



Political ideology shapes the amplification of the accomplishments of disadvantaged vs. advantaged group members

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Recent years have witnessed an increased public outcry in certain quarters about a perceived lack of attention given to successful members of disadvantaged groups relative to equally meritorious members of advantaged groups, exemplified by social media campaigns centered around hashtags, such as #OscarsSoWhite and #WomenAlsoKnowStuff. Focusing on political ideology, we investigate here whether individuals differentially amplify successful targets depending on whether these targets belong to disadvantaged or advantaged groups, behavior that could help alleviate or entrench group-based disparities. Study 1 examines over 500,000 tweets from over 160,000 Twitter users about 46 unambiguously successful targets varying in race (white, black) and gender (male, female): American gold medalists from the 2016 Olympics. Leveraging advances in computational social science, we identify tweeters' political ideology, race, and gender. Tweets from political liberals were much more likely than those from conservatives to be about successful black (vs. white) and female (vs. male) gold medalists (and especially black females), controlling for tweeters' own race and gender, and even when tweeters themselves were white or male (i.e., advantaged group members). Studies 2 and 3 provided experimental evidence that liberals are more likely than conservatives to differentially amplify successful members of disadvantaged (vs. advantaged) groups and suggested that this is driven by liberals' heightened concern with social equality. Addressing theorizing about ideological asymmetries, we observed that political liberals are more responsible than conservatives for differential amplification. Our results highlight ideology's polarizing power to shape even whose accomplishments we promote, and extend theorizing about behavioral manifestations of egalitarian motives.

ideology | egalitarianism | intergroup relations | partisanship | inequality

The past few years have seen widespread claims that the contributions of members of certain underrepresented and disadvantaged groups are systematically overlooked relative to those of their advantaged counterparts. Research appears to support this contention; for example, female economists get less credit for coauthored research than their male counterparts (1), and black quarterbacks receive significantly less credit for their team's successes in media coverage than white quarterbacks do for equivalent successes (2). This issue has captured much attention among certain quarters of the public: from social media campaigns deriding the selection of all-male panels at academic conferences (3) to outrage in response to the overwhelmingly white list of nominees for the 2016 Academy Awards (4), many perceive the issue of whose accomplishments do and do not get recognized as a significant one.

Indeed, who we recognize, celebrate, and promote—and who we disregard or overlook in the process—matters. Receiving accolades and attention can help individuals attain positions of greater power and influence. This also indirectly benefits other members of their group, with research on homophily suggesting that those in positions of power tend to favor and grant privileges to individuals like them (5, 6). Promoting individuals' successes can also affect the status of the groups they belong to: Perceivers'

own impressions of social groups are shaped in part by how members of these groups are regarded by others in society (7, 8). Ignoring the achievements of even highly successful members of socially disadvantaged groups could contribute to perceptions of these groups as unaccomplished and undeserving. For example, if successful female scientists are systematically overlooked for prestigious awards or positions (e.g., membership in the National Academy of Sciences), then onlookers might infer that men are more competent than women, helping to justify and perpetuate men's dominance at the top of the social hierarchy (9, 10).

People vary in the extent to which they believe that the accomplishments of disadvantaged group members are relatively overlooked and in the extent to which they seek to help rectify this issue. What factors might account for this variation? One determinant may be individuals' own group memberships. Given individuals' proclivity to care about and favor their own groups (11), women might be particularly concerned about instances in which the accomplishments of successful females are overlooked, and motivated to raise awareness about their successes. The same may be true for racial minorities when the successes of whites are given more attention than equally meritorious members of their own group.

Significance

Inequality prospers when successes of advantaged group members (e.g., men, whites) get more attention than equivalent successes of disadvantaged group members (e.g., women, blacks). What determines whose successes individuals deem worth promoting vs. those they ignore? Using hundreds of thousands of tweets from the 2016 Olympics, we show that liberals are much more likely than conservatives to shine a spotlight on black and female (vs. white and male) US gold medalists. Two further experiments provide evidence that such differential amplification of successful targets is driven by a motivation—higher among liberals—to raise disadvantaged groups' standing in service of equality. We find that liberals drive differential amplification more than conservatives and establish a behavioral mechanism through which liberals' egalitarian motives manifest.

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But beyond group membership, individuals' orientation toward social equality is likely to matter as well. Whereas certain individuals are highly committed to bringing about social equality and concerned about the plight of disadvantaged groups, others are less supportive or even antagonistic toward social equality (12). Notably, although disadvantaged group members favor social equality more (on average) than advantaged group members (12), there is substantial individual-level variation within these groups: Some advantaged group members support equality and some disadvantaged group members favor hierarchy. One important dimension associated with this variation is political orientation. Whereas liberals tend to place a high value on social equality, conservatives are more tolerant of maintaining the hierarchical status quo in society (12–15), one key dimension on which these groups differ (13, 15).

Drawing on their respective orientations toward social equality, we consider whether liberals and conservatives might differentially promote successful targets as a function of these targets' membership in advantaged or disadvantaged groups. How might levels of political liberalism or conservatism shape patterns of promotion? On the one hand, given their concern with equality, liberals might be equally likely to care about and promote successful members of all groups, irrespective of their rank in the hierarchy. On the other hand, the status quo is itself unequal, with the merits of disadvantaged group members tending at present to be discounted or overlooked in favor of equally meritorious members of advantaged groups (e.g., refs. 1, 2, and 16). Liberals might therefore feel that creating a more equal balance requires a preferential focus on promoting the disadvantaged. Thus, we predicted that liberals would be more invested in shining a spotlight on successful members of relatively disadvantaged groups (e.g., racial minorities, women), even if this meant promoting members of successful advantaged (e.g., whites, men) groups less. Conservatives are more likely than liberals to favor maintaining social hierarchy. We therefore predicted that they would be less driven than liberals to promote successful members of disadvantaged groups, a pattern of behavior that might help preserve any existing group-based disparities. Importantly, if these patterns reflect motivations rooted in ideological beliefs about the desirability of equality per se, our predictions should hold controlling for the role of individuals' own group membership in advantaged or disadvantaged groups. We examined these questions across three studies combining observational and experimental methods.

Study 1

In study 1, we captured individuals' naturalistic patterns of promotion by examining their behavior on social media. Although most individuals lack the power to directly influence the list of Oscar nominees or the amount of airtime given to successful female vs. male academics, the emergence of social media platforms has given individuals a meaningful pulpit of their own from which to promote and publicize those individuals (and issues) they perceive as deserving. By posting about highly successful members of relatively disadvantaged groups, individuals motivated to do so can shine a spotlight on the accomplishments of disadvantaged group members, potentially helping to improve the group's standing in society.

Leveraging recent advances in data science and machine learning, we investigated individuals' tweeting patterns in the context of a highly prominent and consequential event: the 2016 Olympics. We tested how individuals' race and gender and political orientation were associated with their patterns of tweeting about the set of 46 United States 2016 Olympic gold medalists as a function of these targets' membership in advantaged (i.e., white, male) vs. disadvantaged (i.e., black, female) groups. We focused on gold medalists because they are unambiguously high status, thus ideally fitting the mold of a highly successful target whose accomplishments could reflect positively on the group to which they belonged. [One could argue that all Olympians are

successful (whether or not they receive a gold medal). At the same time, baseline expectations about individual Olympians vary; for example, failing to win gold could be deemed a failure for certain stars, while winning a bronze could be a major success for others. Focusing exclusively on tweets about gold medalists helped us ensure that all Olympians in our set at least met or exceeded expectations, and thus were clearly successful.] We focused on tweeting behavior because tweeting about successful individuals calls more attention to them, mirroring our theoretical interest in capturing individuals' likelihood of promoting successful others (indeed, analyzing the contents of the tweets about the gold medalists revealed that the valence of individuals' tweets was overwhelmingly positive) (*SI Appendix*). And we examined the Olympics because they represent an impactful venue in which to examine promotion, with new national stars made and existing legacies solidified on the basis of performances in the competition. The Olympics therefore represent a relatively rare high-stakes context in which publicizing the successes of a given group could meaningfully impact its standing among a broad swathe of the population.

Our central predictions were that the probability of tweets being about white (vs. black) and male (vs. female) gold medalists would each depend on individuals' levels of political liberalism/conservatism, beyond individuals' own membership in advantaged or disadvantaged racial and gender groups. Beyond these central predictions, we also considered two associated sets of analyses. First, research on intersectionality and the “double jeopardy” hypothesis suggests that individuals belonging to multiple disadvantaged groups (e.g., black women) face particularly high levels of disadvantage (17), and may even be relatively “invisible” (18). If liberals are motivated by a commitment to social equality to promote the successes of those whose accomplishments are otherwise overlooked, they might therefore be especially likely to focus their tweeting on successful members of groups that are doubly disadvantaged. We considered this possibility here. Second, our data allowed us to add to a theoretical debate about ideological symmetries vs. asymmetries. Some research suggests that liberals and conservatives show comparable tendencies to engage in motivated reasoning or behavior (e.g., exhibiting comparable levels of prejudice toward ideologically dissimilar groups; being equally likely to ignore information inconsistent with their worldviews) (19, 20); other research suggests that motivated reasoning and behavior are primarily driven by political conservatives (e.g., refs. 15 and 21). Still other work suggests that the opposite is true (e.g., refs. 22 and 23). Contributing to research on asymmetries in motivated behavior, we examined in study 1 which group differed more from political moderates in their tweeting behavior.

Results

We obtained all of the English-language tweets containing at least 1 of 115 keywords associated with the set of 46 US Olympic gold medalists (25 whites, 21 blacks, 19 men, 27 women), spanning 14 Olympic events in which individual Olympian contributions were readily discernible (keywords largely reflected Olympians' names and/or their Twitter handles; see *SI Appendix, Table S1* for a full list). Given our desire to focus on shining a spotlight on unambiguously successful targets, we included only tweets about gold medalists after they had won their first gold medal. These tweets ($n = 554,337$) came from a total of 160,639 Twitter users. To identify political ideology, we utilized a previously validated algorithm that determines individuals' political ideology based on the party affiliation and ideological leanings of those they follow on Twitter (e.g., known liberals and Democrats like Jon Stewart or Barack Obama vs. known conservatives and Republicans like Rush Limbaugh or George Bush) (21). To measure users' race and gender, we used a machine-learning approach that classifies users based on their Twitter profile picture (*Methods* and *SI Appendix*).

We first examined what predicted the probability of a given tweet from an individual being about black vs. white gold medalists, and then considered what predicted the probability of a given tweet being about female vs. male gold medalists. All models included as our central predictor individuals' political ideology (coded as in ref. 21: 0 = political moderates; -1 = one SD in the liberal direction; $+1$ = one SD in the conservative direction). To control for group membership, we included individuals' own race ($+1$ = black; -1 = white) when predicting the probability of a tweet being about black vs. white gold medalists, and their own gender ($+1$ = female; -1 = male) when predicting the probability of a tweet being about female vs. male gold medalists.

Tweeting About Black vs. White Gold Medalists. We began by examining the probability that a given tweet from an individual was about a black (coded as $+1$) vs. white (coded as 0) gold medalist as a function of their ideology and race (see *SI Appendix* for number of tweets in each category). Examining the distribution of the data further suggested the possibility of a quadratic relationship between ideology and tweeting patterns (*SI Appendix*), and we therefore also added a quadratic ideology term (i.e., ideology²) as a predictor in our model. Because some individuals tweeted more than once, we used logistic multilevel modeling to analyze the data for all models, with tweets nested within individuals.

Consistent with the idea that individuals promote ingroup successes, there was a significantly greater probability of a tweet from a black (vs. white) individual being about black (vs. white) Olympic gold medalists [$\gamma = 0.693$, $z = 97.91$, $P < 0.001$, 95% confidence interval (CI) (0.680, 0.707)]. Controlling for tweeters' group membership, we further observed support for our key prediction: the more liberal (vs. conservative) tweeters were, the more likely a tweet from them was to be about black compared with white gold medalists [$\gamma = -0.611$, $z = 104.39$, $P < 0.001$, 95% CI (-0.623 , -0.600)]. Breaking our results down further by individuals' race additionally revealed a similar pattern for political ideology among both black and white users (see *SI Appendix* for details). Finally, the quadratic ideology term was also significant [$\gamma = 0.156$, $z = 51.28$, $P < 0.001$, 95% CI (0.150, 0.162)] (Fig. 1); the pattern revealed that the more liberal individuals were, the more a given tweet from them was especially likely to be about black (vs. white) Olympians.

Addressing the debate on ideological asymmetries, we next used this same model to assess the extent to which liberals vs. conservatives differed from political moderates in their pattern of tweeting. We estimated effects for moderates by examining the predicted probabilities of tweeting for those at 0 on political ideology; we estimated effects for liberals and conservatives by examining the predicted probabilities of tweeting at one SD below and above 0 on political ideology, respectively (for a similar approach, see ref. 21). Given the quadratic pattern apparent in our data, we additionally examined the predicted probabilities among

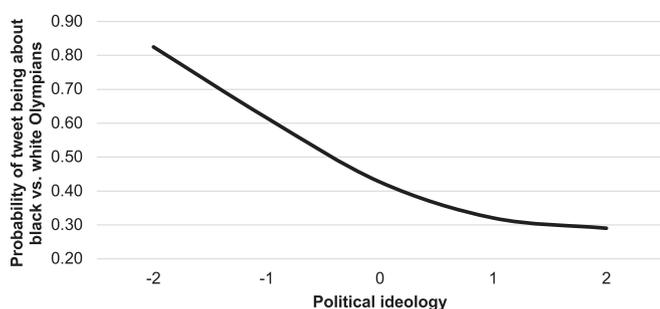


Fig. 1. The probability of a tweet being about black (vs. white) Olympic gold medalists based on the political ideology of the tweeter (controlling for tweeter race) in study 1. Positive numbers indicate a more conservative ideology.

“strong” liberals and conservatives (i.e., those respectively at two SDs above and below 0 on political ideology).

We observed that a tweet from liberals had a predicted probability of 0.616 [95% CI (0.611, 0.621)] of being about black (vs. white) Olympians, whereas the same probability estimate was 0.427 [95% CI (0.424, 0.429)] for moderates and 0.321 [95% CI (0.318, 0.323)] for conservatives. Thus, the predicted probability of a tweet by liberals being about black gold medalists was about double that for conservatives. As indicated by the non-overlapping CIs, these probabilities all differed significantly from one another. Moreover, the absolute difference between these probabilities suggests that liberals were more different in their pattern of tweeting relative to the baseline of political moderates (difference in predicted probabilities = 0.19) than was true of conservatives relative to moderates (difference in predicted probabilities = 0.11); indeed, the difference in differences between liberals and conservatives was statistically significant ($P < 0.001$) (see *SI Appendix* for details about difference in difference analyses). Consistent with the quadratic pattern, these differences were even more pronounced when contrasting strong liberals and conservatives to political moderates. The predicted probability of a tweet from strong liberals being about black (vs. white) Olympians was 0.825 [95% CI (0.820, 0.830)], whereas the same probability estimate was 0.290 [95% CI (0.286, 0.294)] for strong conservatives. The difference between strong liberals and moderates (difference = 0.40) was substantially and significantly ($P < 0.001$) greater than the opposite difference between strong conservatives and moderates (difference = 0.14).

In sum, both liberals and conservatives differed in their tweeting compared with political moderates, but liberals stood out more in their proclivity to promote members of the disadvantaged group than strong conservatives stood out in their relative tendency to overlook them.

Tweeting About Female vs. Male Gold Medalists. We used the same approach to predict the probability of a tweet being about female (coded as $+1$) vs. male (coded as 0) gold medalists. Here, we entered tweeter gender and political ideology as predictors. We again included a quadratic ideology term as a predictor in our model. As before, we observed a role for ingroup membership, with a tweet from female individuals having a significantly greater probability than a tweet from males of being about female (vs. male) gold medalists [$\gamma = 0.176$, $z = 31.60$, $P < 0.001$, 95% CI (0.165, 0.186)]. Controlling for the effect of tweeter gender, we observed that as individuals became more politically liberal (vs. conservative), a tweet from them had a significantly greater probability of being about female (compared with male) gold medalists [$\gamma = -0.497$, $z = 81.72$, $P < 0.001$, 95% CI (-0.509 , -0.485)]. Moreover, the effects of ideology on the probability of a tweet being about male (vs. female) Olympians held whether tweeters were themselves male or female (*SI Appendix*). The quadratic ideology term was also significant [$\gamma = 0.145$, $z = 46.62$, $P < 0.001$, 95% CI (0.139, 0.152)], again suggesting that as individuals became more liberal, it became all the more probable that a tweet from them promoted successful members of historically disadvantaged (i.e., female) compared with advantaged (i.e., male) groups (Fig. 2).

We again considered the degree to which liberals and conservatives differed in their tweeting patterns from moderates. The predicted probability of a tweet from liberals being about female (vs. male) Olympians was 0.848 [95% CI (0.845, 0.851)]; the comparable probabilities were 0.746 [95% CI (0.744, 0.748)] for moderates and 0.674 for conservatives [95% CI (0.672, 0.676)]. All probabilities are significantly different from one another. Again, we observed that liberals differed more from moderates in their tweeting pattern (difference = 0.10) than conservatives did (difference = 0.07) ($P < 0.001$). Consistent with the quadratic pattern, these differences were still more apparent when contrasting strong liberals and strong conservatives:

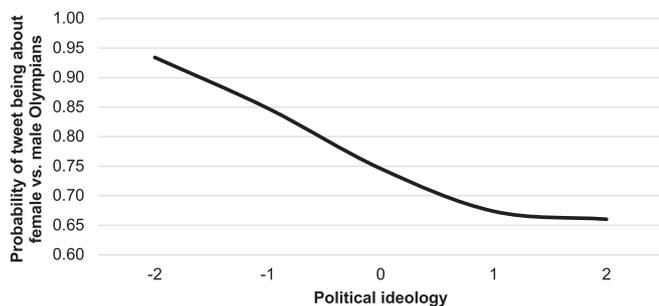


Fig. 2. The probability of a tweet being about female (vs. male) Olympic gold medalists based on the political ideology of the tweeter (controlling for tweeter gender) in study 1. Positive numbers indicate a more conservative ideology.

The predicted probability of a tweet from strong liberals being about female (vs. male) Olympians was 0.934 [95% CI (0.932, 0.936)], compared with 0.660 for strong conservatives [95% CI (0.656, 0.665)], and again, strong liberals differed more from moderates (difference = 0.19) than strong conservatives (difference = 0.09) ($P < 0.001$).

Testing an Intersectionality Hypothesis. We next investigated whether, consistent with research on intersectionality (17, 18), the association between political ideology and tweeting patterns would be particularly pronounced for black female targets given these targets' membership in a doubly disadvantaged group. We conducted our analyses using a multilevel multinomial model using white males as the reference category. In this model, we examined the extent to which each of tweeter race, gender, and ideology predicted the probability of a given tweet being about: (i) black female vs. white male gold medalists, (ii) white female vs. white male gold medalists, and (iii) black male vs. white male gold medalists. Evidence that the ideology coefficient is strongest when comparing the probability of a tweet being about black females vs. white males (compared with being about white females vs. white males, or black males vs. white males) would be consistent with the intersectionality thesis.

To fully capture race and gender ingroup membership, we included in the model tweeter race, gender, and their interaction (to determine, for example, whether a given tweet from black females was especially likely to be about black female Olympians). The results for tweeter race and gender group membership are reported in *SI Appendix, Table S4* and are discussed further in *SI Appendix*. To test our key prediction, we included tweeters' political ideology and, as before, a quadratic ideology term.

We observed support for our prediction regarding the role of ideology in predicting tweeting across all three categories, beyond effects of user race and gender. Specifically, the more liberal users were, the more likely a tweet from them was to be about black male (vs. white male) gold medalists [$\gamma = -0.102$, $z = 5.71$, $P < 0.001$, 95% CI (-0.137, -0.067)], white female (vs. white male) gold medalists [$\gamma = -0.271$, $z = 40.48$, $P < 0.001$, 95% CI (-0.284, -0.258)], and—especially—black female (vs. white male) gold medalists [$\gamma = -0.648$, $z = 97.52$, $P < 0.001$, 95% CI (-0.661, -0.635)] (Fig. 3). Directly testing the intersectionality hypothesis, a set of Wald tests to compare the strength of the ideology effect confirmed that the effect of ideology was strongest in predicting the probability of a tweet being about black female (vs. white male) compared with white female (vs. white male) [$\chi^2(1) = 1047.41$, $P < 0.001$] or black male (vs. white male) Olympians [$\chi^2(1) = 11463.99$, $P < 0.001$]. That is, levels of political liberalism/conservatism were especially predictive of the pattern of tweeting about a group often theorized to be doubly disadvantaged. Supplementary analyses further indicated that the effects of ideology on tweeting about

disadvantaged (vs. advantaged) targets largely held across tweeter race and gender (*SI Appendix*).

Beyond the linear effects of political ideology, we also observed significant quadratic effects of ideology on the probability of a tweet being about black female (vs. white male) and white female (vs. white male) Olympians (*SI Appendix, Table S4*). As individuals became more liberal, it became especially likely that a tweet from them would promote black female and white female Olympians (P s < 0.001). We did not observe a quadratic effect of ideology on the probability of a tweet being about black male (vs. white male) Olympians.

As before, political liberals generally differed more from moderates in their tweeting patterns than conservatives did. Among liberals, the predicted probability of a given tweet being about black female (vs. white male) Olympians was 0.831 [95% CI (0.828, 0.834)] compared with 0.682 [95% CI (0.679, 0.685)] for political moderates and 0.574 [95% CI (0.571, 0.577)] for conservatives (liberals' difference from moderates = 0.15; conservatives' difference from moderates = 0.11; difference in differences: $P < 0.001$). These differences were still clearer among strong liberals and conservatives. Among strong liberals, the predicted probability of a tweet being about black female (vs. white male) Olympians was 0.942 [95% CI (0.940, 0.944)] compared with 0.549 [95% CI (0.543, 0.554)] for strong conservatives (liberals' difference = 0.26; conservatives' difference = 0.13; difference in differences: $P < 0.001$).

A similar pattern emerged for the predicted probabilities of a tweet being about white female gold medalists [liberals: 0.697, 95% CI (0.691, 0.702); moderates: 0.614, 95% CI [0.611, 6170; conservatives: 0.572, 95% CI (0.569, 0.574)], with liberals' difference from moderates (0.08) outweighing conservatives' difference from moderates (0.04; difference in differences: $P < 0.001$). This difference in differences was clearer still when comparing the difference between strong liberals [0.800, 95% CI (0.794, 0.806)] and moderates (difference = 0.19) and that between strong conservatives [0.575, 95% CI (0.570, 0.580)] and moderates (difference = 0.04; difference in differences: $P < 0.001$).

In contrast, and in line with the presence of a linear but not a quadratic effect of ideology on the probability of a tweet being about black male Olympians, liberals and conservatives differed (in opposite directions) from political moderates to a similar extent when considering tweeting about black male (vs. white male) Olympians [liberals: 0.065, 95% CI (0.061, 0.069); moderates: 0.059, 95% CI (0.057, 0.061); conservatives: 0.054, 95% CI (0.052, 0.055)] (difference in differences: $P = 0.16$). We did not consider strong liberals and conservatives given the absence of a quadratic effect in this model.

Robustness Checks. We conducted a series of robustness checks to verify our overall conclusions (see *SI Appendix* for details). In particular, we reconducted all analyses reported above using: (i) only tweets that were identifiably positive [using the Evaluative Lexicon, a computational linguistic approach (24, 25)]; (ii) leave-one-out analyses in which we reexamined results excluding each of the 46 Olympians one at a time to ensure that results were not driven by idiosyncratic characteristics of individual athletes; (iii) analyses that tested our models using only a single Olympic event (i.e., swimming, which had the fullest representation of gold medalists across the four demographic categories we consider), to ensure that results were not merely due to liberals or conservatives watching different Olympic events where athletes might tend to be of different demographics; and (iv) analyses that examined the effects of ideology without considering user race or gender, allowing us to use all available tweets (i.e., including tweets from nonblack minorities and those for which user race and/or gender could not be identified). All analyses confirmed the main conclusions.

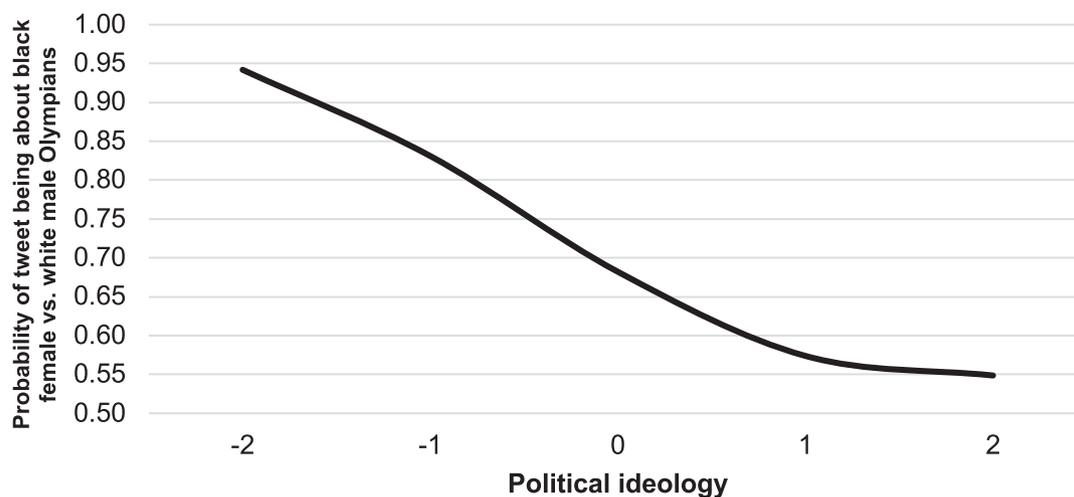


Fig. 3. The probability of a tweet being about black female (vs. white male) Olympic gold medalists based on the political ideology of the tweeter (controlling for tweeter race and gender) in study 1. Positive numbers indicate a more conservative ideology.

Study 2

Our first study provided support for the idea that liberals and conservatives differ in their tendency to promote successful members of disadvantaged vs. advantaged groups. It further suggested that: (i) the effect of ideology was more strongly driven by liberals than conservatives and (ii) the ideological difference was greatest for targets who research suggests may be especially overlooked (i.e., black females) (17, 18). In sum, study 1's results were consistent with our prediction that liberals would be particularly likely to act in ways that preferentially raise the standing of the socially disadvantaged.

Although our first study had significant advantages—including its very large sample, unobtrusiveness, and ecological validity—it also had certain limitations, including its correlational nature and our lack of experimental control over the features of the targets. It also lacked evidence for our proposed mechanism, and remained open to alternative explanations. For example, liberals and conservatives may have differentially tweeted about advantaged and disadvantaged targets because of differences in how often they came across information about them, rather than differences in the motivation—higher, at baseline, among liberals—to raise the profile and standing of disadvantaged groups.

In a second study (preregistered at <https://aspredicted.org/blind.php?x=d42vq9>), we manipulated this motivation, experimentally testing our proposed mechanism among a sample of 788 participants (393 Democrats; 395 Republicans). Under the guise of a cover story in which we told participants that we were studying the effects of having or lacking formal journalism education on evaluation of media content, participants read one of two newspaper articles. In the control condition, the article described a neutral scientific advance related to repairing concrete; in the experimental condition, the article presented evidence suggesting that women and racial minorities systematically receive less recognition and attention than equally meritorious men and whites (see *SI Appendix* for articles). A pretest confirmed that this manipulation increased the drive to raise the profile and standing of successful disadvantaged group members; moreover, there was no evidence suggesting the effect of the manipulation differed across levels of political orientation (*SI Appendix*).

Using the same cover story, we later told participants that we were interested in comparing how those with and without formal journalism training make decisions about which topic experts to connect with media outlets looking for individuals to appear on panels. Participants played the role of a university media relations officer responding to a request from CNN to be connected

to a faculty topic expert. We examined how our experimental manipulation influenced individuals' decisions about whom to select for a high-visibility media opportunity from among accomplished members of advantaged vs. disadvantaged groups. Participants were provided with information about three candidates: two white males and a black female (we chose a black female to represent the disadvantaged category because black females belong to the disadvantaged group on both the race and gender dimensions).

We predicted that individuals who earlier read the article describing the tendency for women and racial minorities to be overlooked would be more likely to select the black female for the high-visibility panel. Our main dependent variable (as pre-registered) was the dichotomous probability of selecting (vs. not selecting) the black female (exploratory analyses examining continuous ratings of support for selecting the black female revealed consistent results) (*SI Appendix*). As predicted, participants exposed to the experimental manipulation were significantly more likely to select the black female for the panel (53.3%) than control participants [42.4%; $\chi^2(1) = 9.45, P = 0.002$]. We also examined the effects when taking participant race and gender into account. Consistent with ingroup favoritism, black participants were, across condition, significantly more likely to select the black female candidate (60.3%) than were white participants [46.3%; $\chi^2(1) = 4.17, P = 0.04$]; similarly, female participants were significantly more likely to select the black female (53.2%) than male participants [40.9%; $\chi^2(1) = 11.56, P = 0.001$]. Still, the main effect of experimental condition remained significant ($P = 0.001$) when we controlled for the effects of racial and gender group membership as well as the race \times gender interaction. We observed no significant interactions between condition and participant race and/or gender (all P s > 0.44).

Our primary analysis therefore confirmed that manipulating our proposed mediator affected individuals' tendency to promote disadvantaged group members. In a secondary analysis, we further considered the role of participants' ideological leanings and how ideology interfaced with our experimental manipulation (we assessed ideology using a composite of self-reported party affiliation and socioeconomic conservatism) (*Methods*). Using logistic regression, we regressed the likelihood of selecting the minority target on experimental condition (effects-coded: +1 = experimental condition; -1 = control condition), political ideology, and their interaction. We observed an effect of experimental condition, confirming that those in the experimental condition [$b = 0.22, P = 0.002, 95\% \text{ CI } (0.08, 0.37)$] were more likely (vs.

those in the control condition) to select the black female. We also observed a significant average effect of political ideology across the two conditions [$b = -0.24$, $P = 0.003$, 95% CI $(-0.39, -0.08)$] such that liberals were more likely to select the black female than conservatives. We observed no significant interaction [political ideology \times condition: $b = -0.25$, $P = 0.75$, 95% CI $(-0.18, 0.13)$], suggesting that the experimental manipulation was similarly effective in increasing the likelihood of selecting the black female among both liberals and conservatives. Of note, however, and in line with liberals' higher baseline motivation to raise the standing of disadvantaged group members, liberals in the control condition were—even without receiving the manipulation—just as likely to select the black female as conservatives in the experimental condition (i.e., 47%) (*SI Appendix*, Fig. S20). [Given the quadratic effects we observed in study 1 (which suggested that the effects of liberalism and conservatism changed nonlinearly as levels increased), we considered effects not only among liberals and conservatives (i.e., those ± 1 SD from the mean on our measure of political ideology), but also effects among strong liberals and conservatives (i.e., those ± 2 SDs from the mean). Study 1's exceptionally large sample size also ensured a large number of participants at the tails of the distribution, yielding reliable estimates of effects for those at ± 2 SDs. We did not observe clear evidence in either study 2 or study 3 for quadratic effects of ideology, and we had fewer participants at the tails of the distribution. Thus, we did not estimate effects in these studies for "strong" liberals and conservatives.]

Study 1 suggested that the ideological differences in promotion of disadvantaged targets were disproportionately driven by the tweeting behavior of liberals (in that they differed from moderates more than conservatives did). Study 2 allowed us to examine ideological asymmetry from a different angle. Because we counterbalanced the information provided about the qualifications of the two white males and the black female, the only systematic difference between the targets were the indicators of their group membership (i.e., names and photographs). Thus, if participants were neutral when choosing between the targets, they would select the black female 33.3% of the time (i.e., at chance). We considered whether each of liberals and conservatives differed from this neutral baseline in the control condition (when they received no specific prime). Conservatives' tendency to select the black female was not significantly different from what would be expected at chance [i.e., 38%, 95% CI (31%, 45%), containing 33.3%]. In contrast, liberals selected the black female at significantly above-chance levels [i.e., 47%, 95% CI (40%, 54%), not containing 33.3%]. Thus, our results were again consistent with the idea that liberals are particularly likely to differentially promote targets as a function of their membership in disadvantaged (vs. advantaged) groups.

Study 3

Study 2 experimentally manipulated our hypothesized mediator—the drive to elevate disadvantaged groups' social standing—and showed that doing so increased the tendency to select successful minorities for high-visibility opportunities. Moreover, the manipulation had similar effects among both liberals and conservatives, even as the ideological difference between liberals and conservatives in differential promotion that we identified in study 1 persisted. Beyond providing causal evidence for our proposed mechanism, study 2 presented all participants with the same set of targets and (counterbalanced) information about them. This helped us rule out potential alternative explanations that we could not address in study 1, such as the possibility that differences between liberals and conservatives in promotion are driven simply by differences in the extent to which they come across information about successful disadvantaged group members to begin with. Still, study 2 had some limitations. For one, participants' decisions about whom to recommend for the high-visibility panel were hypothetical decisions. Moreover, participants were

directly choosing between successful advantaged and disadvantaged group members, potentially increasing participants' attention to our theoretical comparison between them.

In a final study, we sought to provide further evidence for the idea that differences in liberals' and conservatives' baseline desire to elevate the standing of disadvantaged group members contribute to their differential promotion of successful members of advantaged vs. disadvantaged groups. Study 3 investigated the tendency to behaviorally promote targets using a between-subjects design, presenting participants with either an advantaged or disadvantaged target. We also addressed several additional alternative explanations: for example, perhaps liberals are more likely to tweet about successful members of disadvantaged groups simply because they are: (i) more motivated to be or appear nonprejudiced, or (ii) because they perceive that these targets had to overcome more barriers to achieve their success (thereby making their success seem inherently more noteworthy).

We conducted a two-wave experiment, sampling from users who reported having a Twitter account (given that our key outcome involved likelihood of tweeting). In the first wave, we assessed (from among a variety of filler inventories) individuals' drive to raise the standing of disadvantaged groups in society. We also assessed their internal and external motivations to control prejudice (respectively capturing the motivations to be or appear nonprejudiced). One week later we showed participants one of two videos, ostensibly as part of an impression formation task. Participants were randomly assigned to watch one of two real TED talks given by a successful astrophysicist describing efforts to identify new planets. One talk was given by a black female (Aomawa Shields) and the other by a white male (Jeremy Kasdin) (see *SI Appendix* for video links). After watching the video, participants rated the target on a variety of filler items relevant to the cover story. Participants then rated how hard they thought the target had to work to achieve their career success. We had two outcome measures of interest. First, we asked participants how motivated they were to promote the target and publicize his or her work. Second, we gave participants the opportunity to actually tweet the target's video (participants were asked whether they were interested in spreading the target's message, selecting from "Tweet" and "No" buttons). We focus here on the tweeting behavior; results for self-reports about the desire to promote the target were highly consistent and are available in *SI Appendix*.

We had 2,387 participants (1,227 Democrats, 1,160 Republicans) completing both waves of our experiment. Consistent with our theorizing, at wave 1 liberals reported being more motivated than conservatives to raise the standing of disadvantaged group members ($r = -0.56$, $P < 0.001$). Liberals had a higher internal ($r = -0.30$, $P < 0.001$) but a lower external ($r = 0.12$, $P < 0.001$) motivation to control prejudice than conservatives.

Turning to our primary outcome measure, we examined participants' probability (at wave 2) of tweeting the video of the target as a function of their political ideology and experimental condition: that is, whether they saw the video by the black female (+1) vs. white male (−1). [When participants chose the "Tweet" button in our survey, a pop-up window linked to their Twitter account provided a prepopulated tweet ("Check this out!") including a link to the video. Because some of the Twitter users from whom we collected data had private Twitter accounts, we relied for our dependent measure on the choice to click the "Tweet" (vs. "No") button.] Logistic regression [using the PROCESS macro, model 1 (26)] examining the probability of tweeting (+1 = Tweet; 0 = No) confirmed a condition \times political ideology interaction [$b = -0.13$, $P = 0.007$, 95% CI $(-0.23, -0.04)$]. As predicted, liberals were significantly more likely than conservatives to tweet about the black female [$b = -0.17$, $P = 0.01$, 95% CI $(-0.30, -0.04)$]. In contrast, liberals and conservatives did not differ from one another in their proclivity to tweet about the white male [$b = 0.09$, $P = 0.20$, 95% CI $(-0.05, 0.23)$]. Of note, and as

in study 2, liberals differentiated more on the basis of target group membership in their promotion than conservatives: whereas liberals were significantly more likely to tweet the black female's TED talk (37.5%) than they were the white male's [25.0%; $b = 0.59$, $P < 0.001$, 95% CI (0.34, 0.84)], conservatives showed no significant difference [black female: 30.4%; white male: 28.3%; $b = 0.10$, $P = 0.43$, 95% CI (-0.15, 0.35)].

What could help explain liberals' greater proclivity than conservatives to tweet about black females? As predicted, the desire to raise the standing of disadvantaged group members (measured at wave 1) was correlated with the probability of tweeting about the black female at wave 2 ($r_{pb} = 0.15$, $P < 0.001$). The probability of tweeting about the black female was also correlated with the internal ($r_{pb} = 0.10$, $P < 0.001$) but not external ($r_{pb} = -0.01$, $P = 0.78$) motivation to control prejudice, as well as greater perceptions that the target had worked hard to achieve success ($r_{pb} = 0.10$, $P < 0.001$).

When these four predictors were entered simultaneously into a logistic regression model, the desire to raise the standing of disadvantaged group members was the only significant predictor of greater proclivity to tweet about the black female [$b = 0.20$, $P < 0.001$, 95% CI (0.09, 0.32)]; internal motivation to control prejudice: $b = 0.02$, $P = 0.68$, 95% CI (-0.09, 0.14); external motivation to control prejudice: $b = 0.01$, $P = 0.76$, 95% CI (-0.07, 0.09); perception of hard work: $b = 0.09$, $P = 0.15$, 95% CI (-0.04, 0.22)]. Moreover, in a parallel multiple mediator model (using PROCESS macro, model 4), indirect effects analyses revealed that the greater proclivity for liberals to tweet about the black female relative to conservatives was significantly mediated by the desire to raise the standing of disadvantaged group members [indirect effect = -0.19, 95% CI (-0.32, -0.09)], controlling for the other process variables, none of which exerted significant indirect effects (Fig. 4).

Independently examining participant gender revealed it to be unassociated with tweeting about the black female [$b = -0.04$, $P = 0.52$, 95% CI (-0.32, 0.20)]; examining race, however, we did observe that black participants were more likely than whites to tweet about the black female [$b = -0.50$, $P = 0.02$, 95% CI (-0.90, -0.10)]; there was no participant race \times participant gender interaction: $b = -0.50$, $P = 0.23$, 95% CI (-1.31, 0.31)]. Even when we controlled for participant race, however, the indirect effect from political ideology to tweeting about the black female through the desire to raise the profile of disadvantaged groups remained

significant [indirect effect = -0.16, 95% CI (-0.28, -0.04); the same was true if we also added gender and race \times gender as controls: indirect effect = -0.16, 95% CI (-0.28, -0.03)].

In sum, study 3 provides more evidence that liberals are more likely than conservatives to differentially promote the successes of disadvantaged (vs. advantaged) group members, and indicates that an important part of the reason is because they are more motivated to raise the standing of disadvantaged group members. Moreover, study 3 suggested that this pattern could not be explained by lower prejudice among liberals or by any heightened desire among liberals to appear nonprejudiced. Similarly, although liberals were more likely than conservatives to perceive that a successful black female had worked hard to achieve her success, this perception did not significantly account for liberals' heightened tendency to tweet about her.

General Discussion

The tendency for the accomplishments of members of disadvantaged groups to be overlooked has captured the attention—and ire—of certain segments of the public. Might some individuals act to shine a spotlight on the relatively overlooked? Here, we considered whether, beyond their membership in advantaged or disadvantaged groups, individuals' political ideology would predict the extent to which they highlighted the successes of members of advantaged vs. disadvantaged groups. In particular, we tested whether political liberals—who endorse the principle of social equality more than conservatives—would preferentially amplify the successes of disadvantaged group members, behavior that might help diminish the gap between groups at the top and those at the bottom.

We examined these questions using a combination of observational and experimental methods, providing evidence both for overall differences in behavior between liberals and conservatives and for an underlying mechanism. Study 1 utilized a unique dataset comprised of the naturalistic tweeting behavior of hundreds of thousands of individuals during a consequential and highly salient event (i.e., the 2016 Olympic Games). We employed recent advances in data science to measure users' political ideology, as well as their race and gender. Our results revealed substantially different patterns of behavior among liberals and conservatives: the more politically liberal individuals were, the more likely it was that a given tweet from them was about successful black or female Olympians.

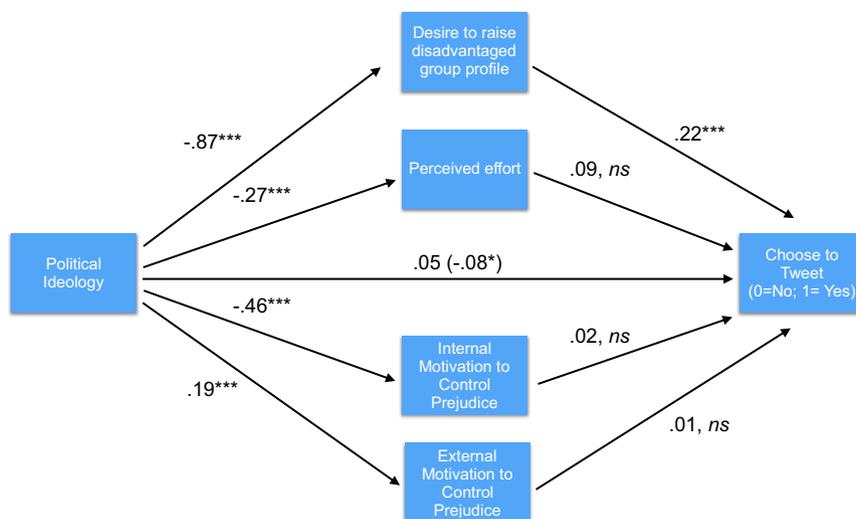


Fig. 4. Indirect effects model linking political ideology (lower scores = more liberal; higher scores = more conservative) to the proclivity to tweet a TED talk by a black female via liberals' higher desire to raise the profile of disadvantaged group members in study 3. * $P < .05$; *** $P < 0.001$; ns, not significant.

In study 2, we provided experimental support for the mechanism underlying these effects. When the desire to raise the standing and profile of disadvantaged group members was experimentally strengthened, we found that individuals in the experimental (vs. control) condition became more likely to select a qualified black female (vs. white male) candidate for a high-visibility media opportunity. Notably, even as the manipulation had similar effects on liberals and conservatives, liberals remained more likely than conservatives to select black females, consistent with their higher baseline drive to raise the standing of disadvantaged group members.

A final study again confirmed the effects of ideology on differential amplification: liberals were more likely than conservatives to tweet about a TED talk featuring a black female (but not a white male) scientist. Study 3 provided further evidence for the mechanism, showing that liberals' heightened tendency to promote the video featuring the black female was mediated by their greater drive to raise the standing of disadvantaged group members (and not mediated by alternative constructs, such as a higher concern among liberals with appearing nonprejudiced). Across studies, the effects of political ideology held controlling for participant race and gender (as well as their interaction), thereby showing that the results could not be accounted for by ingroup favoritism (i.e., individuals' tendency to tweet more about successful targets from their own gender or racial ingroup) (see also refs. 27 and 28).

Our work makes several empirical and theoretical contributions. First, existing work suggests that liberals and conservatives purchase different science books (29), engage with different news media online (30), and interact primarily within ideologically homogenous enclaves (22). Our work adds to this research, suggesting that, even when it comes to targets, such as highly accomplished scientists or national heroes competing on behalf of their country, liberals and conservatives may celebrate and promote the successes of targets differently depending on these targets' membership in socially advantaged or disadvantaged racial and gender groups.

Second, our research adds specifically to a body of work examining how individuals' motivations toward social hierarchy manifest. Existing research suggests that individuals' beliefs about the desirability of social equality predict a variety of outcomes, including who they include or exclude from their groups, who they extend empathy to, the jobs they pursue, the social policies they support, and the degree of inequality they perceive in society (27, 31–33). Our work suggests that beliefs about the desirability of equality may even influence the groups that individuals choose to promote, providing behavioral evidence of one means by which those who oppose vs. favor inequality might contribute to reducing or maintaining social discrepancies.

Third, our work contributes to theorizing on intersectionality. Given our reasoning that liberals tweet about targets as a result of a motivation to raise the profile of disadvantaged group members whose accomplishments are otherwise overlooked, we predicted that they might be particularly likely to amplify the successes of targets belonging to doubly disadvantaged groups. We examined this in study 1, where we had white male, white female, black male, and black female targets. Indeed, when contrasted against their pattern of tweeting about white men, tweets from liberals were especially likely to be about black women (compared with white women or black men). This is interesting in light of work on intersectional invisibility (18), which suggests that minority women are especially ignored. Combined with the evidence for mechanism in studies 2 and 3, this result bolsters our interpretation that our effects reflect the behavioral expression of a motivation to promote the disadvantaged; it also highlights one factor (i.e., political liberalism) that predicts greater attunement to those who belong to groups who oftentimes go unnoticed.

Fourth, our work adds to the debate on ideological asymmetries. Research has generally provided evidence for motivated reasoning and behavior across the ideological spectrum, but debated whether liberals or conservatives are more responsible (15, 19–23). Our results suggested that the tendency to differentially promote targets as a function of their membership in disadvantaged or advantaged groups was driven more by liberals than conservatives. In study 1, liberals' tendency to tweet about members of disadvantaged groups more than political moderates was of greater magnitude than conservatives' corresponding tendency to tweet about them less than moderates. In the control condition of study 2 (i.e., at baseline, in the absence of an experimental prime), conservatives chose between a black female and white male candidates at chance levels (i.e., not differentiating on the basis of target group membership). In contrast, liberals preferentially selected the black female. And in study 3, conservatives were equally likely to tweet a video of a TED talk by a prominent astrophysicist whether they were in the white male or black female condition, whereas liberals were significantly more likely to tweet the video when they were in the black female (vs. white male) condition. Although we make no claims about the righteousness of this differential promotion, our work does suggest that there are contexts in which liberals might differentiate on the basis of group membership more than conservatives. It may be that liberals differentiate more on the basis of target background because they perceive that the status quo is inherently inequitable (i.e., that successful disadvantaged group members currently receive less attention than equally meritorious members of advantaged groups). Contexts in which the status quo is already equal (or more equal) might reveal a different pattern.

Limitations and Future Directions. Despite the important advances made by our research, it is not without limitations. For one, it is worth noting that we had little control over the number (and features) of the targets we were able to include in study 1. Although we had good variability in the number of Olympians across the racial and gender domains, idiosyncratic features of the 46 US gold medalists (i.e., all gold medalists who met our inclusion criteria) might have mattered. For example, we could not ensure that the gold medalists in each category were equally prominent at baseline. We observed a low proportion of tweets about black male gold medalists, likely because we focused on tweets after athletes won their gold medals, and most black male gold medalists happened to win toward the very end of the Olympics (*SI Appendix*). But the set of black male gold medalists in 2016 may have also simply happened to be less prominent (all else equal) than gold medalists in some of the other demographic categories (e.g., white males like Michael Phelps). This fact makes it difficult to make any theoretical claims in study 1 on the basis of comparing the overall number of tweets across demographic categories, but—critically—it does not compromise our main goal of examining how tweets that are made about a given category of gold medalists are associated with individuals' ideological leanings. [For example, we do not seek to interpret the fact that there was a greater average tendency in our sample to tweet about women than more about men (even among conservatives), and instead focus on how individuals' relative distribution of tweeting across demographic category varied as a function of their ideology.] Moreover, our leave-one-out robustness check helps mitigate any concern that our results were driven by unique features of any one athlete (*SI Appendix*). Our experiments also help to ameliorate these concerns. For example, in study 2, we counterbalanced the information describing the qualifications of the candidates from among whom the participants chose for the high-visibility media panel, ensuring that the only difference between the candidates was their membership in an advantaged or disadvantaged group (as indexed by their name and photo). Still, it would be valuable to examine our effects in a broader range of settings (e.g., examining naturalistic tweeting

about Nobel Prize Laureates or Oscar winners as a function of these targets' group membership) as well as using a wider range of experimental stimuli. [Indeed, it is worth noting that although we attempted in study 3 to select two TED talks that were as closely matched as possible (aside from presenter group membership), we were limited by availability of talks from which to choose. Thus, (and similar to study 1), inferences drawn about ideological differences in the willingness to tweet within a given target condition are clearer than comparisons made about the willingness to tweet across target conditions.]

Although we provided clear evidence for our proposed mechanism, it would also be helpful to further explore the role of several of the alternative explanations we considered. The results of study 3 suggested, for example, that our effects were mediated by a desire to raise the profile of successful disadvantaged group members, and could not be reduced to liberals' desire to avoid appearing prejudiced. Still, it seems plausible that elevating individuals' concerns about appearing prejudiced or increasing their desire to signal their virtue in front of other members of their ideological group (i.e., other liberals) could also lead them in some contexts to shine a spotlight on disadvantaged group members' successes. And finally, although we provided evidence for our effects even when individuals were exposed to the same information, it seems likely that, in naturalistic settings, some differential promotion behavior among liberals and conservatives might be driven by differences in how much they encounter the successes of disadvantaged vs. advantaged group members.

Our work also poses several interesting questions for further investigation. For one, it would be interesting to examine the extent to which individuals who shine a spotlight on successful disadvantaged group members are doing so as part of a conscious strategy to raise the social standing of disadvantaged groups, or whether this process occurs outside awareness. That is, a liberal might want to tweet about a successful black female because it shines a spotlight on a group who they would like to see achieve a higher social standing, even if they do not explicitly reason that their actions will help fulfill this motivation. Although both possibilities are compatible with our theorizing, it would be worth disentangling their relative prevalence among different individuals.

Future work could also extend the current investigation by considering patterns of tweeting about unsuccessful or low status targets. Might conservatives be more likely than liberals to tweet about members of disadvantaged groups who engage in negative behavior because doing so helps to justify the existing social hierarchy? Would liberals promote the failures of advantaged group members to help challenge it? Examining whether patterns of promotion extend from shining a spotlight on targets' successes to highlighting their failures would shed further light on our theorizing.

Conclusion. On its surface, the question of whose successes we promote might not appear overtly political or particularly consequential. But when disadvantaged group members' successes are systematically overlooked in favor of those at the top, social inequality is likely to become further entrenched and come to seem all of the more natural. In an age of increasing ideological dissensus, our work shows that whose successes we deem worth publicizing depends to a large degree on how our politics lean, even when these successes are on behalf of one shared nation. Better understanding both the roots of these processes and their social consequences is imperative.

Methods

Study 1. We identified those US Olympians who had won a gold medal at the 2016 Summer Olympics for either an individual event or as part of a team in which the Olympian's own contributions were clearly identifiable (e.g., where the members would compete separately, as in gymnastics, or as part of a relay made up of individual legs, as in the 4 × 100-m track and field

relay). We excluded biracial gold medalists (given their ambiguous group membership) and Ryan Lochte (because he became embroiled in a prominent controversy, making it more difficult to interpret tweets about him as reflecting amplification of success). We further excluded one gold medalist (Virginia Thrasher) because her event (sports shooting) is tied to the strongly partisan issue of guns, but all conclusions were robust to her inclusion. Our final sample included 46 gold-medal winning Olympians (see *SI Appendix* for further details).

We collected tweets using Twitter's search function (34) that contained at least 1 of 115 keywords we identified as referring to a given Olympian (e.g., AlyRaisman, GabbyDouglas). We obtained tweets referring to a given Olympian only after that Olympian won his or her first gold medal so as to ensure that the tweets were primarily promoting the Olympian (see *SI Appendix*, Table S1 for the specific keywords and dates).

To identify tweeters' political ideology, we employed a validated approach that utilizes a latent space model (21). Drawing on the insight that individuals tend to associate with others who share their political views (i.e., homophily), this model quantifies tweeters' political ideology based on the ideological leanings and party membership of well-known political individuals or organizations they follow. Following prior work, we used only those users who followed at least three of these political accounts to provide an accurate measure of ideology (21). To identify individuals' race and gender, we used a validated machine-learning approach that utilized users' Twitter profile picture (35). Specifically, we extracted the profile picture for each of the Twitter users in our sample and then used deep-learning (<https://www.faceplusplus.com/>) to identify whether there was a single face in the picture and then the gender and race of that face. This approach categorizes faces as either male or female and white, black, or Asian. Given that we sought to examine the effect of political ideology above-and-beyond possible ingroup favoritism and given there were no Asian American gold-medalist Olympians (excluding biracials), we retained only those users who were either white or black (but see *SI Appendix* for analyses including all users, which yielded similar conclusions).

Study 2. Following our preregistration plan, we recruited 800 participants split evenly between individuals identifying as (or leaning toward) Democrat and Republican, on Amazon's Mechanical Turk. We removed 12 participants who asked that we not use their data, leaving 788 (see *SI Appendix* for demographics). We followed Pew's methodology for identifying party affiliation (36), asking people to indicate whether, in politics today, they consider themselves Democrat ($n = 265$), Republican ($n = 263$), or Independent ($n = 260$). Those choosing Independent received a forced-choice item asking whether they lean more to the Republican ($n = 132$) or Democratic ($n = 128$) party, and were included in the category they chose (as in prior work (37), which has shown that those who lean Republican or Democrat are in fact very similar psychologically to those who, respectively, select "Republican" or "Democrat"). To form our measure of political ideology, we combined (i) participants' party preference (+1 = Republican; 0 = Democrat) and (ii) their average response on a two-item scale (capturing each of social and economic liberalism/conservatism: 1 = economically/socially liberal; 7 = economically/socially conservative; $r = 0.71$, $P < 0.001$). Party preference and liberalism/conservatism were z-scored and then averaged to form our composite ($r = 0.69$, $P < 0.001$). We used both party preference and social and economic liberalism/conservatism to assess political ideology given that the algorithm in study 1 assessed Twitter users' political ideology based on both the party affiliation and known political leanings of targets they followed. Results were robust if we excluded "leaners," or indexed ideology using either of party affiliation or socio-economic liberalism/conservatism alone (rather than forming a composite from them) (*SI Appendix*).

Using a cover story, we told our participants that we were investigating the effects of having (vs. not having) formal education in journalism on opinions and decisions relating to news media. After completing a variety of filler items reinforcing this cover story, participants read a newspaper article (purportedly to evaluate its writing quality and to generate a headline for it). The experimental article described the tendency for minorities and women's accomplishments to be overlooked, whereas the control article described a neutral scientific advance (*SI Appendix*). Participants then moved onto a separate task, again framed as relevant to comparing those with journalism training to those without. They were asked to play the role of a university's Director of External Relations, responding to a request from CNN to be connected with one faculty member to appear on air as part of an expert panel. Participants chose from among three candidates—two white males and one black female—who were presented alongside a photograph and a short biography describing their qualifications (the biographies were counterbalanced).

Study 3. We set a target sample of 2,400 participants completing both waves of our study, split evenly (as in study 2) between individuals identifying as (or leaning toward) Democrats and Republican, on Amazon's Mechanical Turk. We tripled the target sample size from study 2 because we reasoned that a substantial proportion of participants might choose not to tweet for any number of reasons unrelated to experimental condition, reducing our power to detect effects. There were 3,152 participants who completed wave 1, of whom 2,404 (i.e., 76.3%) completed wave 2. We removed 14 participants who asked that we not use their data, as well as 3 participants who had missing data on the question asking them if we could use their data, leaving 2,387 participants (attrition analyses suggested little difference between those who did vs. did not complete both waves) (*SI Appendix*). Of these, 835 identified as Democrat, 727 as Republican, and 825 as Independent (of whom 433 leaned Republican and 392 leaned Democrat; see *SI Appendix* for full demographics). We assessed political ideology as in study 2 (as in study 2, results were robust to various operationalizations of ideology) (*SI Appendix*).

In the first wave of what was described as an "impression formation" study, participants provided their Twitter handle, and then completed demographics as well as filler personality and learning style inventories. Participants next completed both the five-item internal motivation ($\alpha = 0.85$) and five-item external motivation to control prejudice scales ($\alpha = 0.85$) (38) (responses were on a 1 = strongly disagree to 7 = strongly agree scale throughout, unless otherwise noted). Finally, participants completed a 10-item scale assessing their desire to promote the standing of women and minorities (e.g., "It is important to highlight the positive things that women and minorities do"; $\alpha = 0.93$).

One week later, participants were asked to watch a video and provide their impression about a target individual. We showed participants one of two real TED talks (edited for length; each was ~5 min) (*SI Appendix*) from an astrophysicist describing scientific efforts to identify new planets. One talk was given by Jeremy Kasdin (a white male) and the other was given by Aomawa Shields (a black female). After watching the video, participants rated the target on 12 filler traits (e.g., "creative," "annoying"). Next, they assessed how hard the target had worked to achieve their success on a three-item scale (sample: "[Target] had to work extremely hard to get where she is in life"; black female condition: $\alpha = 0.75$; white male condition: $\alpha = 0.74$). Participants next answered a four-item scale assessing how likely they would be to promote the target and publicize his or her work (e.g., "How likely would you be to tweet the video about [target]?"; "How likely would you be to tell others about [target]?"; black female condition: $\alpha = 0.92$; white male condition: $\alpha = 0.92$). Finally, participants were given the opportunity to tweet the target's video. Specifically, they saw, "Interested in spreading [target's] message? Click the 'Tweet' button below!" For our dependent variable, we recorded whether participants clicked on the "Tweet" button (scored as +1) or instead chose "No" (scored as 0). For participants who clicked the Tweet button, a new window opened linking to Twitter with a prepopulated tweet including the link to the video and "Check this out!"

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