, we test competing theoretical predictions about the relative centrality of each affordance dimension to clarify the foundations of human status allocation. We examined the extent to which American raters' ( $n = 515$ ) perceptions of the benefit-generation and cost-infliction affordances of 240 personal characteristics predict the status impacts of those same personal characteristics as determined by separate groups of raters ( $n = 2,751$ ) across 14 nations. Benefit-generation and cost-infliction affordances were both positively associated with status allocation at the zero-order level. However, the unique effects of benefit-generation affordances explained most of the variance in status allocation when competing with cost-infliction affordances, whereas cost-infliction affordances were weak or null predictors. This finding suggests that inflicting costs without generating benefits does not reliably increase status in the minds of others among established human groups around the world. Overall, the findings bolster competence-based theories of status allocation but offer little support for conflict-based and dual-pathway models.**

status | hierarchy | affordances | dominance | prestige

**H**ierarchical structure is a universal and pervasive aspect of human groups (1–3). Rank within a hierarchy—an individual's status within a group—defines access to fitness-relevant resources such as food, territory, mates, cooperative partners, influence, respect, and attention (4–6). Group members play an active role in determining who gains and loses relatively unchallenged access to valuable contested resources (7). Competing theories about the psychological foundations of status allocation produce markedly different predictions about the nature and quantity of the dimensions along which humans allocate status (8). In this paper, we sought to clarify the foundations of human status hierarchies by comparing prominent models, distilling them to their core components, and pitting their competing predictions against one another to explain status allocation across 14 nations.

## Models of Human Status Allocation

Three models of status allocation inform the current investigation: competence-based, conflict-based, and dual-pathway models. Each entails critically divergent hypotheses about the psychological foundations of human status. Below, we summarize each model to highlight areas of overlap, as well as key theoretical distinctions and conflicting predictions.

**Competence Models.** Competence-based models posit that rank within a group is dependent on consensual assessments of the degree to which each group member deserves status (7, 9). Competence models of status suggest that individuals can increase their value in the eyes of the group, and consequently their own status, by enhancing either their perceived competence or their perceived commitment to the group (10). Perceptions of task-relevant knowledge and abilities predict influence of group decisions and projections of status attainment (11–13). Perceptions of

generosity and commitment to the group based on altruistic behavior also predict status allocations (14–18) as well as status motivations (15, 19). Importantly, perceptions of value need not be accurate: individuals can gain status by illusorily increasing their value via successful manipulations of the perceptions and inferences of others, such as through displaying confidence (11). Competence theorists maintain that status cannot be gained through tactics or strategies that lower perceptions of value to the group (10). According to competence models, perceptions of an individual's value are necessary and sufficient for status acquisition.

**Conflict Models.** In contrast to competence-based accounts of human status allocation, conflict-based models posit that the main foundations of human status are dominance, coercion, intimidation, and aggression (20–23). Conflict models are historically rooted in evolutionary game theoretical models of aggression, wherein individuals are motivated to avoid the costs of direct competition over resources and so cede contested resources, such as food, mates, and influence to individuals who are more likely to win in combat (24). According to this view, stable human status hierarchies result from patterns of coerced deference within groups (25). Perceptions of value are neither necessary nor sufficient for status according to conflict accounts of status; threatened or actualized imposition of costs, however, is both necessary and sufficient.

**Dual-Pathway Models.** A straightforward consolidation of these two models suggests that human status is allocated along two distinct dimensions: dominance and prestige. Dominance, which is characterized by threatened or actualized aggression and coercion in pursuit of social rank, is hypothesized to be homologous to the dominance hierarchies of nonhuman primates (4). In contrast, prestige-based status is characterized by possession of

## Significance

**Social status is a universal and consequential dimension of variation within human groups. Multiple prominent theories have been proposed to explain how status is allocated, but extant evidence is insufficient to adjudicate between their conflicting predictions. Here we show that distinctions between each theory hinge on the relative importance of four key affordance dimensions: benefit-generation ability, benefit-generation willingness, cost-infliction ability, and cost-infliction willingness. Each theory makes a different prediction about the role of each affordance in status allocation. We test these competing predictions to explain status allocations across 14 nations. We found that benefit-generation affordances uniquely predicted status allocations across nations, whereas cost-infliction affordances were weak or null competing predictors.**

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<sup>1</sup>To whom correspondence may be addressed. Email: pdurkee@utexas.edu.

learnable knowledge or skills that increase one's value as a cultural model and is hypothesized to have emerged as humans became more dependent on cultural knowledge and innovation (26, 27). The dominance dimension aligns with the conflict-based models, whereas the prestige dimension aligns best with competence-based models. In contrast to unidimensional models, however, dual-pathway models maintain that dominance and prestige are both viable and independent routes to status within human groups, rather than opposite ends of a single continuum (4). Either dominance (i.e., cost infliction) or prestige (i.e., benefit generation) are hypothesized to be sufficient for status in modern human groups, according to dual-pathway models.

### Shortcomings of Prominent Models

Each of these models has garnered empirical support (for review, see refs. 8, 13, 28 and 29), but the extent to which key theoretical constructs such as competence, dominance, and prestige are independently viable routes to status is unclear.

Theoretical considerations suggest that aspects of dominance, prestige, and competence share a common core. To be prestigious, an individual must possess competencies in socially valued domains (26); however, dominance typically necessitates competence in many domains, such as fighting ability, coercion, argumentation, and manipulation (30). Many of the competencies that increase dominance are also socially valuable within human groups such as hunting coalitions, warfare coalitions, coalitions for defense of the group, sports teams, or debate teams. These socially valued competencies could be the basis of prestige-based status attainment in many human groups—even if the behavior is rooted in prototypically dominant characteristics such as strength, aggression, and assertive argumentation. For example, providing effective leadership is typically deemed a status-worthy contribution within cooperative groups (31) and is generally facilitated by the ability to inflict costs on individuals whose actions would undermine the group's collective interests (32). The allocation of status to more formidable and assertive people in this example would be tied to benefit generation (prestige) via cost infliction (dominance) (13). Covariation between cost-infliction abilities and benefit-generation abilities belies any distinct relationships to status allocation.

Empirical evidence comparing predictions from the dominance, prestige, and competence models is lacking. Most evidence supporting the dual-pathway account, for example, is derived from laboratory-based interactions among previously unacquainted temporary groups (e.g., refs. 4 and 27), which may not function in the same way as real-world human groups. In studies examining status in more ecologically valid groups, dominance and prestige are not consistently independent\* (28, 33, 34). Moreover, dominance and prestige are typically assessed with a set of items designed to maximize orthogonality (4), which may obscure important overlap between the two status dimensions. In summary, it is both theoretically and empirically unclear whether the contribution of dominance to status is independent of valued competencies.

### Distilling the Core Components of Status Allocation

We can distinguish these important theoretical concepts and excavate the foundations of human status allocation by distilling the hypothesized dimensions of status to their core components. The distinctions between these status allocation models center on the relative importance of two fundamental affordance dimensions at the core of human social interaction: cost infliction and benefit generation (35, 36). These two core dimensions can each be further differentiated into two additional dimensions: the ability to inflict costs and generate benefits and the

willingness to do each. We distinguish between ability and willingness because previous investigations of the role of dominance and prestige in status attainment have conflated the two, which are conceptually quite distinct. Although these four dimensions can overlap, and potentially often do, they are not isomorphic. For example, individuals could have the ability to impose their will on others (i.e., inflict costs) but be unwilling to do so, or be willing to help group members (i.e., generate benefits) but be unable to do so, or any combination therein. Indeed, prior research on cooperative partner choice (37, 38), punishment (39), and leadership preferences (13) indicates that the ability and willingness to generate benefits or inflict costs have distinct effects on peoples' social evaluations of others. Because ability and willingness are confounded in the typical measurements of dominance and prestige, the degree to which each dimension overlaps or uniquely contributes to status allocation is unclear.

Crucially, each theory of status outlined above makes a different prediction about the degree to which these four affordance dimensions should be associated with status allocation in human groups (4). Competence-based theories predict that ability and willingness to generate benefits are the strongest predictors of status; conflict-based theories predict that ability and willingness to inflict costs are the strongest predictors of status; and dual-pathway theories predict that all four components are independent predictors of variance in status. To determine the viability of these models of human status allocation, it is necessary to conduct empirical tests of these competing predictions. By identifying the individual components of each theory, we aim to provide a cleaner test of the independent contributions of each dimension to human status allocation.

### The Current Study

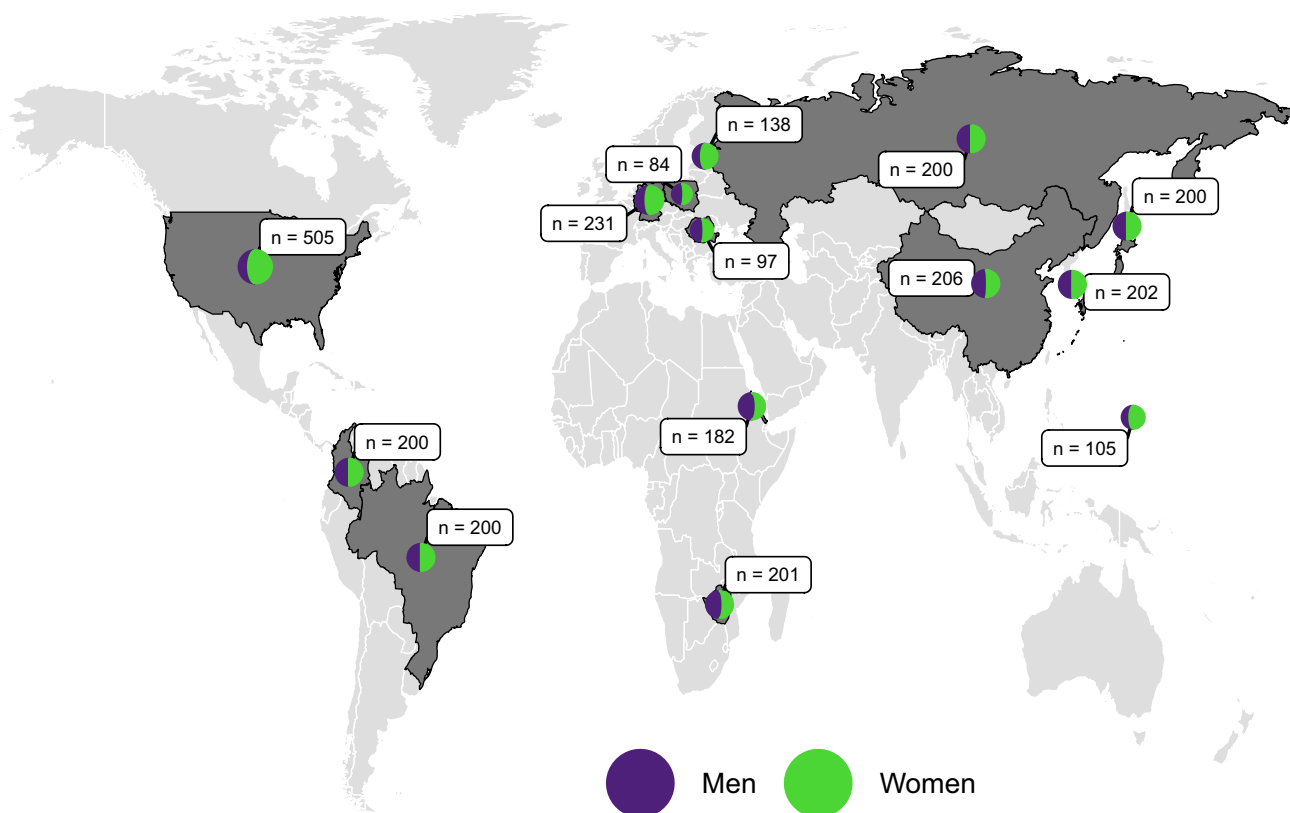
To adjudicate between these competing predictions, we leveraged two sources of data. The first is an archival dataset which contains ratings of the impacts that 240 behaviors, traits, and events (e.g., “being physically strong,” “being mean or nasty to others,” “doing work for charity,” “being unreliable”) have on men's and women's status in the eyes of their peers across 14 countries (40, 41). Fig. 1 highlights the nations where status allocation data were collected and the relative sample size contributed from each nation. Second, we recruited separate samples of Americans to rate the degree to which each of the 240 behaviors, traits, and events reveals a man's or woman's 1) ability to generate benefits for others, 2) willingness to generate benefits for others, 3) ability to inflict costs on others, and 4) willingness to inflict costs on others.

The status-impact ratings provide an index of the impact that a given behavior, trait, or event has on status in the minds of humans around the world. The affordance-inference ratings provide an index of the status-relevant information contained in each behavior, trait, or event. Together, these datasets allow us to examine which affordances most strongly predict status allocation across nations, providing a cross-national empirical test of the explanatory power of prominent models of human status.

### Results

We carried out all data cleaning and analysis using R (42). All code and data used to conduct the analyses are available on the Open Science Framework (<https://osf.io/57yu8>). We conducted all analyses at the level of the status-affecting items by averaging ratings of each item's sex-specific status impact separately within each country for men and women. The resulting data frame contains the mean inference of each item's benefit-generation ability, benefit-generation willingness, cost-infliction ability, and cost-infliction willingness for both men and women, along with separate mean status impacts for every item on men and women in each country. So that associations could be meaningfully compared across countries, we

\*Note that ref. 28 found that dominance and prestige were moderately negatively correlated in ratings of famous people but were uncorrelated in ratings of peers.



**Fig. 1.** World map highlighting 14 nations where the archival status allocation data were collected. Each nation's centroid depicts the ratio of men and women in each sample, and the centroid's size is relative to other nations' total sample size.

standardized status impacts within sex and country and affordance inferences within sex.

Fig. 2 shows the zero-order correlations between sex-specific affordance inferences and sex-specific status allocations in each nation. All intercorrelations are positive and range from 0.37 to 0.98 (mean:  $r = 0.82$ ). Benefit-generation ability and willingness are consistently more strongly associated with status allocation than cost-infliction ability and willingness.

To examine the unique associations between each affordance inference and status impacts, we constructed separate Bayesian multilevel models for men's and women's status and regressed status across countries on each of the four sex-specific affordance inferences. To address the nonindependence of observations caused by the multiple ratings of each item, we specified random intercepts for items. We also specified random intercepts and slopes for each country, allowing the average status impacts and the effect of each inference on status to vary between countries. These random-effect specifications allow for generalization to 1) the greater population of potential status-affecting behaviors, traits, and events represented by the 240 sampled in the current study and 2) the larger population of cultures represented by the 14 nations sampled here (43, 44). All models were run using the brms package (45). We used default noninformative priors for all model parameters to avoid biasing estimates toward any theoretical model (46). We assessed convergence using Rhat values, effective sample sizes, and trace plots (see supplemental analysis code on the Open Science Framework: <https://osf.io/57yu8>).

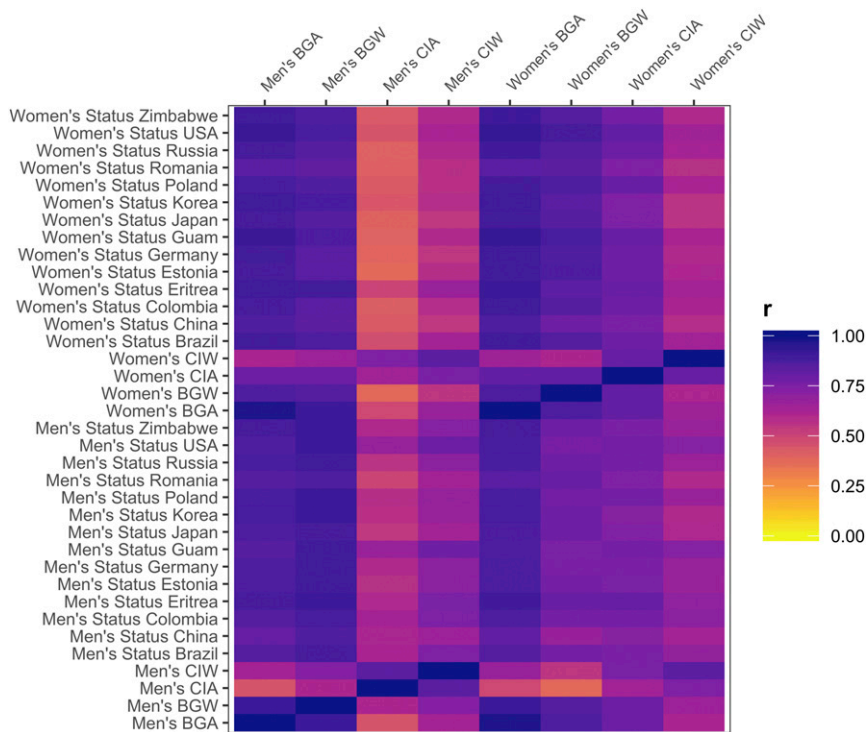
Fig. 3 depicts the model-estimated mean population effect, 95% Bayesian credible intervals of the effect, and the nation-level random effects. The model estimates reveal that inferences of benefit-generation ability and benefit-generation willingness

each had robust unique positive associations with status ( $\beta$ s = 0.282 to 0.603). There was a small positive unique effect of cost-infliction ability on men's status when controlling for other affordance inferences ( $\beta = 0.11$ , 95% CI [0.04, 0.19]), but not on women's status ( $\beta = 0.06$ , 95% CI [-0.03, 0.15]). Holding other affordance inferences constant, there was no robust association between cost-infliction willingness and men's status ( $\beta = 0.06$ , 95% CI [-0.03, 0.15]) or women's status ( $\beta = -0.01$ , 95% CI [-0.07, 0.06]). In total, the affordance inferences explain 90% of the variance in both men's and women's status across countries.

## Discussion

In the current study, we tested competing predictions derived from prominent theories of human status allocation. We examined the independent relationships between cross-national status impacts and social-affordance inferences associated with 240 behaviors, traits, and events. When competing to explain status allocations, inferences of referents' ability and willingness to generate benefits were strongly associated with higher status allocation across 14 nations. Inferences of cost-infliction ability, however, were much less strongly associated with status, and cost-infliction willingness inferences were not reliably associated with status across nations. These results suggest that cost-infliction affordances, especially willingness to inflict costs on others, are not strongly or reliably associated with status allocation over and above overlapping associations with benefit-generation affordances. In short, behaviors, traits, and events perceived to increase a person's potential to impose costs on others do not tend to reliably confer status across human groups unless they are also perceived to increase benefit-generation potential.

The direct tests of competing predictions presented here complement existing indirect evidence that cost infliction without benefit generation does not reliably underpin status allocation.



**Fig. 2.** Heat map of item-level zero-order correlations between affordance inferences for men and women and status impacts across countries for men and women. CIA, cost-infliction ability; CIW, cost-infliction willingness; BGA, benefit-generation ability; BGW, benefit-generation willingness.

For example, although studies in young children suggest that inferences of social status are associated with dominant acts (47–49), children’s status allocation psychology also 1) appears strongly biased toward benefit generation and against aggressive cost infliction from early in development (50) and 2) expects high-status others to right wrongs and intervene in group conflict (51). Furthermore, while cost-infliction ability is reliably associated with high status (32, 52, 53), this association is mediated by perceptions of others’ ability to navigate intragroup and intergroup conflicts in group-beneficial ways (13). Recent longitudinal research demonstrates that status is closely related to value as a cooperative partner and coalitional ally, which is itself heavily dependent on the ability to inflict costs on rival individuals and out-groups in the service of benefit generation for in-group members (6). These prior findings agree with our finding that cost infliction is not orthogonal to benefit generation. Our results further illustrate that any cost-infliction affordances that are orthogonal to benefit generation tend to be unassociated or weakly associated with status allocations across human populations.

Taken together, the current findings and previous research appear to more clearly support competence and prestige models of human status allocation. Our results do not provide strong support for dual-pathway models or conflict models of status allocation. While benefit-generation ability and willingness strongly predicted both men’s and women’s status across nations, cost-infliction ability and willingness exhibited weak and unreliable links to status. Our empirical adjudication between competing predictions suggests that aspects of the dual-pathway models may need to be reformulated. At present, they do not accurately explain and predict the relative importance of benefit generation and cost infliction in human status allocation psychology across human populations or the nuanced contributions of ability versus willingness to do each.

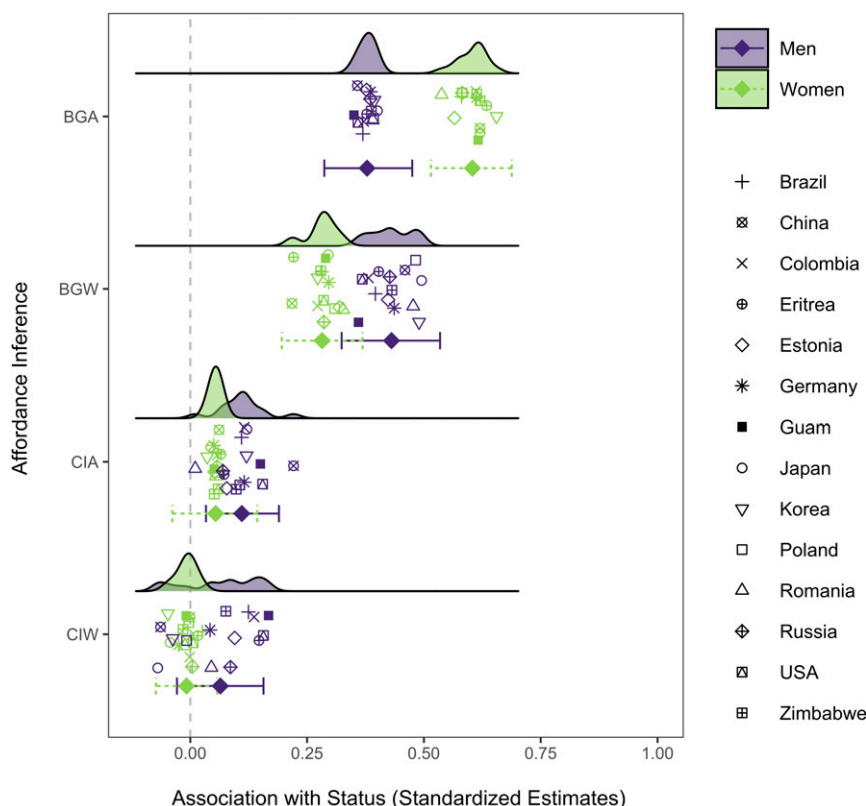
**Rethinking the Role of Cost Infliction in Human Status Allocation.** The dual-pathway model accurately posits that cost infliction and benefit generation played important roles in status hierarchies at

points throughout human evolutionary history. However, in predicting that both cost infliction and benefit generation remain independent and reliably viable routes to status, the dual-pathway model potentially overestimates the unique relevance of cost infliction across human social ecologies. The role of cost infliction in human status allocation could be clarified with greater consideration of the recurrent adaptive challenges posed by complex social groups and collective action problems.

From an ultimate perspective, there must have been fitness benefits associated with deference throughout the evolutionary past to produce psychological mechanisms underpinning status hierarchies. Across species, assessment mechanisms produce deference to individuals with greater resource-holding potential because this tends to increase the deferrer’s net fitness by reducing the costs of direct dyadic competition (24). In many group-living species, these assessment mechanisms produce patterns of deference that create relatively stable hierarchies of varying steepness. For example, in nonhuman primates, access to monopolizable resources is primarily determined by deference from less formidable individuals to more formidable individuals (54), although groups of individuals sometimes form alliances to increase their relative formidability and access to resources (55). Evidence suggests that humans also possess psychological mechanisms necessary for producing deference and hierarchical structures based on dominance (56–58). Consequently, it would not be unreasonable to hypothesize that cost-infliction ability plays an analogous or homologous role in human status allocation.

As human social ecologies diverged from those of our non-human ancestors, however, so too would the logic of deference and the manifest structure of hierarchy. As ancestral human groups transitioned to more variable foraging environments that increased interdependence (59) and amplified the importance of cultural transmission (26), they would have faced many collective action problems, such as maintaining access to clean water, hunting large game, and navigating large-scale intergroup conflict. These recurrent





**Fig. 3.** Standardized population effect-size estimates from Bayesian multilevel models predicting status from each affordance inference for men and women (depicted by dark purple and light green colors, respectively). The sex-specific population effect estimates across countries are depicted by shaded diamonds and error bars representing 95% Bayesian credible intervals. The distribution of the random effects is depicted by density distributions, and the individual glyphs jittered directly below mark the model-estimated random effects for each country. CIA, cost-infliction ability; CIW, cost-infliction willingness; BGA, benefit-generation ability; BGW, benefit-generation willingness.

adaptive problems would have selected for adaptations for *n*-person exchange (35) and honed the capacities necessary to form cooperative groups to achieve collective goals—including leveling coalitions to sanction or depose overly aggressive and self-interested group members (60). Consistent with the hypothesis that leveling coalitions, in tandem with the evolution of pair-bonding motivations, transformed status hierarchies across hominid evolution, social rank predicts male reproductive success ~15 times more strongly in the societies of nonhuman apes and primates than in traditional human societies (5).

Leveling coalitions would severely limit the usefulness of status attainment strategies based solely on aggressive pursuit of self-interest through cost-infliction willingness, while increasing the effectiveness of strategies that raise one's intrinsic value in the minds of group members (i.e., being able or willing to generate benefits). Indeed, humans appear well-equipped to 1) estimate their value in the eyes of others (38, 61–64) and 2) sanction group members who claim status without commensurate generation of benefits (65–67). The fungible nature of status likely incentivized individuals more capable of benefit generation to actively generate benefits desired by others, such as leading collective actions, teaching skills, making useful products, innovating new technologies, coordinating group defense, and providing computational services (17, 21, 26, 68, 69). These social selective pressures would strengthen patterns of deference based on ability and willingness to benefit the group, ultimately diminishing the role of pure cost infliction by individuals in status attainment across most socioecological contexts. Consequently, pure cost infliction may be a more viable route to status among human groups when aggressive domination is implemented by coalitions against individuals or other coalitions within a broader

network of communities—a strategy that produces benefits within the dominant coalition.

**Limitations and Future Directions.** Although our status allocation ratings are representative of a variety of countries around the world, the affordance ratings come only from American raters. Importantly, these ratings were strongly predictive of status allocation across cultures, but potentially interesting cultural nuances in the affordance of different acts, characteristics, or events may have been overlooked. For example, cultural differences in the perceived relationships between conformity and intelligence (70, 71) suggest that conformity may be perceived as a benefit-conferring characteristic in some cultures, whereas nonconformity may be viewed as a benefit-conferring characteristic in others. Furthermore, prototypically dominant acts may be more closely tied to benefit generation—actualized or inferred—in some cultures than in others (72) and would therefore be expected to be more central to status. Future research assessing affordance inferences within each culture will allow more accurate assessments of both systematic and random cultural variability in the relative importance of cost infliction and benefit-generation affordances. Ultimately, even if the specific affordances inferred from certain acts, characteristics, and events are variable across countries, the current findings lead to the expectation that benefit-generation inferences will universally regulate status allocation.

Future research should also explore and integrate different methodologies to test models of status allocation. Multiple studies have used a method wherein people in real groups (28, 73) or researcher-created laboratory groups of unacquainted people (4) rate each other on status and related affordance dimensions. In these studies, cost infliction and benefit generation

have typically been operationalized via scales designed to assess perceptions of others' dominance and prestige (27). Results from these studies have varied depending on the temporal duration of face-to-face social groups. In newly formed groups, dominance and prestige ratings are each unique predictors of attained status (4); however, longitudinal research indicates that, over time, the initial predictive effects of dominance perceptions in newly formed groups decrease, while the effects of prestige persist (73). Because participants' ratings in the current study pertained to status determinants in established communities, our results converge with studies using prior methodologies on the conclusion that benefit generation is the main determinant of lasting status in human groups. Still, the most common operationalizations of dominance contain items that do not clearly differentiate cost infliction from benefit generation [e.g., "He/she tries to control others, rather than permit them to control him/her" (27)], so it will be important for future research in face-to-face groups to use items designed to isolate the conceptual components of affordance dimensions that we identified here.

Ideally, future research would combine the richness of the current study's cross-cultural design and detailed set of status determinants with those of research designs involving real interacting social groups and longitudinal change. It will also be important to compare the similarities and differences in findings using different conceptualizations of status [e.g., deference vs. influence (4, 28)], different kinds of groups (e.g., coresidence communities vs. task-focused collective actions), and across even more diverse types of societies than were included in the current study (e.g., small-scale foragers and horticulturalists vs. industrialized nation-states). Such work will be necessary to further validate the tentative conclusion that benefit-generation affordances are universally the primary regulators of human status allocation.

## Conclusions

Status is central to many aspects of human social groups, but different theorists have proffered competing accounts of the psychological foundations of human status hierarchies. After comparing leading theories of human status allocation, we identified and tested competing predictions derived from them to elucidate the foundations of status allocations. Our results suggest that the primary foundation of human status allocation psychology is benefit generation rather than cost infliction, which bolsters competence-based and prestige-based theories while offering only limited support for conflict or dual-pathway theories. Incorporating these findings and their implications into the reformulation of extant theories will be critical to developing a more precise understanding of human status hierarchies and the complex psychology underpinning them.

## Materials and Methods

**Participants.** Between the archival status dataset and the newly collected inference ratings, a total of 3,266 respondents from 14 countries (Brazil, China, Colombia, Eritrea, Estonia, Germany, Guam, Japan, South Korea, Poland, Romania, Russia, United States, and Zimbabwe) participated in this research. We provide task-specific sample sizes and characteristics in the respective procedural sections below.

### Materials and Procedures.

**Status-impact ratings.** Our status-impact ratings come from an archival dataset that contains ratings from 2,751 respondents (1,487 women) from 14 nations. Per-country sample sizes ranged from 84 participants in Poland to 505 participants in the United States. The mean age of respondents across countries was 22.88 (SD = 4.90; range: 19.18 to 34.53). Participants were mostly college students, with the exception of the sample from Romania of Roma adults and the Brazilian sample of community adults. Roughly equal numbers of men and women participated in each nation. For a full breakdown of the sample sizes and demographics for each nation, see the supplemental materials on the Open Science Framework (<https://osf.io/57yu8>). Collaborators in each nation obtained approval from their respective ethics boards as necessary and

informed consent from participants; the University of Texas at Austin Institutional Review Board (IRB) approved the use of the archival data.

The full procedure for the cross-national archival status-impact ratings data collection is detailed in previous publications using these data (40, 41). Briefly, 240 behaviors, traits, and events (e.g., "being physically strong," "being mean or nasty to others," "doing work for charity," "being unreliable") that could potentially affect status (henceforth "status-affecting items") were generated using act nomination procedures and input from cross-cultural collaborators. The full list of 240 status-relevant items is provided in the supplemental materials on the Open Science Framework (<https://osf.io/57yu8>). In a repeated measures design, participants across 14 countries then rated the impact that the status-affecting items would have on both 1) "the status and reputation of a man in the eyes of his peers" and 2) "status and reputation of a woman in the eyes of her peers" using a bipolar rating scale (−4 = greatly decrease; 0 = no effect; +4 greatly increase). These status ratings exhibited moderate interrater reliability across raters within countries according to intraclass correlation coefficients (ICCs = 0.69 to 0.97). **Affordance inference ratings.** A total of 515 American Amazon Mechanical Turk workers completed the affordance inference ratings. We randomly assigned participants to rate one of the four focal dimensions of status allocation: benefit-generation ability, benefit-generation willingness, cost-infliction ability, and cost-infliction willingness. We sought at least 50 raters (25 women and 25 men) to rate female referents and 50 raters to rate male referents in each condition to obtain stable estimates for the affordance means (74). We oversampled until these quotas were met for all conditions. Ninety participants were excluded from analyses because they failed to correctly answer three of five attention check questions placed randomly throughout the survey, leaving a final sample size of 425 ( $M_{age} = 33.92$ ;  $SD_{age} = 10.03$ ).

The study description and prompts contained no mentions of status, hierarchy, social rank, or other terms that could cue participants to the purposes of the study and elicit demand characteristics in responding. The University of Texas at Austin IRB approved this data collection. Participants gave informed consent after reading the description by clicking a button labeled "continue to the study tasks." Before starting the inference-specific task, all participants were given an identical prompt: "In this study, we are interested in the ways that different behaviors, characteristics, and events are perceived. You will be shown a series of brief statements that describe either 1) a behavior that a person did, 2) a characteristic of a person, or 3) an event that happened. Please use the provided rating scale to rate each behavior, characteristic, and event according to the following prompt." Each participant then rated all 240 items according to a task-specific prompt (described in detail below).

**Benefit-generation ability.** Participants ( $n = 101$ ; 54 women) in the benefit-generation ability condition were asked to rate each item according to the prompt in reference to either a man or a woman: "If a [man/woman] was described this way, would you think [he/she] is likely to be an asset (i.e., do things that create benefits for those around them) or a liability (i.e., create problems for those around them)?" (−4 = not at all likely; +4 = extremely likely). These ratings exhibited high interrater reliability across raters (ICC = 0.98).

**Benefit-generation willingness.** Participants ( $n = 98$ ; 41 women) in the benefit-generation willingness condition were asked to rate each item according to the prompt in reference to either a man or a woman: "If a [man/woman] was described this way, how likely would you think [he/she] would be to voluntarily sacrifice [his/her] own welfare to increase the welfare of others?" (−4 = not at all likely; +4 = extremely likely). These ratings exhibited high interrater reliability across raters (ICC = 0.96).

**Cost-infliction ability.** Participants ( $n = 106$ ; 51 women) in the cost-infliction ability condition were asked to rate each item according to the prompt in reference to either a man or a woman: "If a [man/woman] was described this way, how likely is it that [he/she] has the ability to harm and punish [his/her] peers? (in other words, the ability to inflict costs on others when necessary)" (−4 = not at all likely; +4 = extremely likely). These ratings exhibited high interrater reliability across raters (ICC = 0.90).

**Cost-infliction willingness.** Participants ( $n = 120$ ; 61 women) in the cost-infliction willingness condition were asked to rate each item according to the prompt in reference to either a man or a woman: "If a [man/woman] was described this way, how likely would you think [he/she] would be to use aggressive tactics and intimidation to pursue [his/her] own self-interests instead of what others want?" (−4 = not at all likely; +4 = extremely likely). These ratings exhibited high interrater reliability across raters (ICC = 0.88).

**Data Availability.** Self-report rating data have been deposited on the Open Science Framework (<https://osf.io/57yu8>).

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