People are more tolerant of inequality when it is expressed in terms of individuals rather than groups at the top

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Despite the ever-growing economic gap between the very wealthy and the rest of the population, support for redistributive policies tends to be low. This research tested whether people's tolerance of inequality differs when it is represented in terms of a successful individual versus a group of people at the top of the economic ladder. We propose that drawing people's attention to wealthy individuals undermines support for redistribution by leading people to believe that the rich person's wealth is well deserved. Across eight studies (n = 2,800), survey participants rated unequal distributions of resources as more fair when presented with an individual, rather than a group, at the top of the distribution. Participants also expressed lower support for redistributive policies after considering inequality represented by successful individuals compared to groups. This effect was driven by people's different attributions for individual versus group success. Participants thought that individuals at the top were more deserving of their successes and, in turn, were less likely to support redistribution when inequality was represented by individual success. These findings suggest that support for inequality, and policies to reduce it, may depend on who people are led to consider when they think about the top of the economic distribution.

inequality | fairness | attribution | individuals versus groups | policy

Much has been written about the problem of accelerating economic inequality and the lack of action to deal with it (1–4). Gaps between genuine concern and effective action are common, of course, and part of the reason for inaction in this case is the pronounced difference of opinion across the political spectrum about the perceived severity of the problem and the best ways to deal with it (5). Liberals consider inequality to be a much more significant problem than conservatives do (6) and tend to be more in favor than conservatives of solutions geared toward redistribution (5).

Although political differences may forestall some efforts to address economic inequality, we present evidence that people also vary in their desire to take action because of pronounced differences in the importance they attach to the problem depending on how it is expressed. We argue that people are more tolerant of inequality when thinking about an individual at or near the top of the economic ladder; they are decidedly less tolerant of the very same level of inequality when thinking about a group at the top. Indeed, people tend to be rather comfortable with the earnings of individual entrepreneurs, investors, movie stars, or sports figures but all too ready to complain that all of them, as classes of wealthy people, are overpaid (7).

There are other examples wherein people tend to like the individual members of a category more than the collection of individuals that make up the category, a phenomenon known as the "person-positivity bias" (8). Voters tend to like their own congressperson but revile Congress (9), and survey respondents have more favorable opinions of individual corporations than of "corporations" as a whole (10). These discrepancies are generally attributed to different standards of evaluation or the different types of information that people encounter about the broad category versus the individual entities that make up the category. Congress tends to be judged by the overall health of the economy or the mood of the country, whereas a person's own representative is judged by personal attributes and efforts to reach out to constituents. And people often think of "corporations" when reading about efforts to stifle competition, lay off workers, or lobby Congress but think of specific companies like Johnson & Johnson, Southwest Airlines, or Lowe's when shampooing their child's hair, getting to a vacation spot on time, or sprucing up the backyard.

The success of individuals at the top can also seem more inspiring and exciting than the success of groups or entities. Research on the "streaking star effect" has shown that people want to see streaks of success on the part of individuals continue more than they do equivalent streaks of success by groups (11). Sports fans, for example, want to see the likes of Serena Williams, Usain Bolt, or Michael Phelps continue their runs of extraordinary success, but they quickly tire of—and start to root against—successful teams like the New England Patriots, Golden State Warriors, Manchester United, or New York Yankees. The streaking star effect has been credited to the sense of awe that sustained individual success tends to inspire. Although fans may not know the precise details of the magic responsible for the success of athletes like Williams, Bolt, or Phelps, they do know that these athletes' success is clearly and unambiguously due to something about them. Their accomplishments therefore inspire awe, a decidedly positive emotion that people generally want to continue to experience as the

Significance

Economic inequality in the developed world has increased substantially over the past several decades. During the COVID-19 pandemic, billionaires saw their wealth increase while many people struggled to meet basic needs. Redistributive policies like wealth and inheritance taxes would reduce this inequality, but broad public support for these policies is elusive. This research finds that the wealth of successful individuals may reduce support for redistribution because people are more likely to believe that the wealth of individuals, rather than groups, at the top is well earned. These findings suggest that the way inequality is presented—with either groups or individuals at the top—affects people's attributions for how wealth is earned and their tolerance of growing inequality.

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athlete's success continues. Group success, in contrast, is often less awe inspiring because the causes responsible for it are less clear. Is it the outsized contributions of one particular team member? An unusual level of team cohesion? Inspired leadership? This sense of attributional ambiguity and causal diffusion undermines any sense of excitement and awe that a similar run of success by an individual would inspire.

We argue that it is this broader attributional pattern that leads people to be more tolerant of economic inequality when it is presented in terms of an individual at the top rather than a group at the top. Past research has shown that people tend to attribute the behavior and outcomes of individuals—their successes and failures included—more to their internal traits and aspirations than they do for the behavior and outcomes of groups (12, 13). Thus, the success of an individual at the top of the economic ladder is likely to be attributed to the person's creativity, foresight, and effort, whereas the success of "the wealthy," "the 1%," or the economic elite is more likely to invite thoughts about privilege and societal structures that work to their benefit. We therefore propose that the tremendous financial rewards of individuals at the top tend to be seen as more fair than those accrued by the class of people at the top because individual success is more likely to be attributed to that person's hard work, talent, and ingenuity. This belief that an individual's success was more fairly earned than a group's economic success may in turn diminish people's appetite for policies that would narrow the economic gap.

We conducted eight studies to examine whether people's feelings about economic inequality, and policies to reduce it, are influenced by whether it is expressed in terms of an individual at the top of the economic ladder or a group. In particular, we compared people's assessments of how much greater an individual chief executive officer's (CEO's) salary should be relative to that of an average worker with their assessments of how much greater CEOs' salaries generally should be relative to that of the average worker. We also examined whether the greater financial resources available to one competitor over another is considered more fair, and less in need of remediation, if the competition is between two individuals rather than two teams or two companies. To more formally study the proposed mechanism, we tested whether people's attributions for individuals were closer to those of groups when situational reasons for the individual's success were provided. In another study, we presented participants with statistics detailing the wealth of one (of several) of America's 25 richest people or the average wealth of the country's richest 25 people. We then asked participants how fair they thought that level of wealth was and whether they favored the imposition of a wealth tax designed to narrow the gap. Finally, we presented participants in two studies with a cover of *Forbes* magazine that featured seven members of the "billionaires club" or one of seven different covers that featured one of the seven billionaires. We then asked them how much the person or persons on the cover deserved their fortune and whether they favored the imposition of an inheritance tax. Across these studies, we found consistent support for the central hypothesis: people show greater tolerance for economic inequality when thinking about individuals at the top.

Study 1: How Much Should CEOs Make?

We recruited 201 survey participants from the online recruitment platform Prolific Academic in exchange for modest compensation. Participants were randomly assigned to either the "group" or "individual" condition. Those in the group condition read that the salaries of the CEOs of the largest 350 companies in America had grown substantially relative to that of the average worker in recent years—from 48 times that of the average worker in 1995 to 372 times today. These participants also read that these 350 companies had grown substantially during that same time period, which many observers attributed to the leadership of the CEOs. Those in the individual condition read about one specific company in the top 350, Avnet, a manufacturer of electronics components. They further read that the salary of the company's CEO, Robert Eisen, had grown from 48 times that of the average worker at the company in 1995 to 372 times today and that many observers attributed Avnet's growth to Eisen's leadership. Participants in both conditions then indicated how many times greater the CEO's salary (or CEOs' salaries) should be compared to that of the average worker, using a sliding scale from 1 to 500 times that of the average worker.

Results. Participants had very different opinions about how much more the CEO should make relative to the average employee depending on whether they were thinking about the class of CEOs from the 350 biggest companies in the United States versus a specific CEO from one of those 350 companies. Although both groups thought the ratio of the salary of the CEO to the average employee should be less than what they were told it currently was, those in the individual condition thought it should be significantly higher ($M = 122.8$, $SD = 116.7$) than those in the group condition ($M = 92.7$, $SD = 97.6$), $t(199) = 1.99$, $P = 0.048$, $d = 0.28$. People seem to be more tolerant of the lavish levels of compensation for those at the top and the increased inequality that such compensation has spawned when it is an individual CEO being compensated rather than CEOs as a group.

The results of this study, and all subsequent studies, are not materially different when controlling for age, gender, income, or political orientation. Thus, the analyses that include these measures are not discussed further.

Studies 2a and 2b: How Fair Is a Given Gap in Economic Resources?

One problem with high levels of inequality is that they can be self-perpetuating or self-exacerbating. Those at the top of the economic ladder have access to resources that give them a competitive advantage, which can be used to further their success. Are people less troubled by these comparative advantages when they play out in competition between individuals rather than groups? To find out, we conducted two surveys in which we described a competition between adversaries—either between two individuals or two teams—with access to very different financial resources.

In Study 2a, 399 participants recruited from the online recruitment platform Amazon Mechanical Turk read about a contest either between tennis players Roger Federer and Marin Čilić or between the New York Yankees and New York Mets. Half of the sample read that Federer has an unusually large training budget that allows him to hire better coaches, trainers, and hitting partners, whereas Čilić's training budget was closer to the average of players who qualify for the four "major" tournaments (Wimbledon, and the French, US, and Australian Opens). The other half of the sample read that although the Yankees and Mets share the same media market, the Yankees have one of the highest payrolls in Major League Baseball, whereas the Mets' payroll is closer to the league average. Participants in both conditions then read about an actual competition between the two players/teams that was won by the player/team with greater resources. Participants then rated on a nine-point scale how fair they thought the outcome of the competition was, how fair they thought the distribution of resources was, and how fair a "luxury tax" would be that redistributed resources from the wealthier competitors to the less wealthy competitors.

Study 2b was a direct replication of 2a, but it involved a competition unknown to the participants so that their responses could not be influenced by any preexisting knowledge or feelings about the competitors in question. Perhaps participants have a more favorable view of Federer's advantage over Čilić than they do of the Yankees' advantage over the Mets simply because more participants have greater affection for Federer than they do for the Yankees. To make sure that no such considerations played a role in our findings, we told 200 Prolific Academic participants about

the obscure Italian sport Calcio Fiorentino (or Florentine Kick Game). Sometimes described as a cross between rugby and mixed martial arts, Calcio Fiorentino is a competition between two teams of 27 players in which the goal is to move a ball from one side of the field to the other. A unique element of Calcio is that there are no fouls: players are free to kick, punch, and tackle one another to advance their aims.

Participants in the "team" condition read about teams from Milan and Naples and how one team had twice the financial resources as the other to spend on players, coaches, and training. The team that was described as wealthier (Milan or Naples) was counterbalanced. The other half of the participants, those in the individual condition, read that Calcio was a one-on-one sport and learned about two Calcio players: Lorenzo Marri and Dario Nardella. One player was said to have twice the financial resources as the other to spend on coaches, training, and pre- and postmatch treatment for injuries. The player who was described as wealthier (Marri or Nardella) was counterbalanced. All participants then read about a recent match between the teams/individuals in which the team/individual with the superior resources was victorious. Participants then rated on a nine-point scale how fair they thought the outcome of the competition was, how fair they thought the distribution of resources was, and how fair a luxury tax would be.

Results. Regardless of whether participants might have known about the competitors (Federer versus Čilić, Yankees versus Mets) or not (Marri versus Nardella, Milan versus Naples), they thought the victory by the better-financed individual competitor was more fair than the victory by the better-financed team. They thought it was more fair that Federer beat Čilić ($M = 6.73$, $SD = 1.92$) than that the Yankees beat the Mets ($M = 6.17$, $SD = 2.11$), $t(397) = -2.76$, $P = 0.006$, $d = 0.28$, and that the wealthier Calcio player beat the less wealthy Calcio player ($M = 5.52$, $SD = 2.15$) than that the wealthier Calcio team beat the less wealthy Calcio team ($M = 4.64$, $SD = 2.17$), $t(198) = 2.88$, $P = 0.004$, $d = 0.41$. They also thought that the skewed distribution of resources between Federer and Čilić ($M = 5.63$, $SD = 2.30$) was more fair than that between the Yankees and Mets ($M = 4.99$, $SD = 2.47$), $t(397) = -2.67$, $P = 0.008$, $d = 0.27$, and that the distribution between the two Clacio players ($M = 4.34$, $SD = 2.18$) was marginally more fair than that between the two Calcio teams ($M = 3.80$, $SD = 2.02$), $t(198) = 1.82$, $P = 0.07$, $d = 0.26$, respectively (Fig. 1).

Across the two studies, participants were more in favor of a luxury tax that would address the imbalance between the Yankees and Mets ($M = 5.37$, $SD = 2.48$) and the two Calcio teams ($M = 5.63$, $SD = 1.96$) than one that would address the imbalance between Federer and Čilić ($M = 4.53$, $SD = 2.65$) and the two Calcio players ($M = 5.00$, $SD = 2.23$), $t(397) = 3.26$, $P = 0.001$, $d = 0.33$ and $t(198) = 2.12$, $P = 0.035$, $d = 0.30$, respectively (see Fig. 3). Finally, mediation analyses revealed that the difference in support for a luxury tax in both studies was mediated by participants' belief that the financial imbalance between the individual players was more fair than that between the teams (*SI Appendix*, Figs. S1 and S2).

Study 3: Do People Have Different Views About Inequality at Different Times Depending on How Inequality Is Presented?

We have seen that people are more troubled by economic inequality when they are led to think about the wealthy as a group rather than a particular wealthy individual. An especially powerful test of this effect would come from a within-subjects design in which participants were asked their opinion about the same level of inequality twice—once when described in terms of an individual at the top and once when described as a group of people at the top. To conduct such a test, we recruited 200 participants from Prolific Academic. Participants were randomly assigned to read first about either a Korean Chaebol (a conglomerate) or an individual

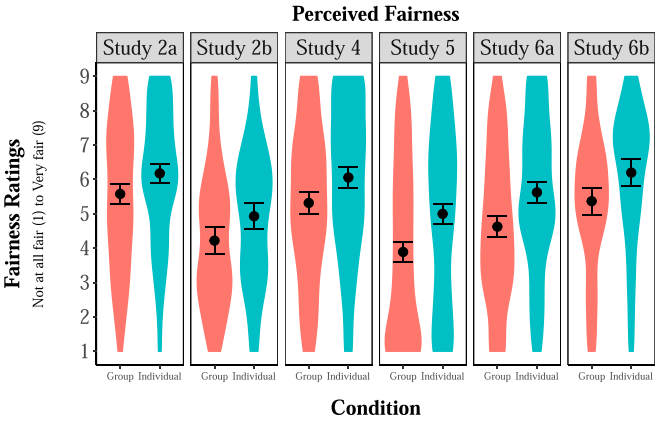

Fig. 1. Comparison between participants' beliefs about the fairness of the level of inequality described in the group versus individual conditions in Studies 2a, 2b, 3, 4, 5, 6a, and 6b ($n = 2,599$). Each of these studies contained items measuring the perceived fairness of a stated resource distribution along with other similar items, and within each study responses were averaged to create a composite fairness rating. Plots depict distributions, with dots and error bars indicating means and 95% CIs. Across all studies, participants in the individual conditions rated the unequal distributions as more fair than participants in the group conditions, *P* values in order: 0.006, 0.01, 0.004, 0.001, <0.001, <0.001, 0.003.

Korean businessman who had accumulated greater wealth than any of its/his competitors. Participants then read about a competition to land a large government contract. As a result of having accumulated greater wealth than the other competitors, the Chaebol/businessman was said to be able to spend more than the other competitors to land the contract—to hire the top public relations firm and make their pitch at the best hotel in the city, with refreshments provided by one of Korea's top chefs.

Participants learned that the efforts of the Chaebol/businessman had paid off and it/he won the contract. They then rated how fair they thought the outcome of the competition was and how fair they thought the resource distribution was between the Chaebol/businessman and the other competitors using a nine-point scale.

All participants then completed several unrelated surveys about economic topics, which took ~8 min. After doing so, they received whichever scenario and questionnaire they hadn't received earlier (about the Chaebol or businessman), with some of the language modified slightly to ensure that participants did not think there had been a mistake and they were being asked to do the same task twice. Participants then answered the same set of questions again.

Results. Participants thought that the outcome of the competition involving the individual businessman was more fair ($M = 4.98$, $SD = 2.09$) than the outcome of the competition involving the Chaebol ($M = 4.54$, $SD = 2.09$), paired $t(199) = 4.26$, $P < 0.001$, $d = 0.30$. They also thought that the resource distribution between the individual businessman and his competitors was more fair ($M = 4.79$, $SD = 1.96$) than the resource distribution between the Chaebol and its competitors ($M = 4.20$, $SD = 1.99$), paired $t(199) = 5.39$, $P < 0.001$, $d = 0.38$. Thus, with only a short passage of time between reading about the advantages of a wealthy individual versus a wealthy group entity, the same participants thought that the very same advantage belonging to the individual was more fair than when it belonged to the group entity.

Study 4: Inducing Situational Explanations for Individual Achievement Makes Extreme Wealth Seem Less Fair

We argue that people are more accepting of inequality when thinking about the wealth of individuals at the top of the economic ladder because they tend to attribute the economic success of

individuals to personal attributes—the individual's talent, drive, creativity, and so on. To test this explanation, we led some participants who read about the financial success of an individual to attribute that success to external factors such as privilege and personal connections. We predicted that these participants, even though they were making judgments about a successful individual, would think about that person's wealth in the same way as people do about financially successful groups.

A total of 600 participants recruited from Prolific Academic read a brief description of the Indian film industry known as "Bollywood." In the group condition, participants read that the salaries of the top Bollywood actors had grown to an average of $25 million per film. In the individual condition, participants were told that the salary per film of Shah Rukh Kahn, one of Bollywood's top actors, had grown to the same amount. Participants in the individual–situational condition read the same description as those in the individual condition but also that Kahn was born into a prominent Bollywood family and that his father was a very successful Bollywood producer. Participants in all conditions were told that the salary per film earned by Kahn/Bollywood actors was equal to 1,200 times the annual salary of the average worker in India. Participants then indicated how fair they thought it was that Kahn/Bollywood actors earned this salary, how deserving Kahn/Bollywood actors is/are of such a salary, and whether the success of Kahn/Bollywood actors was due more to dispositional or situational factors.

Results. Participants' ratings of fairness and deservingness were highly correlated ($r = 0.84$), so we averaged them to create a composite measure of perceived fairness. Planned contrasts revealed that participants thought the inequality between Bollywood actors and the average wage earner in India was more fair in the individual condition ($M = 6.06$, $SD = 2.25$) than in the group condition ($M = 5.32$, $SD = 2.22$), $t(598) = 3.27$, $P = 0.001$, $d = 0.33$ (Fig. 1). Participants also indicated that this inequality was more fair in the individual condition ($M = 6.06$, $SD = 2.25$) than in the individual–situational condition ($M = 5.56$, $SD = 2.32$), $t(598) = 2.20$, $P = 0.03$, $d = 0.22$. Participants' fairness ratings did not differ significantly between the individual–situational condition and the group condition, $t(598) = 1.07$, $P = 0.28$.

For this study and all studies reporting attribution measures, we reverse scored these measures such that higher ratings correspond to greater dispositional attributions. Participants made greater dispositional attributions for the success of the actor they read about in the individual condition ($M = 5.77$, $SD = 2.20$) than in either the group condition ($M = 4.76$, $SD = 2.03$), $t(598) = 4.68$, $P < 0.001$, $d = 0.47$, or the individual–situational condition ($M = 4.88$, $SD = 2.21$), $t(598) = 4.12$, $P < 0.001$, $d = 0.41$. Participants' attributions for success did not differ between the latter two conditions, $t < 1$.

As in our previous studies, participants thought that a given level of economic inequality was more fair when it was described in terms of an individual at the top of the economic ladder rather than a group. That effect was reduced significantly when participants were led to attribute the success of the individual to external circumstances, underscoring the importance of participants' more spontaneous attributions in driving this effect when attributional information is not directly provided.

Study 5: How Do People Respond to Individual versus Group Wealth in the Abstract?

In the studies described thus far, participants either knew about the target individuals or groups beforehand (e.g., Federer and Čilić, the New York Yankees and Mets) or were provided information that served to identify them (e.g., Lorenzo Marri and Dario Nardella, Milan and Naples). Do people feel the same about successful individuals versus groups in the abstract? That is, are people more tolerant of the wealth acquired by the (unnamed) richest individuals in America than they are of the (unnamed) richest *n* people in America? And might such greater tolerance of the massive wealth of one of the richest individuals in the world make people less inclined to support policies aimed at reducing inequality?

To examine these questions, we recruited 600 participants from Prolific Academic and told them the amount of wealth held by one of the 25 richest people in America or the average wealth of the 25 richest people in America. Specifically, participants in the group condition were told the average wealth of the 25 wealthiest people in America. Participants in the individual condition were randomly assigned to read about the wealth accrued by either the wealthiest person in America or the 5th, 10th, 15th, 20th, or 25th wealthiest person (see *SI Appendix* for the full instructions). Participants received no information about the identity of these wealthy individuals or how they accumulated their wealth. Following a procedure from Walker and Gilovich (11), participants then wrote about why they thought the group or individual in question had obtained the wealth that they had. Participants identified up to four reasons that they thought were responsible for the success of the person or group they had read about. They then rated how important each of those reasons was in causing that success and the extent to which each reason was a dispositional or situational cause. They then stated how fair they thought it was that these people had accumulated their level of wealth and how deserving they were. Finally, participants rated their support for a wealth tax designed to close the gap between the rich and poor.

Results. Participants' attribution ratings for the reasons they listed for the wealthy individual's/group's success were multiplied by the importance (percentage) that participants assigned to each reason. We then summed these products to create a composite measure of attribution for each participant. Participants thought that the success of the wealthy in America was due more to personal characteristics when they read about the extreme wealth of one of six individuals ($M = 4.41$, $SD = 2.26$) than they did when they read about the extreme wealth of the top group ($M = 3.87$, $SD = 2.28$), $t(598) = 2.90$, $P = 0.004$, $d = 0.24$ (Fig. 2).

Participants' ratings of fairness and deservingness were highly correlated ($r = 0.91$), so we averaged them to create a composite measure of perceived fairness. Participants thought that the wealth obtained by the richest Americans was more fair when they read about one of the top 25 wealthiest Americans ($M = 5.00$, $SD = 2.54$) than when they read about the top 25 as a group ($M = 3.89$, $SD = 2.53$), $t(598) = 5.35$, $P < 0.001$, $d = 0.44$ (Fig. 1). Because we presented participants in the group condition with the average wealth of the 25 richest people in America, some participants in the individual condition read about a person with more wealth than average and others read about a person with less wealth. It is important to note that the difference between the individual and group conditions was not simply the result of participants who read about any of the latter individuals being less troubled by their target's lesser wealth. That is, those participants who were told about the richest and fifth richest Americans, who had more wealth than the average of the top 25, nonetheless thought that the greater wealth of these individuals was more fair ($M_{richest} = 4.60$; $M_{fifth\ richest} = 5.39$) than did those participants who read about the group of 25 richest Americans ($M = 3.89$), $t(396) = 3.71$, $P < 0.001$.

Participants who read about the richest 25 people in America were marginally more in favor of a wealth tax ($M = 7.12$, $SD = 2.37$) than those who read about one of America's 25 wealthiest people ($M = 6.74$, $SD = 2.46$), $t(598) = 1.93$, $P = 0.054$, $d = 0.16$ (Fig. 3). A structural equation analysis indicated that participants' attributions and fairness ratings for the wealth accumulated by one of America's 25 wealthiest people versus that accumulated by the richest 25 people serially mediated the relationship between

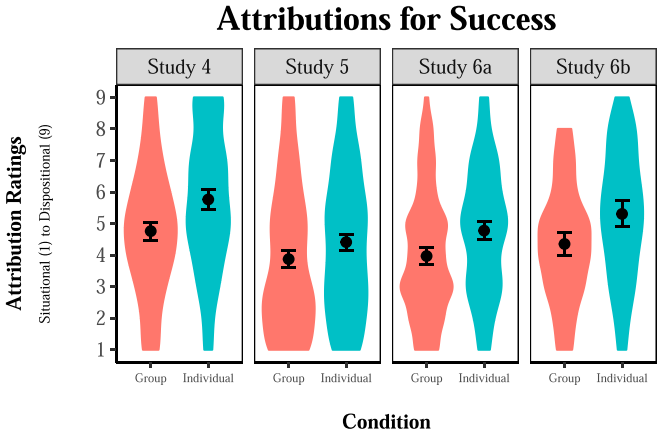

Fig. 2. Comparison between participants' attributions for the success of groups versus individuals across Studies 4, 5, 6a, and 6b (n = 1,800). Each of these studies contained items measuring whether participants thought the success of the group or the individual at the top was due more to situational (external) or dispositional (internal) factors. Plots depict distributions, with dots and error bars indicating means and 95% CIs. In all four studies, participants in the individual condition indicated that the success they read about was due more to internal characteristics than participants in the group conditions, P values in order: <0.001, 0.004, <0.001, <0.001.

randomly assigned condition and support for a wealth tax, P = 0.007 (see *SI Appendix*, Fig. S3 for details).

As these results make clear, the amount of wealth obtained by the wealthiest members of society can be disturbing, but it is less disturbing when imagining an individual person's wealth rather than the wealth of a class of people. Fabulously wealthy individuals—completely unidentified individuals at that—are seen as more personally responsible for their wealth and therefore more deserving of it, and the resulting gap between their wealth and that of the rest of society is seen as less in need of amelioration.

Studies 6a and 6b: How Do Images in the Media Influence Feelings about Inequality?

Some of the most potent symbols of wealth in the United States, and therefore an implicit symbol of the gap between the wealth of those at the top and everyone else, are the portraits of people who grace the covers of magazines such as *Forbes*, *Fortune*, and *Money*. These publications frequently showcase successful individual investors, managers, or entrepreneurs or groups of successful titans of the corporate world. In line with what we observed in Studies 1 to 5, we wanted to examine whether people who are exposed to a single successful individual on such a magazine cover would be more accepting of inequality than those exposed to a group of successful individuals.

Specifically, in Study 6a, we recruited 400 participants from Prolific Academic and randomly assigned them to one of two conditions. Half of the participants saw a *Forbes* magazine cover adapted from one of their "Forbes 400" issues (September 2012) that highlights the 400 wealthiest people in the world at that moment. The original cover pictured 12 billionaires gathered in a room. Using photo editing software, we removed five individuals we thought a substantial fraction of participants would have strong feelings about—Jon Bon Jovi, Warren Buffett, Bill Gates, Melinda Gates, and Oprah Winfrey. The seven who remained on the cover were individuals we thought that few, if any, participants would either know anything about or feel strongly about—Marc Andreessen, Laura Arillaga Andreessen, Leon Black, Marc Benioff, Steve Case, Pete Peterson, and David Rubinstein. Participants read a brief description of *Forbes* magazine, the names and occupations of these seven individuals, and that they were all billionaires. The other half of the participants, those in the individual condition, saw a cover of *Forbes* picturing one of these seven billionaires, with the individual shown on the cover randomly selected across participants.

After reading the brief description of *Forbes* magazine and the person(s) pictured on the cover, participants were asked to write a few sentences conveying how they felt about the person(s). They then rated how much they thought the person(s) deserved their wealth and how fair they thought it was that the person(s) accumulated that level of wealth. They also rated how much they thought the success of the person(s) was due to their talents and abilities versus an economic system that works to their benefit. Finally, participants rated on four separate scales the extent to which they supported the implementation of an inheritance tax to close the gap between the wealthy and the poor.

The procedure for Study 6b was the same as that for Study 6a with one exception designed to make sure that participants in both conditions were exposed to the exact same information (that is, that participants in both conditions saw all seven billionaires). Specifically, participants in the individual condition, after reading the general description of *Forbes* magazine, were shown all seven individual covers grouped together on the same survey page. They were told that one of these covers would be randomly selected for them to view in more detail. This ensured that participants in the individual condition were aware that the specific billionaire they viewed and wrote about was drawn at random from the set of seven billionaires. Participants in the group condition followed the exact same procedure as their counterparts in Study 6a. A total of 200 participants were recruited from Prolific Academic and randomly assigned to the individual or group condition.

Results. Two coders who were unaware of our hypothesis rated Study 6a participants' written descriptions of how they felt about the person(s) pictured on the cover of the magazine. They rated the descriptions in terms of how angry the writer seemed (from 1 = not at all angry to 5 = very angry) and in terms of the extent to which the writer referenced privilege versus talent and hard work (from 1 = mostly privilege to 5 = mostly hard work). Interrater agreement was high for both the ratings of anger (r = 0.84) and attributions for success (r = 0.73), and so the two ratings were averaged to create a measure of anger and a measure of attribution. The written comments of participants in the individual condition were rated as less angry (M = 1.46, SD = 0.81) than those of

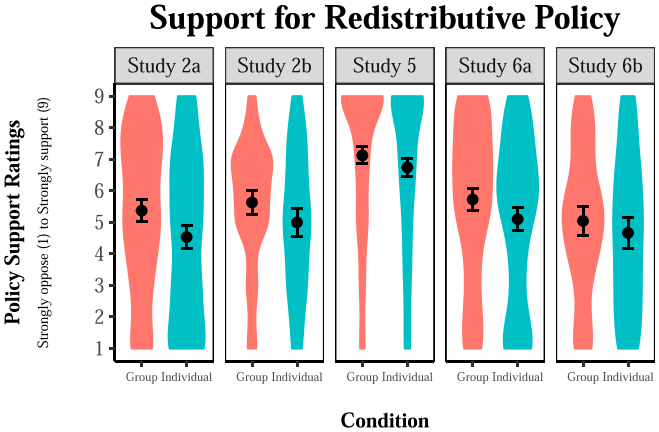

Fig. 3. Comparison between participants support for redistribution measures in group versus individual conditions across Studies 2a, 2b, 5, 6a, and 6b (n = 1,799). Each of these studies contained items measuring whether participants supported policies designed to redistribute wealth, like increased inheritance taxes. Plots depict distributions, with dots and error bars indicating means and 95% CIs. Participants in the individual conditions were less supportive of redistributive policies than participants in the group conditions, P values in order: 0.001, 0.03, 0.054, 0.01, 0.26.

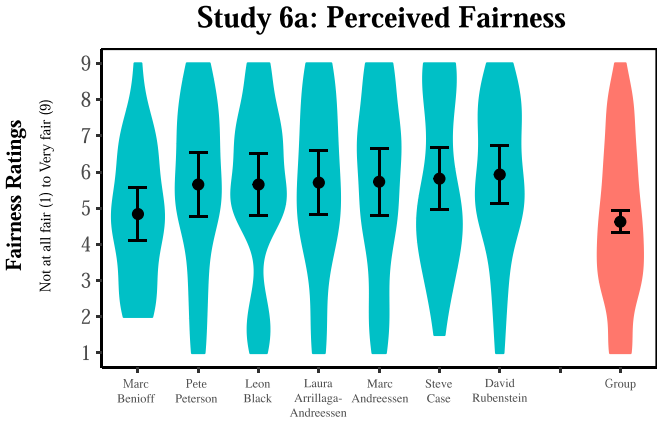

Fig. 4. Comparison of participants' fairness ratings in Study 6a based on the image they saw. Each participant was asked questions measuring perceived fairness of the level of wealth obtained by the person(s) in the image, and their responses were averaged to create a composite fairness rating. Plots depict distributions, with dots and error bars indicating means and 95% CIs. Participants rated the level of wealth achieved by the person(s) on the cover as more fair when they viewed an individual rather than a group, $P < 0.001$.

participants in the group condition ($M = 2.16$, $SD = 1.14$), $t(398) = -7.09$, $P < 0.001$, $d = 0.71$. The written responses of participants in the individual condition were also more likely to reflect an apparent belief that the success of the person on the magazine cover was more due to talent and hard work ($M = 3.03$, $SD = 0.75$) than were the responses of participants in the group condition ($M = 2.54$, $SD = 0.90$), $t(398) = 5.99$, $P < 0.001$, $d = 0.60$. Participants were clearly more troubled by the wealth of the seven individuals pictured on a single cover than they were by that of any of the seven pictured individually, and they attributed the success of the former more to the prevailing economic system, and less to talent and drive, than they did for the latter.

A similar pattern of results emerged in participants' more structured ratings. Responses to the questions about deservingness and fairness were highly correlated ($r = 0.81$) and were therefore collapsed to create a composite measure of fairness. Participants thought that the wealth attained by the billionaire(s) depicted on the cover they saw was more fair in the individual condition ($M = 5.62$, $SD = 2.22$) than in the group condition ($M = 4.62$, $SD = 2.20$), $t(398) = 4.52$, $P < 0.001$, $d = 0.45$ (Figs. 1 and 4). They also attributed the success of the individual billionaires pictured on seven individual covers more to talent and hard work ($M = 4.78$, $SD = 2.00$) than they did when the seven billionaires were pictured together on a single cover ($M = 3.97$, $SD = 1.97$), $t(398) = 4.06$, $P < 0.001$, $d = 0.41$ (Fig. 2).

Participants who saw the group of billionaires were also more in favor of an inheritance tax than those who saw only one billionaire. The four questions measuring attitudes toward the inheritance tax were also highly correlated ($r = 0.88$) and were therefore averaged to create a composite measure of support for the tax. Participants in the group condition viewed the inheritance tax proposal more favorably ($M = 5.73$, $SD = 2.50$) than those in the individual condition ($M = 5.10$, $SD = 2.62$), $t(398) = 2.44$, $P = 0.01$, $d = 0.24$ (Fig. 3). A structural equation analysis indicated that participants' attributions for the wealth accumulated by a given billionaire pictured alone on a cover of *Forbes* magazine, versus that of the wealth accumulated by the seven billionaires pictured on a single cover, mediated the relationship between condition and support for a luxury tax (Fig. 5).

The results from Study 6b closely mirrored those from Study 6a. Two additional independent coders who were unaware of our hypothesis rated participants' written responses according to the same criteria from Study 6a. Participants' written comments were again rated as less angry in the individual condition ($M = 1.21$, $SD = 0.62$) than in the group condition ($M = 1.64$, $SD = 1.11$), $t(198) = -3.31$, $P = 0.001$, $d = 0.47$. The ratings of participants' responses indicated that those in the individual condition also credited the success of the individual more to talent and hard work ($M = 3.47$, $SD = 0.91$) than did participants in the group condition ($M = 3.05$, $SD = 1.03$), $t(198) = 3.05$, $P = 0.003$, $d = 0.43$

Participants' responses to the questions about deservingness and fairness were highly correlated ($r = 0.76$) and were therefore collapsed to create a composite measure of fairness. Participants in the individual condition thought that the wealth attained by the randomly selected billionaire on the cover they saw was more fair and deserved ($M = 6.20$, $SD = 1.97$) than participants in the group condition thought was the case for the wealth attained by the group of billionaires they saw ($M = 5.37$, $SD = 1.98$), $t(198) = 2.98$, $P = 0.003$, $d = 0.42$ (Fig. 1). Participants in the individual condition ($M = 5.31$, $SD = 2.06$) were also more willing than those in the group condition ($M = 4.35$, $SD = 1.83$) to attribute the success of the target(s) they were asked to assess to talent and hard work, $t(198) = 3.46$, $P < 0.001$, $d = 0.49$ (Fig. 2).

The four questions measuring attitudes toward the inheritance tax were highly correlated ($r = 0.91$) and were therefore averaged to create a composite measure of support for the tax. Participants in the group condition reported greater support for the inheritance tax proposal ($M = 5.05$, $SD = 2.31$) than those in the individual condition ($M = 4.67$, $SD = 2.43$), although this difference was not significant, $t(198) = 1.13$, $P = 0.26$, $d = 0.16$ (Fig. 3). As in Study 6a, a structural equation analysis indicated that participants' attributions for the wealth accumulated by a given billionaire, or the seven billionaires as a whole, mediated the relationship between condition and support for a luxury tax (see *SI Appendix*, Fig. S4 for details).

Discussion

People are often motivated to act when they hear or read moving stories about individuals. Indeed, a cardinal rule of good writing is to be concrete (12), which is often achieved in journalism by personalizing. It is generally thought to be more effective to start an article about, say, what Olympic athletes must go through to reach the top, not by writing about Olympians in general but by presenting an "up close and personal" feature on a specific athlete. It might therefore seem best to follow this rule when calling attention to the rise in inequality that has taken place over the past 30 y. Doing so, conventional wisdom might suggest, is more likely to convince people that inequality is a problem that must be addressed.

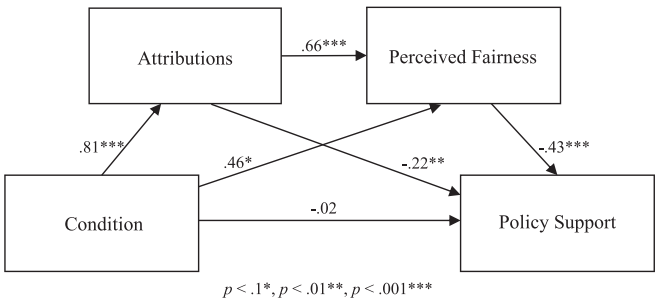

Fig. 5. The data in Study 6a were fitted to a structural equation model using the *lavaan* R package. The diagram indicates that the indirect effect from condition to attribution to perceived fairness to policy support was significant ($P < 0.001$). This indicates that when participants saw a cover of *Forbes* that included a group of billionaires, as opposed to a single billionaire, they were more likely to make situational attributions for the success of the people in the image, which led them to consider the level of wealth the billionaires had achieved as less fair, which, in turn, made them more likely to support a policy aimed at reducing wealth disparities.

However, our research suggests otherwise, at least when it comes to individuals at the top. When people read or hear about an individual who has struck it rich, they tend to think that the riches are deserved, and so they aren't as troubled by them. Thus, when it comes to depicting the problem of economic inequality, the general rule of leading with a personalized story may backfire. It appears that it is generally more effective to focus on wealthy people in general, whose wealth tends to be seen as less deserved. This is why terms like "the 1%" or "the super wealthy" are so effective at galvanizing protest: they encourage people to think of the wealth of those near the top as the product of unfair advantage and possibly even as "ill-gotten gains."

We have emphasized the role that attributions play in how people view individuals versus groups at the top because of past research showing that people tend to attribute the success of individuals more to their traits than they do for equally successful groups (13, 14). However, there are other psychological processes that may contribute to this effect. Research on the "dilution effect" shows that adding entirely uninformative information about a member of a group (a senior citizen who lives in a blue house and likes toast, a fraternity member who grew up in the suburbs of Dayton, Ohio, and likes to swim) makes that person seem less prototypical of the group (15). If many people have a negative stereotype of the very wealthy, such nondiagnostic details about a particular wealthy person will make the stereotype seem less applicable, resulting in a more favorable impression. In addition, some categories are represented more by their extreme members than their typical members. For example, when asked to think of "a time" they missed a train, participants tended to recall an occasion when doing so had the most negative consequences (16). If people think similarly about the category of "the rich," "the 1%," or "the wealthy," they will call to mind not representative wealthy exemplars but extremely wealthy exemplars. And, again, if many people have a negative view of those groups, the examples they call to mind will be especially unsavory individuals at that.

Do our results imply that all efforts to personalize the effects of inequality are likely to backfire? Not necessarily. Particular life histories can give rise to strong reputation effects that can override the effect we have documented. We trust that people are more troubled by Jeffrey Epstein's wealth than they are by the wealth of his economic peers as a whole. Absent any such exogenous reputations, however, the same level of inequality cast in terms of an individual at the top tends to trouble people less than when cast in terms of a group of people at the top.

Second, we have focused on what inequality looks like at the top and found that wealthy individuals are viewed more favorably and as more deserving of their wealth than wealthy people as a whole. However, research on the "identifiable victim effect," whereby people care more about the suffering of a single individual than a group of people (17), suggests that depictions of life at the bottom of the income ladder may obey different rules. A depiction of an individual person trying to make ends meet by holding down several jobs in the gig economy may be just as impactful, or more so, than summaries of how gig workers as a whole might be struggling to get by.

Economic inequality has grown substantially over the past several decades (18) and has been shown to be connected to a variety of harmful outcomes such as higher homicide rates (19), greater infant mortality (20), lowered well-being (21), and an undermining of democratic institutions (22). In light of these consequences, those interested in motivating people to care about rising income inequality and to support policies to reduce it—whether a government official, a nonprofit organization, a journalist, or a concerned citizen—would be wise to consider how they express and communicate information about inequality, being careful to draw attention to the wealthy as a class, not to particular wealthy individuals.

Materials and Methods

The materials for all studies were approved under Institutional Review Board No. 1804007914 by the Cornell Office of Research Integrity and Assurance. All participants were instructed that their participation was confidential and voluntary and that they had the right to withdraw their participation at any moment without penalty. All participants in all studies provided their informed consent to participate at the beginning of each study.

Study 1.

Participants. A total of 201 American participants (111 female, 86 male, 4 gender fluid; mean age = 33.3) were recruited on Prolific Academic in exchange for modest compensation. This sample allowed us to detect a significant result for an effect size of $d = 0.40$ with 80% power (sensitivity analysis for a two-tailed, independent samples Student's t test).

Method. See *SI Appendix* for the full scenarios that participants read.

Study 2a.

Participants. A total of 399 American participants (248 male, 148 female, 1 nonbinary, 2 did not answer; mean age = 36.5) were recruited on Amazon Mechanical Turk in exchange for modest compensation. This sample allowed us to detect a significant result for an effect size of $d = 0.28$ with 80% power (sensitivity analysis for a two-tailed, independent samples Student's t test).

Method. Participants were randomly assigned to the individual or the group condition. In the group condition, participants read a scenario about a resource difference between two professional sports teams, the Yankees and the Mets. The Yankees, who were described as having twice the resources of the Mets, were said to have won a recent World Series competition between the two teams (see *SI Appendix* for the full scenario). Participants were then asked, "How fair do you think the outcome of the World Series between the Yankees and Mets was?", "How fair do you think the resource distribution is between the Yankees and the Mets?", and "How fair would it be to redistribute resources from teams like the Yankees to teams like the Mets (through something like a 'luxury' tax on teams with the very highest payrolls)?" on a nine-point scale with anchors at "not fair at all" (one) and "extremely fair" (nine).

In the individual condition, participants read a scenario about a resource difference between two professional athletes, Roger Federer and Marin Čilić. Federer was described as having twice the resources as Čilić and was said to have won a recent match between the two athletes (see *SI Appendix* for the full scenario). Participants were then asked, "How fair do you think the outcome of the match between Federer and Čilić was?", "How fair do you think the resource distribution is between Federer and Čilić?", and "How fair would it be to redistribute resources from players like Federer to players like Čilić (through something like a 'luxury' tax on the players with the most resources to spend on coaching and training)?" on the same nine-point scale described above. Finally, all participants reported their age, gender, income, and political orientation on a seven-point scale with anchors at "extremely liberal" (one) and "extremely conservative" (seven).

Study 2b.

Participants. A total of 200 American participants (120 male, 78 female, 2 nonbinary; mean age = 34.56) were recruited on Prolific Academic in exchange for modest compensation. This sample allowed us to detect a significant result for an effect size of $d = 0.40$ with 80% power (sensitivity analysis for a two-tailed, independent samples Student's t test).

Method. Participants first read a brief history of the game of Calcio Fiorentino (*SI Appendix*). Participants were then randomly assigned to either the group or the individual condition. In the group condition, participants read about the rules of Calcio and also read a scenario about a resource inequality between two teams, Milan and Naples, and the outcome of a recent match between the two. Participants were then asked, "How fair do you think the outcome of the match between Milan [Naples] and Naples [Milan] was?", "How fair do you think the resource distribution is between Milan [Naples] and Naples [Milan]?", and "How fair would it be to redistribute resources from teams like Milan [Naples] to teams like Naples [Milan] (through something like a 'luxury' tax on teams with the very highest payrolls)?" on a nine-point scale with anchors at "not fair at all" (one) and "extremely fair" (nine).

In the individual condition, participants read about the rules of (a fictional) Calcio competition between individual players and also read a scenario that described a resource inequality between two players, Lorenzo Marri and Dario Nardella, and the outcome of a recent match between the two. They were then asked, "How fair do you think the outcome of the match between Marri [Nardella] and Nardella [Marri] was?", "How fair do you think the resource distribution is between Marri [Nardella] and Nardella [Marri]?", and "How fair would it be to redistribute resources from players like Marri [Nardella] to players

like Nardella [Marri] (through something like a 'luxury' tax on the players with the most amount of resources to spend on coaching and training)?" on the same nine-point scale described above. Finally, all participants reported their age, gender, income, and political orientation on a seven-point scale with anchors at "extremely liberal" (one) and "extremely conservative" (seven).

Study 3.

Participants. A total of 200 American participants (94 male, 103 female, 3 nonbinary; mean age = 34.29) were recruited on Prolific Academic in exchange for modest compensation. This sample allowed us to detect a significant result for an effect size of $d = 0.20$ with 80% power (sensitivity analysis for a two-tailed, paired sample Student's t test).

Method. In a within-subjects design, participants read about and rated both a group and an individual scenario in a randomized order. Participants were assigned to see either the *group* or the *individual* condition first. After reading and responding to the first scenario, participants filled out a series of unrelated surveys about economic topics that took about 8 min. They were then presented with whichever scenario and questionnaire (either group or individual) that they did not complete earlier. In the group condition, participants read a scenario that described a successful Korean conglomerate that had achieved resource superiority over its competitors. They then read that the conglomerate had succeeded in a competition to secure a large government contract (see *SI Appendix* for the full scenario). They were then asked, in randomized order, "How fair do you think the outcome of this competition for the government contract was?" and "How fair do you think the resource distribution is between KSK and other companies?" on a nine-point scale with anchors at "not fair at all" (one) and extremely fair" (nine).

In the individual condition, participants read a scenario that described a successful Korean businessman who had achieved resource superiority over his competitors and how this businessman had succeeded in a competition to secure a large government contract. They were then asked, in randomized order, "How fair do you think the outcome of this competition for the government contract was?" and "How fair do you think the resource distribution is between Mr. Chen and other companies?" on the same nine-point scale described above. Finally, participants provided their age and gender.

Study 4.

Participants. A total of 600 American participants (304 male, 286 female, 10 nonbinary; mean age = 34.45) were recruited on Prolific Academic in exchange for modest compensation. This sample allowed us to detect a significant result for an effect size of $d = 0.28$ with 80% power (sensitivity analysis for a two-tailed, independent samples Student's t test).

Method. Participants read a short description of the Bollywood film industry and then were randomly assigned to either the group condition, the individual condition, or the individual–situational condition. Those in the group condition read that the average salary of the top actors in Bollywood had risen to $25 million per film. Those in the individual condition read that the salary of Shah Rukh Kahn, one of Bollywood's top actors, had risen to $25 million. Those in the individual–situational condition read the same material as those in the individual condition, but they also read that Kahn came from a prominent Bollywood family and that his father was a successful producer. Participants in all conditions read about how the salary of the target actor(s) compared to the average salary of the average worker in India.

Participants then indicated how fair they thought it is that the salary of Bollywood actors (Shah Rukh Kahn) had grown to the level they are (it is) today on a scale from one (entirely unfair) to nine (entirely fair). They then indicated how deserving they thought Bollywood actors are (Shah Rukh Kahn is) of their (his) salary on a nine-point scale anchored at "not at all deserving" (one) to "very deserving" (nine). Next, participants indicated whether they felt the actor(s) they read about had succeeded due to situational or dispositional reasons on a nine-point scale anchored at "entirely due to hard work" (one) to "entirely due to the system" (nine). See *SI Appendix* for the full text of the scenarios and dependent measures. Finally, participants reported their age, gender, income, and political orientation.

Study 5.

Participants. A total of 600 American participants (299 male, 292 female, 9 nonbinary; mean age = 34.77) were recruited on Prolific Academic in exchange for modest compensation. This sample allowed us to detect a significant result for an effect size of $d = 0.12$ with 80% power (sensitivity analysis for a two-tailed, independent samples Student's t test).

Method. Participants were randomly assigned to either the group or individual condition. In the group condition, participants read about the average wealth accrued by the top 25 wealthiest people in America. In the individual condition, participants were randomly assigned to read about the wealth of one of the top 25 wealthiest people in America—either the wealthiest, the 5th wealthiest, the 10th wealthiest, the 15th wealthiest, the 20th wealthiest, or the 25th wealthiest. Participants then indicated whether they thought the target individual or group had accrued their wealth because of situational or dispositional factors (see *SI Appendix* for details). Participants then indicated how fair it was that this group (individual) had acquired the amount of wealth that they had on a nine-point scale anchored at "not at all fair" (one) to "very fair" (nine). Participants then indicated how deserving they thought the group (individual) was of their wealth on a nine-point scale anchored at "not at all deserving" (one) to "very deserving" (nine). Next, participants indicated how much they would support a wealth tax that would redistribute wealth from the wealthy to people with less wealth on a nine-point scale anchored at "not at all" (one) to "very much" (nine). Finally, participants reported their age, gender, income, and political orientation.

Study 6a.

Participants. A total of 400 American participants (200 male, 196 female, 4 gender fluid; mean age = 32.53) were recruited on Prolific Academic in exchange for modest compensation. This sample allowed us to detect a significant result for an effect size of $d = 0.28$ with 80% power (sensitivity analysis for a two-tailed, independent samples Student's t test).

Method. Participants were randomly assigned to the group or the individual condition. In the group condition, participants viewed a cover of *Forbes* that pictured seven billionaires. In the individual condition, participants viewed a cover of *Forbes* that featured one of the seven billionaires from the group photo, with the specific individual randomly selected. All participants then reflected on the image and wrote about how the people (person) in the image made them feel. They were then asked, "How deserving of their (his/her) wealth do you believe the people (person) in this image are (is)?" on a nine-point scale anchored at "not at all deserving" (one) and "entirely deserving" (nine). They were also told that, "Some people feel that it's fair for other people, like those (the person) in this image, to accumulate large amounts of wealth. Some people feel it's unfair." They were then asked, "What do you think? How fair do you believe it is that the people (person) in this image have (has) accumulated large amounts of wealth?" on a nine-point scale from "not at all fair" (one) to "very fair" (nine). They then indicated whether they attributed the success of the people (person) they saw to situational or dispositional factors on a nine-point scale anchored at "their success is due entirely to their talents and success" (one) and "their success is due entirely to the system" (nine). Next, participants indicated their support for an inheritance tax using a four-item scale (*SI Appendix*). Finally, participants reported their age, gender, income, and political orientation.

Study 6b.

Participants. A total of 200 American participants (120 male, 78 female, 2 gender fluid; mean age = 29.32) were recruited on Prolific Academic in exchange for modest compensation. This sample allowed us to detect a significant result for an effect size of $d = 0.40$ with 80% power (sensitivity analysis for a two-tailed, independent samples Student's t test).

Method. Participants were randomly assigned to the group or the individual condition. The procedure and measures for the group condition were exactly the same as those in Study 6a. The procedures and measures for the individual condition were the same as those in Study 6a with the following exception: on the same screen in which they read the description of *Forbes* magazine, participants were shown each of the individual covers from Study 6a grouped together. They were told that one of these images would be randomly selected to be viewed by them in more detail. All other aspects of Study 6b were identical to those of Study 6a.

Data Availability. Anonymized data, materials, and analysis code for all studies, as well as for additional replications of several studies, are publicly available on the Open Science Framework (https://osf.io/g38uq).

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