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Achievement (not effort) makes people feel entitled to rewards

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It is common to say that people feel entitled to rewards—they think they have earned or deserve them—based on their effort and achievement. However, effort and achievement draw on different principles to justify reward. They can also conflict over when people should feel entitled to rewards. These observations raise the question: In everyday settings, do people feel entitled to rewards because of their effort, achievement, or some combination of the two? To determine how effort and achievement contribute to feelings of entitlement, we hired online workers and varied the feelings of effort and achievement that their work induced. We then let those workers decide how large of a bonus we then paid them. Achievement strongly predicted how much participants paid themselves. Hard work, by contrast, played little-to-no detectable role.

subjective entitlement | fairness | achievement | reward | effort

Significance

Subjective entitlements predict when people feel comfortable taking and fighting for rewards. Much prior work assumes that effort is an important input to subjective entitlement because it is virtuous and relatively immune from luck. Whether one does one's job well, on the other hand, is often affected by luck. We find that achievement is the primary input into feelings of entitlement while effort seems to matter little. Moreover, we found that people feel entitled to rewards even when they know the role that luck played in putting them in an easy and effortless position to do well.

Feelings of entitlement play a pivotal role in social and economic interaction. When people distribute goods between themselves and others, they keep more for themselves when they think they earned those goods (1–6). People negotiate forcefully for pay, bonuses, and other rewards that they think they deserve (7, 8). People feel less satisfied with what they have when they think that others unfairly have more (9). And people who feel entitled to goods they are not getting (like workers who feel underpaid) embezzle to restore their sense of justice (10, 11). In other words, feelings of entitlement (also called *subjective entitlements*) make decisions to self-serve, steal, and exploit—decisions that usually feel wrong—feel right.

Here, we investigate what leads people to feel entitled to rewards. Specifically, we ask: When someone has worked another person, what makes them feel like they deserve or have earned a reward associated with that work? We contrast two inputs that lay people and scholars often cite as justification for reward for their labor: *working hard* (i.e., *effort*) and *doing well* (i.e., *achievement*). Prior studies, though they demonstrate the potency of subjective entitlements, do not identify how effort and achievement contribute to people's feelings that they deserve rewards. For instance, prior studies impose rules for transactions between participants (e.g., ref. 8) or explicitly tell participants that they earned some endowment (e.g., ref. 3). Moreover, because effort often causes achievement, prior studies also often confound them. Correctly answering exam questions (5, 6) and stuffing envelopes (12) constitute achievements but could also reflect hard work. So, despite knowing some of the effects of feeling entitled, we know little about what causes these feelings. We know little about how entitled people will feel when effort and achievement come apart. And most importantly, we have little guidance for which one underpins entitlement because both can claim compelling principles that justify reward.

People might feel entitled to rewards based primarily on the good outcomes they have achieved for others. Accordingly, people may feel entitled when they do well at their work, but feel unentitled when they do poorly, regardless of the effort they invested. One reason why people may feel entitled this way reflects a norm of reciprocity. When people achieve for others, they create value, and so, oblige reciprocal value in return. By contrast, effort in the absence of achievement does nothing for others, and so, obliges nothing in return. Achievement also often yields concrete evidence of itself. It is often easy to show others that one has done a job well. By contrast, it is hard to prove how hard one has worked or whether one has worked as hard as one could. So, people might feel entitled based on achievement because they feel better claiming rewards based on publicly verifiable criteria. Finally, people may think of rewards as incentives for achievement. If people conceptualize rewards as incentives, then only the thing that they are supposed to incentivize—achievement—can justify them.

Some or all of these considerations—*a norm of reciprocity, the visibility of achievements,* and *conceptualizing rewards as incentives*—may promote the importance of achievement and demote the importance of effort in feelings of entitlement. Indeed, these considerations underlie some influential normative arguments that, in a just society, rewards ought to be distributed based on the benefits that people successfully provide for others [rather

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than their efforts, (13)]. And some studies document people rewarding and punishing others based on the good or bad outcomes they cause (14–16). However, no work that we are aware of has argued that achievement is the primary input to everyday subjective entitlements.

Instead, most prior work emphasizes the role of subjective effort and hard work. Effort and hard work are privileged in discussions of entitlement due to the commonsense principle of accountability. According to this principle, it is only fair to punish and reward people for things that they control (12, 17–19). Achievement is often outside of people's control because people do not always choose their challenges nor the talents they bring to bear on them. But effort is a choice.* Effort is also a costly, unpleasant choice, and so, one that is often seen as virtuous or meritorious. In other words, effort is appealing as a criterion for reward because rewarding people for their effort means rewarding them for their admirable choices. By contrast, rewarding others based on their outcomes can mean rewarding them for reasons unrelated to their choices (such as how lucky they are). Consistent with this line of thinking, some studies suggest that people intrinsically value hard work (20). For instance, people treat hard work as a signal of good character (21, 22) and feel sympathy for others who fail if they had otherwise worked hard (23). Some work also suggests that, because of effort's connection to virtue, people think effort both licenses and is a prerequisite for self-rewarding, indulgent behavior (24–26). And finally, equity theory has long assumed that people think that their rewards from cooperation should reflect how hard they worked (9). And indeed, when choosing what work to pursue, people want larger incentives to work on effortful, aversive tasks when effortless or fun ones are available (27).

Some or all of these considerations—a *norm of accountability*, the *value of effort in social judgment*, and *harder work typically requiring greater incentives*—may promote the importance of effort and demote the importance of achievement. Accordingly, people should feel undeserving of rewards for achievements that turned out to be surprisingly effortless. And people should feel deserving of reward after good-faith efforts even if their labor is ultimately fruitless. These predictions directly oppose what we should expect if people feel entitled based on their achievements.

Hard work and achievement, though they often co-occur and are often discussed in tandem, provide profoundly different reasons to feel entitled. The former emphasizes one's merits, seems relatively immune from luck, and invokes principles like accountability. The latter emphasizes the value that one creates for others, is often influenced by luck, and invokes principles like reciprocity. Prior work provides little guidance for understanding how each contributes to subjective entitlement. We aimed to resolve this uncertainty in the studies below. Studies 1 to 3 examine people's attitudes toward effort, achievement, and reward in surveys. Studies 4 to 12 comprise our main investigation. In these studies, participants worked on tasks that varied in the feelings of effort and achievement they induced and then chose how much we should reward them for their work.

Results

Studies 1 to 3: Surveyed Attitudes Toward Hard Work and Performance.

Study 1. In Study 1, we analyzed attitudes toward effort and achievement as measured in the *International Social Survey Programme* (ISSP) studies on social inequality (28). In these surveys, respondents rated how important "how hard you work" and "how well you do" "ought to be when determining pay." The ISSP conducted these surveys between 1992 and 2009, yielding 157,446 responses across 35 countries. Among respondents, 83% reported that "how well you do" should be either "essential" or "very important" to determining pay; 77% did so for "how hard you work." But respondents also generally rated performance as more important than effort. Out of 35 countries, respondents from twenty-five countries (74%) rated performance as more important than effort on average; four (11%) showed no difference between the two; and only in the remaining five (14%) was effort rated as more important on average (*SI Appendix*, Table S3). Grouping respondents by industry also reveals a general advantage for performance over effort. Out of 37 ISCO88 industry categories, 30 industries (81%) contained workers who on average rated performance as more important than effort (*SI Appendix*, Fig. S1). Five (14%) showed no difference, and in only two (5%) was effort rated more important. It is not clear why participants rated either effort or performance as important. But some evidence suggests that people rated effort as important because of its connection to performance rather than for reasons independent of performance. Indeed, within each country, endorsement of effort positively correlated with endorsement of performance (*r*s ranged 0.33; median $r = 0.61$; mean $r = 0.60$). This strong positive association is robust to controls including country, year, income, sex, age, and religion (*SI Appendix*, Table S2). Overall, the ISSP data show that people around the world more strongly endorse performance as a criterion for pay compared to effort.

Study 2. In Study 2 ($N = 346$), we surveyed people attending or working at a business school about what factors should determine pay and then coded whether they mentioned job performance or hard work. Participants most frequently cited performance (89%). They mentioned effort much less frequently (30%). We also asked this group to recall a time they were given (or denied) a bonus or pay raise and to recall what reasons informed the decision that they thought were fair and unfair. 68% cited job performance as a reason that fairly influenced the decision, while only 37% cited work effort. When this group thought about the ways they were treated unfairly, 15% thought that their job performance had not been properly appraised. By contrast, only 9% brought up the idea that their effort had failed to be properly acknowledged.

Study 3. In Study 3, we recruited Prolific workers ($N = 240$) to imagine a scenario in which they had just completed a year of work at a stable, full-time job. They imagined that, in the previous year, they had performed well or not, and that they had worked either much more than usual or much less than usual, in a 2 (performance: low vs. high) × 2 (effort: low vs. high) design. They then imagined deciding whether to leverage a social connection at work to obtain a large raise. Participants who imagined performing well at their job were much more likely to push for a large raise compared to participants who imagined performing poorly, $F(1, 236) = 37.29$, $P < 0.001$, $\eta_p^2 = 0.14$. But imagining working especially hard (vs. working much less) did not affect their hypothetical decision, $F(1, 236) = 0.38$, $P = 0.54$, $\eta_p^2 = 0.002$ (*SI Appendix*, Fig. S2).

People around the world say that hard work ought to be important to determining pay. However, they also tend to say that performance ought to be *more* important. When we asked people who had experience in the workplace, and were about to enter it again, to think about what factors ought to determine rewards at work, they spontaneously cited performance much more than effort. And when online workers imagined how they would feel when their effort dissociated from their performance, only their imagined performance predicted hypothetical decisions to pursue

*Two caveats: 1. People do not always think that effortful action is a voluntary choice (45). 2. One's capacity, opportunity, and propensity for hard work is also determined by luck (46, 47).

rewards. Studies 1 to 3, then, suggest both that achievement is an important input to subjective entitlement while hard work, perhaps surprisingly, matters relatively little. But survey responses often poorly predict behavior. We address this limitation in the remaining studies.

Studies 4 to 12: Subjective Entitlements on Online Work Platforms. Studies 4 to 12 evoked and measured subjective entitlements to monetary reward using the online labor platform Prolific. Online platforms like Prolific (or Amazon Mechanical Turk) run markets where workers take jobs that last a few minutes and pay about $0.14 to $0.26/min. Workers can also get extra pay in the form of bonuses. To study subjective entitlements, we had workers choose their own rewards for their work by choosing their own bonuses. Across studies, participants could pay themselves up to an additional 63 to 143% of the posted base pay.

We needed a way to experimentally manipulate how people felt about their effort and performance. Manipulating the difficulty of the worker's job while holding the time they had to work constant accomplished this goal. Difficult tasks require sustained and concerted attention or exertion to complete. But people do poorly on them. Easy tasks are the opposite: People are likely to do well, but they are unlikely to strain doing so. So, whether people reward themselves more after difficult or easy tasks reveals whether they think effort or performance entitles them to reward. And as we demonstrate later, small variations on this design allow us to test whether effort and performance jointly contribute to how entitled people feel.

In Studies 4 to 12, we recruited participants to transcribe audio clips. In this context, achievement corresponds to how much of the audio clip they transcribe. We gave participants two minutes to transcribe the clip and we manipulated whether transcribing the clip in two minutes was difficult or easy to do. The difficult audio was a 20-s clip taken from an academic lecture that we artificially muffled. It is frustrating to transcribe muffled audio and trying to do so quickly requires strained and sustained concentration. The easy audio used the first half of this clip and was not muffled. In two minutes, the vast majority of participants could transcribe the easy clip while only a small fraction could transcribe the difficult one. The difficult task made participants feel like they had worked hard but performed poorly; the easy task made them feel like they had performed well but worked lightly (*SI Appendix*, section 8). And, when we asked participants to report the minimum amount of money they would require to do a similar task, participants reported requiring more money after experiencing the difficult task compared to the easy one (*SI Appendix*, section 8). After participants attempted their task, we asked them to pay themselves a reward for their work. Except for Study 11, we did not prompt people to think about their achievement or effort prior to paying themselves. Thus, our studies tested which of achievement or effort spontaneously precipitates subjective entitlement.

Choosing pay when instructed to take what one deserves.

Study 4. Study 4 (N = 997) randomly assigned participants to one of two transcription tasks (task: "easy" vs "difficult"). Participants were further randomly assigned one of two instructions for how to choose their bonus (prompt: "financially best" vs "deserve"). After participants attempted their task, we told them to choose a bonus between $0.00 and $0.50. Half of the participants were asked to "take what would be financially best for you," while the other half were asked to "take what you think you deserve." Participants did not have to follow our request, but we expected the prompt to affect their choices. Asking people to consider what they deserve should prompt them to do so and to interpret the bonus as something that needs to be earned. By contrast, asking people to take what is financially best transforms the bonus into something they can confidently think they did not have to earn. So, if participants turn down money in the "deserve" condition, but not in the "financially best" condition, they probably did so on account of thinking that they did not deserve it.

Participants who were told to make the financially good choice did so. They chose the same extremely high bonus in both the easy condition (M = $0.48, SD = $0.08) and difficult condition (M = $0.46, SD = $0.11), $t(364.55) = -1.73$, $P = 0.085$. Indeed, the vast majority in both conditions took the maximum: $90\%_{easy}$ vs. $89\%_{difficult}$, χ^2 (1) = 0.14, $P = 0.71$.[†] By contrast, participants who were told to take what they deserve took much less, $F(1, 993) = 213.17$, $P < 0.001$. And critically, these participants took much less in the difficult condition (M = $0.28, SD = $0.20) compared to the easy condition (M = $0.39, SD = $0.15), $t(412.45) = -6.48$, $P < 0.001$. They also chose the maximum bonus at different rates: $39\%_{difficult}$ versus $57\%_{easy}$, χ^2 (1) = 14.75, $P < 0.001$. These results are consistent with people feeling more deserving after doing relatively well than after working relatively hard.

Study 5. In Study 5 (N = 603), we tested how variation in self-perceptions of hard work and achievement affect entitlement. We randomly assigned participants to one of six conditions which varied in difficulty between the "easy" and "difficult" conditions from Study 4. Participants again had only two minutes to attempt their transcription, and afterward, they paid themselves between $0.00 and $0.50. We instructed participants to pay themselves based on what they thought they earned. And then finally, we had participants rate how well they thought they did and how hard they thought they worked. As task difficulty increased, participants did worse ($b = -43.17$, $SE = 2.55$, $t = -16.91$, $P < 0.001$), thought they did worse ($b = -1.43$, $SE = 0.1$, $t = -14.15$, $P < 0.001$), and thought they worked harder ($b = 0.75$, $SE = 0.09$, $t = 8.22$, $P < 0.001$; Fig. 1). Consistent with their performance (and performance self-ratings), participants paid themselves less as the task became harder ($b = -0.12$, $SE = 0.02$, $t = -7.58$, $P < 0.001$). When we regressed bonus choices on performance and effort self-ratings, performance self-ratings predicted bonus decisions ($b = 0.08$, $SE = 0.01$, $t = 16.13$, $P < 0.001$) but effort self-ratings did not ($b = 0.01$, $SE = 0.01$, $t = 1.30$, $P = 0.20$; see *SI Appendix*, section 9 for full model output).

Studies 4 to 5 rule out effort being the sole criterion for entitlement in our experimental context. When we prompted participants to pay themselves based on what they think they deserved (or earned), they did not take higher bonuses after working hard compared to working lightly. Instead, participants took higher bonuses when they did well compared to poorly. These results suggest that achievement, rather than effort, may be the key criterion for entitlement. This conclusion matches results from the survey data in Studies 1 to 3, which probed how people think about reward using different populations and measures. In the remaining studies, we test how robust this finding is across variation in our experimental context (Studies 6 to 8, 11, and 12), and test whether effort incrementally predicts reward conditional on high achievement (Studies 9 and 10).

[†]This null result is important for another reason. Participants were more likely to exit the study without completing it in the difficult conditions compared to the easy conditions (*SI Appendix*, Table S2 in the section 2). This pattern raises the worry that the participants who endured the two tasks differed in ways that confound our findings. For instance, participants who endured the difficult task may have been more tired or may have tended toward noisier responses compared to participants who endured the easy task. The null result in the "financially best" condition suggests that the differences we observe elsewhere do not simply reflect these kinds of differences. Our findings also replicate in Study 5 wherein we do not observe meaningful differences in attrition across conditions.

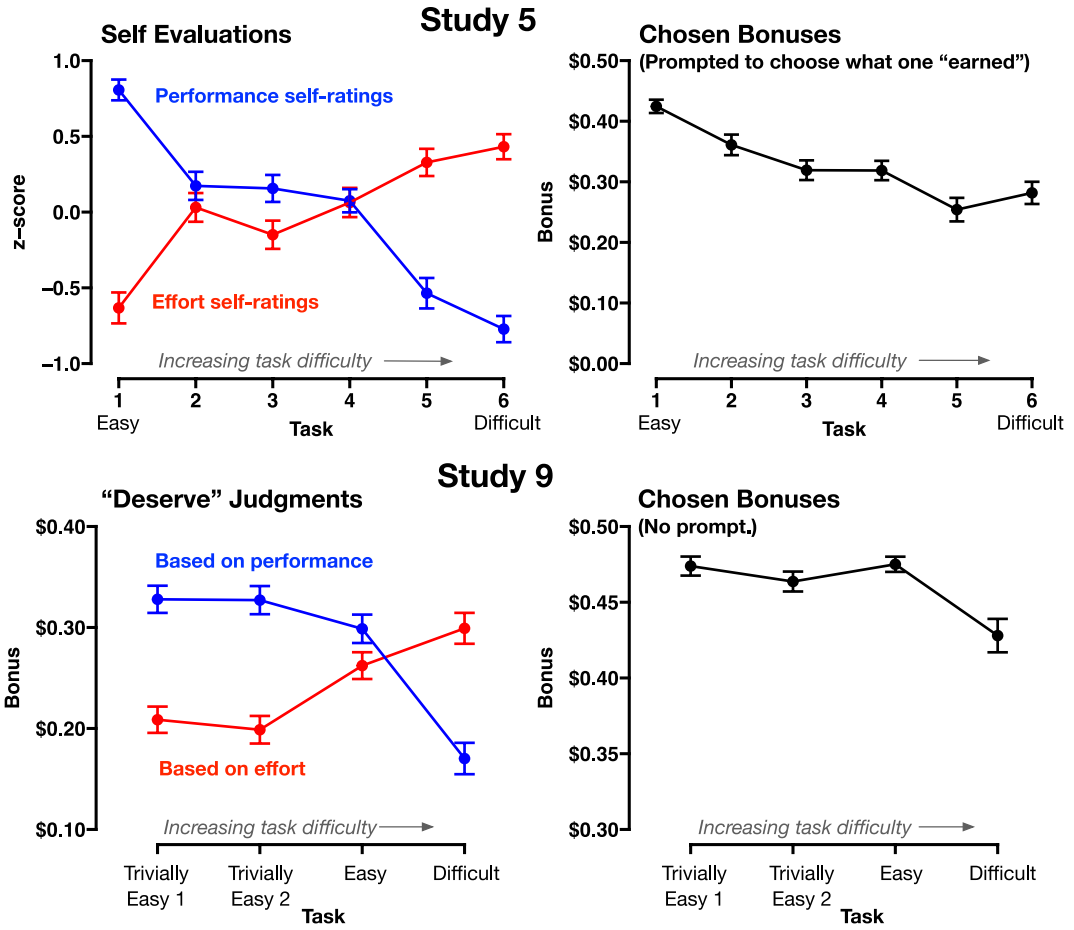

Fig. 1. The *Top-Left* panel displays mean (±1 SEM) self-evaluations of performance (blue) and effort (red) across tasks in Study 5. The *Top-Right* panel displays mean (±1 SEM) bonus choices in Study 5. The *Bottom-Left* panel displays mean (±1 SEM) estimates of judgments about what bonus one would deserve based on how well one did (blue) or on how hard one worked (red) (Study 9 posttest). The *Bottom-Right* panel displays mean (±1 SEM) bonuses in Study 9.

Spontaneous Subjective Entitlements with Social Comparison. Studies 6 to 8 investigated two questions. First, when given an opportunity to claim money, do people spontaneously consider what they think they deserve? To answer this question, we removed instructions for how to choose one's bonus. Second, are people drawn to criteria under their control, like effort, when they know the role that luck played in putting them in a position to work hard but achieve little? To answer this question, we told participants whether they were randomly assigned the easier or harder task (Study 7) or let them choose either the easier or harder task (Study 8).

Study 6. In Study 6 ($N = 796$), we replicated Study 4 but removed instructions for how to select one's bonus. Now, participants on average selected much higher bonuses compared to the "deserve" conditions in Study 4. However, participants still chose smaller bonuses in the difficult condition (when they performed poorly; $M = \$0.40$, $SD = \$0.16$) compared to the easy condition (when they performed well; $M = \$0.46$, $SD = \$0.10$), $t(592.6) = 6.29$, $P < 0.001$, $d = 0.46$. They were also less likely to take the maximum bonus in the difficult condition (67%) compared to the easy condition (84%), χ^2 (1) = 29.17, $P < 0.001$.

Study 7. To test whether people weigh hard work and achievement differently when they are aware of their luck, Study 7 ($N = 500$) replicated Study 6 while making participants aware of their random assignment. Before the transcription task, we told participants about both tasks and provided them with difficulty ratings which we had collected from a prior study. We then randomly assigned participants to one of the two tasks and appended a note telling them which of the two tasks they had been assigned. Despite these changes, participants again took smaller bonuses in the difficult condition ($M = \$0.43$, $SD = \$0.14$) compared to the easy condition ($M = \$0.47$, $SD = \$0.09$), $t(395.87) = 3.70$, $P < 0.001$, $d = 0.34$. They were also less likely to take the maximum bonus in the difficult condition (74%) compared to the easy condition (85%), χ^2 (1) = 8.77, $P = 0.003$. In *SI Appendix*, section 10, we report Study S1 that replicates Study 7 using a different set of bonus options.

Study 8. In Study 8 ($N = 493$), participants again learned about both tasks and read about how prior participants had rated each task's difficulty. But participants now chose which task to do. When offered this choice, most participants choose the easy task ($n = 395$; 80%). But we can still compare participants who chose the easy task to participants who chose the difficult task ($n = 98$; 20%). Participants again took smaller bonuses after doing the difficult task ($M = \$0.40$, $SD = \$0.16$) compared to the easy task ($M = \$0.47$, $SD = \$0.10$), $t(117.22) = 4.33$, $P < 0.001$, $d = 0.64$. Participants were also less likely to take the maximum bonus after the difficult task (62%) compared to the easy task (89%), χ^2 (1) = 37.75, $P < 0.001$. In *SI Appendix*, section 11, we report Study S2 that replicates Study 8 and demonstrates that participants who choose the easy and difficult tasks take the same bonuses when invited to do so *prior* to attempting the task.

Studies 6 to 8 examined whether participants would opt out of freely offered cash rewards without being prompted to think about what they earned. These studies also tested whether people choose rewards based on achievement even when they know that they

attempted easier or more difficult tasks than others. They do. Without instructions for how to choose a bonus, many more participants now took the maximum, and average bonuses were much higher. It therefore appears that most participants took the maximum bonus unless they thought they had a reason not to. "Doing poorly" (but not "working lightly") provided such a reason. And it did so even when participants knew that others were having a harder or easier time doing well.[‡]

Entitlement Following *Trivially Easy* and *Effortful* Success.

Study 9. If achievement alone is sufficient to feel entitled, then even people who effortlessly perform well should feel more entitled compared to people put in effort but perform poorly. We tested this prediction in Study 9 ($N = 796$). We replicated the methods of Study 6 but now randomly assigned participants to one of four tasks. Two were the same "easy" and "difficult" tasks from prior studies. The two new tasks were, by comparison, "trivially easy" to do. One task required participants to transcribe Lady Gaga singing "Oh say can you see." The other required participants to transcribe a 7-s professional recording of the line "Row, row, row your boat, gently down the stream." These tasks really are trivially easy. The audio was skillfully recorded with the purpose of being easily understood and the content was simple and familiar. Participants needed to listen to it only once before they knew what to write. And it only took several seconds to both listen to the audio and transcribe it. It was transparent how little effort these tasks required.

Participants in the easy condition (M = \$0.48) and two trivially easy conditions (Ms = \$0.46 to \$0.47) took more than participants in the difficult condition (M = \$0.43, SD = 0.14; Holm-corrected ps ≤ 0.003). And, participants across the easy and trivially easy conditions took practically the same (ts < 1.38, Holm-corrected ps > 0.759). In other words, participants who completed *trivially* easy tasks rewarded themselves such high bonuses that other participants, who did just as well at the slightly more effortful "easy" task or did poorly at a much more effortful "difficult" task, could not pay themselves more (Fig. 1, *Bottom-Right* panel).

To further probe these results, we ran a follow-up study (N = 599) that replicated Study 9 but now asked participants to report what bonus they think they deserve. Participants reported both what they deserved based on effort ("Ignore *how well you did.* Based only on how hard you worked, what bonus do you think you would have deserved?") and achievement ("Ignore *how hard you worked.* Based only on how well you did, what bonus do you think you would have deserved?"). Participants reported that the bonuses they deserved based on effort were highest in the difficult conditions, lower in the easy condition, and lowest in the trivially easy conditions. The bonuses that participants thought they deserved based on achievement followed the reverse pattern. The pattern of hypothetical, achievement-based bonuses also closely resembled the pattern of bonus decisions from Study 9 (Fig. 1, *Bottom-Left* panel). This close resemblance suggests that when people consider how to reward themselves for their work they spontaneously consider what they deserve based on how well they did.

Study 10. Our studies so far have traded off doing well and working hard. So, they do not test one possible role for effort in entitlement which is that effort increases the value of success. People tend to think that effortful acts are more meaningful (e.g., refs. 29, 30) and to especially value objects that required effort to obtain (31, 32). So, even if effort does not justify entitlement on its own, perhaps success that requires relatively more effort engenders more entitlement than success that requires relatively less. Study 10 tests this proposal by holding subjective performance constant at ceiling across tasks and manipulating how much effort participants exerted to achieve such performance.

In Study 10 (N = 449), we assigned participants to one of three conditions. One condition was the difficult condition from prior studies. Another condition used the same, short "easy" audio from prior studies with one change: Participants were not required to take two minutes on it but could spend as much or as little time as they wanted. The third condition was a new "effortful" condition. Participants assigned to this condition were tasked with transcribing a long audio clip and had unlimited time to do so. Every participant in this condition could do well, just like the easy task, but finishing it required more effort, just like the difficult task.[§] As in Study 5, we instructed participants to choose a bonus based on what they thought they earned. We doubled the maximum bonus to \$1.00.

The key comparison in Study 10 is between the "easy" and "effortful" tasks (*SI Appendix*, Fig. S4). As intended, in these conditions, participants performed equally well and performed at near-ceiling (transcript scores: $M_{\text{effortful}}$ = 88%, M_{easy} = 89%, P = 0.74, d = 0.04). However, participants in the effortful condition worked twice as long ($Mdn_{\text{effortful}}$ = 3.1 min vs. Mdn_{easy} = 1.5 min) and typed twice as much ($M_{\text{effortful}}$ = 223 characters vs M_{easy} = 94 characters), ps < 0.001. Despite these differences, participants in the effortful condition paid themselves practically the same (M = \$0.83, SD = \$0.27) as participants in the easy condition (M = \$0.85, SD = \$0.24), P = 0.41, d = 0.09. This null result does not reflect a general tendency to simply take the maximum offered bonus: Participants in the difficult condition took much less (M = \$0.57, SD = \$0.37), ps < 0.001.

Studies 4 to 10 demonstrate that *doing well* at a task inclines people to feel deserving of rewards associated with that task while doing poorly inclines people to feel undeserving of rewards. Studies 9 and 10 further demonstrate that *working lightly* does not incline people to feel undeserving of the rewards associated with their work. As a result, two groups of people who do equally well, but put in different amounts of effort, will feel equally deserving to the maximum rewards associated with their work.[¶]

Granular Investigation of Achievement and Bonus Choice. Participants varied in their performance at the easy and difficult tasks. If participants felt entitled based on their performance, then we should observe variation in self-reward commensurate with variation in performance. And if effort plays little-to-no role in how entitled people feel to reward, then participants should choose bonuses (commensurate with their performance) in ways that neglect how hard they worked. We verify these predictions below (see *SI Appendix*, section 14 for details).

We aggregated bonus decisions within the easy and difficult conditions across Study 4 ("deserve" instructions) and Studies 5 to 9 (N = 2,875). We then computed a performance score for every participant based on the percentage of the audio the participant transcribed (*SI Appendix*, section 13). We then regressed bonus on performance, condition (easy vs. difficult), and their

[‡]In the *SI Appendix*, section 19, we report Study S3 which further probes the role that social comparisons play in our studies. We find that participants' judgments regarding how well they did, or how hard they worked, relative to others, played little-to-no role predicting bonuses.

[§]A pilot study (N = 202) confirmed that participants in the effortful condition rated the task as more effortful (M = 3.8, SD = 1.1) compared to participants in the easy condition (M = 3.3, SD = 1.2, t = 2.99, P = 0.003, d = 0.42).

[¶]Study 10 is informative for another reason. Prolific policy is to pay participants based on the time required to complete studies. If subjective entitlements simply reflected this policy, then participants should have taken different amounts of money in the easy and effortful conditions (which required very different amounts of time). They did not do so.

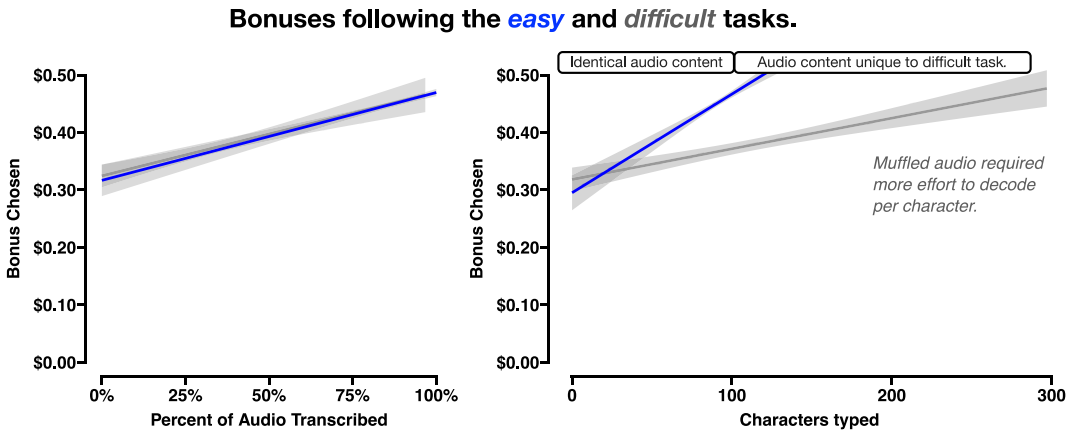

Fig. 2. Bonus decisions in the "easy" and "difficult" task conditions aggregated across Study 4 (deserve prompt conditions), and Studies 5 to 9. The *Left* panel displays a linear model regressing bonus decision in the easy (blue) and difficult (gray) conditions on the percentage of the audio transcribed ("transcript score"). The *Right* panel displays linear fits of bonus choice based on the number of characters typed ("transcript length").

interaction. This analysis revealed that participants in both the easy and difficult conditions spontaneously hewed their bonuses closely to the proportion of audio that they transcribed. Within both conditions, each 10% chunk of audio was associated with a $0.014 increase in bonus ($t = 10.46$, $P < 0.001$). The relationship between performance and bonus did not differ across conditions ($b = 0.01$, $SE = 0.03$, $t = 0.27$, $P = 0.787$). And, when bonus decisions are regressed on performance, we no longer observed any effect of task condition on bonus ($b < 0.01$, $SE = 0.02$, $t = -0.26$, $P = 0.792$).[#] Because the easy and difficult conditions varied in how much effort they required, this null result evinces that, after accounting for achievement, effort played little-to-no detectable, incremental role predicting bonus.

We can contrast this analysis with one that examines the number of characters the participant typed. Transcript length is a decent-but-imperfect proxy for effort. It is decent because it is a clear signal of sustained attention to the task. On average, participants in the difficult condition typed 111 characters, whereas participants in the easy condition typed 92. This proxy is imperfect, however, because the audio in the difficult conditions was distorted and therefore more difficult to understand. The 111 characters (on average) in the difficult condition required many more replays, and much more focus, compared to the 92 characters (on average) in the easy condition.

If people wanted their effort compensated, then character count might have predicted bonus choice in one of two ways. First, assuming that character count is a decent proxy for effort, such that each character signaled around the same amount of effort, characters in both the easy and difficult conditions might have been worth the same amount. Or second, because characters in the difficult condition required more effort to decode, we might have observed that characters in the difficult condition were worth more compared to characters in the easy condition. We did not observe either of these outcomes. Instead, characters in the easy condition were worth more than characters in the difficult condition: Every ten characters licensed participants to an extra two cents in the easy condition ($t = 10.04$, $P < 0.001$) but only an extra half-cent in the difficult condition ($t = 6.00$, $P < 0.001$; interaction: $t = 5.02$, $P < 0.001$); see Fig. 2, *Right* panel. The clear reason for this discrepancy is that each character in the easy condition yielded more progress toward achieving the task compared to each character in the difficult condition.

Another sign of effort devaluation is obvious when examining the first one hundred or so characters. Recall that the first ten seconds of audio content was the same in the easy and difficult conditions except that, because of the difference in audio quality, transcribing this content required little effort for the easy-condition participants but a lot of effort for the difficult-condition participants. There is no sign of this difference in effort in Fig. 2. Indeed, examining the first one hundred or so characters, participants in the difficult condition rewarded themselves *less* for transcribing the *same amount* under *worse* conditions. The best explanation for this behavior is that both groups evaluated their entitlements based on their performance on the task, relative to the size and scope of the task, to the neglect of how hard they worked.

Resonance and Dissonance Between Spontaneous and Stipulated Entitlement Criteria. An important feature of subjective entitlement is that it can motivate self-serving behavior in violation of others' wishes. So far, we have interpreted bonus choices as reflecting this kind of feeling and that this feeling in turn reflects self-perceptions of achievement. But our results are also compatible with participants strategically trying to take as much as they can while avoiding causing us to think that they took "too much." Strategic responding of this kind would not reflect participants' spontaneous feelings of entitlement, but instead, their beliefs about our preferences.[‖] Accordingly, participants leave money on the table after performing relatively poorly (instead of after working relatively lightly) because they think that *we think* that only performance matters.

Study 11. We designed Study 11 to adjudicate between these two accounts. If participants' choices are purely strategic, then participants should be highly responsive to cues about whether we think performance or effort should matter. For instance, if we instruct participants to choose bonuses based on how hard they worked, then they should take higher bonuses in the difficult condition and lower bonuses in the easy condition. Doing anything else—like taking a large bonus after doing a trivial, effortless task—would violate our wishes, and so, risk taking too much. But if participants spontaneously feel entitled (or unentitled), then how they respond to cues about our preferences should depend on whether those cues align or conflict with their spontaneous

[#]These results, and results from tests for interactions reported elsewhere, are robust when analyzing data using generalized additive models (*SI Appendix*, section 18) (48).

[‖]This explanation is unlikely. Participants are anonymous. And, the worst we could do is block their ID from future studies. This outcome barely qualifies as a consequence. Indeed, the unlucky participants assigned to the more difficult tasks should care less about this outcome (compared with those assigned to easier ones) but they are the ones leaving cash on the table.

feelings. For instance, if we instruct people to take bonuses based on how well they do, then they should do so. But if we instruct participants to take bonuses based on how hard they worked, then participants should (at least partly) reject our instructions because following our instructions conflicts with taking what they feel they deserve based on their performance. For instance, participants who just completed a trivially easy task should take high bonuses when told to choose bonuses based on effort because they feel entitled based on having just done well.

In Study 11, we randomly assigned participants to a difficult or trivially easy task, but now also randomly assigned participants to one of two instructions for how to choose their bonus. We told half of the participants to reward themselves based on how well they did, and we told the other half to reward themselves based on how hard they worked. Whether participants follow instructions equally well across these conditions reveals whether their behavior better reflects strategic responding or spontaneous feelings of entitlement.

How participants paid themselves depended on the interaction between how they were instructed to pay themselves and which task they attempted, $F(1, 697) = 46.98$, $P < 0.001$ (*SI Appendix*, section 16 and Fig. S6, *Right* panel). When participants were told to pay themselves based on how well they did, they paid themselves more in the easy condition (M = \$0.45, SD = \$0.11) compared to the difficult condition (M = \$0.28, SD = \$0.18), $t(255.09) = 10.62$, $P < 0.001$. If participants were simply reacting to our apparent preferences, then we should have seen a similar difference in the opposite direction among participants who were told to choose bonuses based on how hard they worked. But instead, these participants now paid themselves roughly the same amount in the easy (M = \$0.36, SD = \$0.17) and difficult (M = \$0.35, SD = \$0.17) tasks, $t(342.1) = 0.58$, $P = 0.56$. Based on the amount of effort these tasks induced, it seems that participants who succeeded at the trivial task took *higher* bonuses than their low effort warranted (because they did well), whereas participants who failed at the difficult task took *lower* bonuses than their high effort warranted (because they did poorly)—jointly giving rise to similar bonus decisions. Overall, participants who were assigned to take bonuses based on how hard they worked appeared to compromise between following instructions and taking bonuses based on their performance. We report an analysis in *SI Appendix*, section 16 that formalizes this compromise.

In sum, participants do not simply take bonuses based on what they think we want them to do. Participants *will* pay themselves (in part) based on their effort when their attention is drawn to their effort and the context strongly implies that effort is a legitimate criterion for pay. But even when effort is elevated in this way, people appear to pay themselves in part based on their achievement.

Lack of Evidence for Demographic Variation.

Gender. We again aggregated data across Studies 4 to 9 but now compared responses from participants who identified as men or women (N = 2,824; 48% male; *SI Appendix*, section 15). Both men and women take substantially less in the difficult conditions compared to the easy conditions ($ps < 0.001$). After accounting for objective performance, being assigned a difficult or easy task no longer predicts bonus for either men or women ($ps > 0.18$; *SI Appendix*, Tables S13 and S14). And in Study 5, when we measured subjective performance and effort, subjective performance predicted bonuses for men and women ($ps < 0.001$; with no difference between the two groups; interaction: $b < 0.01$, $SE = 0.01$, $t = 0.07$, $P = 0.943$). Likewise, subjective effort did not predict bonus taking for either group ($ps > 0.174$, *SI Appendix*, Fig. S5). In short, men and women appear to feel entitled for the same, achievement-based reasons.**

Study 12. In Study 12, we tested whether the relative advantage of achievement over effort for entitlement varies as a function of espoused workplace values. The ISSP survey from Study 1 provided the grounds for such a test. This survey identified variation in attitudes about the relative importance of performance and effort (*SI Appendix*, Table S3): France showed the largest relative preference for performance over effort (rank #1 out of 35). The United States ranked #18 (right in the middle) with a modest preference for performance. Great Britain, which ranked #27, on average rated effort and performance equally important. And Italy ranked #34 (out of 35). On average, workers in Italy rated effort as more important than performance. Though these countries appear to vary in their workplace values, they all contain residents who work on Prolific. This coincidence lets us test whether espoused cultural values predict differences in subjective entitlements. In Study 12, we recruited English-speaking, native-born residents from France, Italy, and Great Britain to attempt the easy or difficult audio transcription task. We then prompted participants to pay themselves what they thought they earned, and they claimed a bonus from \$0.00 to \$0.50.

Workers across France, Italy, and Great Britain behaved nearly identically to each other (and to the US participants in our other studies; *SI Appendix*, Fig. S8). In all samples, participants paid themselves more after the easy task than the difficult task ($ds > 0.75$, $ps < 0.001$). And, these differences across tasks became nonsignificant when bonus was regressed on task, subjective performance, and their interaction ($\beta s < 0.095$, $ts < 1.05$, $ps > 0.29$). Moreover, pay across all three cultures was strongly predicted by subjective performance measures ($\beta s > 0.40$, $ts < 5.14$, $ps < 0.001$), but not by subjective effort measures ($\beta s < 0.085$, $|t|s < 1.67$, $ps > 0.09$). These findings require careful interpretation. Although France, Italy, Great Britain, and the United States differed in their attitudes toward pay according to the ISSP, they are akin in many ways. It is possible that people who live in cultures that differ in other ways feel entitled based on different criteria. Nevertheless, this study demonstrates that cultural variation in rhetoric about the value of hard work poorly predicts intuitive subjective entitlement. This study also demonstrates that our findings do not simply reflect some unique cocktail of US norms.

Discussion

People tend to cite both effort and achievement as important inputs to why they feel entitled to rewards. To better understand the roles that these inputs play in generating these feelings, we manipulated the effort and achievement that participants experienced and then let them pay themselves at our expense. When we offered anonymized online workers money, they took most of it. This outcome was unsurprising. Participants might have needed the money, viewed it as a gift, or believed they could take it without consequence. Nevertheless, many participants willingly took less than the maximum we offered. They were especially likely to forgo rewards when told to take what they thought they earned or deserve. These routine choices to forgo subjectively unearned rewards yielded two insights into spontaneous, mundane subjective entitlements.

**We also found a gender gap in performance-based self-pay. After accounting for objective performance, as measured by transcript score, women paid themselves less than men did ($P < 0.001$). This gap appears to have reflected a tendency for low-performing men to feel better about their performance compared to low-performing women, and in turn, take higher bonuses (*SI Appendix*, section 15 and Fig. S5). These results corroborate recent work on gender in negotiation. Women desire and feel justified pursuing good outcomes for themselves just like men do (49, 50), but men think more highly of themselves (51).

Feelings of achievement—"doing well"—strongly predict spontaneous subjective entitlement. People around the world and across industries tend to say that achievement ought to be very important or essential when determining pay (Studies 1 to 2). And in a real, mundane work context, participants routinely turned down optional rewards when they thought they did poorly (Studies 4 to 12). Indeed, participants treated achievement as a criterion for paying themselves even when they recognized that they had been assigned difficult tasks by chance or chose a difficult task while others chose an easier one (Studies 7 to 8, S1 to S2; *SI Appendix*, Table S9). This tendency is consistent across men and women in the United States as well as between Americans and Western Europeans (Study 12).

These findings raise the question of how people evaluate their achievements. In our studies, participants evaluated their work by comparing how much they transcribed to the total length of the audio they attempted to transcribe. They then paid themselves a commensurate proportion of the maximum reward we offered. As a result, participants sometimes paid themselves less than others who put in less effort or achieved less by other measures. For instance, participants routinely paid themselves less than others who decoded less text overall or the same amount of text under better conditions (Fig. 2). Notably, in these studies, achievement was easy to discern and had clear minimum (0% of the audio) and maximum (100% of the audio) benchmarks. Not all work is like this. And it is not clear how people evaluate work (like writing a paper) for which quality is subjective and lacks clear benchmarks. One prediction from the current findings is that, even when achievement is more subjective, workers will feel entitled based on how well they think they did (however they form such a judgment) rather than how hard they think they worked.[††]

The second insight from our findings is that common rhetoric about effort and hard work is a poor guide to the mundane operation of entitlement. When prompted, people around the world commonly say that hard work ought to be an important criterion for pay (Study 1). This rhetoric both echoes prior scholarship on effort and suggests that effort would reliably contribute to how entitled people feel to rewards for their work. But when participants generated criteria for raises and bonuses or recalled moments when they thought they got what they earned, they routinely cited achievement and only cited hard work to a much lesser extent (Study 2). When participants imagined their hard work dissociated from their achievement, they did not weigh hard work in their decisions to pursue rewards (Study 3). In a real work task, with real rewards at stake, participant judgments about how hard they thought they worked did not predict how much participants rewarded themselves (Studies 5, 9, 12). After accounting for how well participants did, the relative effort that their work required did not predict reward (Studies 9 to 10; Fig. 2, *Left* panel). And cultural differences in the relative endorsement of effort and achievement did not predict the relative impact of effort and achievement on reward decisions (Study 12). Participants did pay themselves based partially on their effort when the context explicitly stated that effort was the criterion for reward (Study 11). But overall, common rhetoric about effort poorly predicted when and why people spontaneously felt entitled to reward.

Effort and Entitlement: Open Questions. To our surprise, feelings of effort weakly-to-not-at-all predicted spontaneous feelings of entitlement. One reason why we failed to observe a meaningful change in entitlement may be that our "difficult" tasks were insufficiently fatiguing. Other work, outside of online labor platforms, requires much greater exertion and sacrifice. It is possible that, when people attempt work that requires much more exertion, their mere effort yields some small increase in entitlement. One important task for future studies is to examine what makes people feel entitled to rewards when the scope, effort, and stakes of their work is much larger compared to what we can induce and measure using online labor platforms. But our results suggest that, even if very large amounts of effort do affect entitlement, effort will matter much less compared to achievement.

These results are surprising in light of a common conception of fairness that states that people should be punished and rewarded for the virtue of their choices. Effort was desirable as a criterion for reward because the choice to work hard is virtuous and because this form of virtue seems relatively immune from luck. Our studies contained plenty of luck. Through no fault of their own, some participants had weaker hearing (or weaker English) than others, some had too little time to do what we asked, and some had harder tasks than others. These misfortunes would not have predicted self-pay if participants felt entitled on the grounds that they "tried" or "worked harder than they usually do." So, our studies suggest that spontaneous subjective entitlement largely ignores at least one facet of luck in people's lives, namely, people's capacity to succeed at the challenges they happen to face.

Participants might have appealed to their effort to justify high bonuses if only in an ad hoc, self-serving way. At the outset, one potential outcome of these studies was that we would fail to observe meaningful differences in self-pay across tasks because participants would retroactively rationalize why they deserved a reward (33–35). For easy tasks, achievement provides one such justification. For difficult tasks, the principles articulated in the previous paragraph do. But despite a ready-made rationale, participants who had just attempted a straining and unpleasant task denied themselves rewards. This finding provides evidence against certain forms of self-serving rationalization: Insofar as people rationalize rewards that they desire, they do not spontaneously summon competing criteria, like effort, to do so.

Our studies do not speak against effort affecting people's attitudes toward rewards in other ways. People may attend to effort as a cue for figuring out the value of an achievement (36). People may feel more risk averse with rewards that required effort and sacrifice to earn (31). And, setting aside how unpleasant or virtuous their efforts are, people may feel entitled to compensation, absent achievement, simply for giving up opportunities to spend their time and energy elsewhere (37).[‡‡] But most importantly, all of our studies measured entitlement to rewards in the form of pay in a market transaction. This observation suggests two constraints on our findings. First, people may feel entitled to other kinds of good treatment that recognizes their effort. For instance, people may feel entitled to sympathy, thanks, or participation trophies even if they do not feel entitled to pecuniary rewards. Second, our findings may not extend to nonmarket contexts and relationships (38). For instance, people may feel entitled to rewards from their friends based on how much they sacrificed to help instead of how much they actually helped (39).

One reason to think that effort would dominate subjective entitlement came from studies documenting observers' positive feelings toward others who work hard. In light of these studies, we may wonder whether observers place different weights on hard work and achievement compared to workers. For instance, perhaps workers

[††]On-going work of ours appears to vindicate this prediction: In a paradigm similar to the studies reported here, workers who pay themselves after *writing* tasks (which lack objective criteria for quality) pay themselves based on how well they think the writing turned out but not how hard they think they worked (40).

[‡‡]Our studies were probably not long or fatiguing enough for people to consider the opportunity costs of their effort. Participants may have also considered the base pay for the study their compensation for their opportunity costs.

feel entitled based mostly on achievement while observers prefer to distribute rewards based mostly on effort. Such a discrepancy is possible, but we are skeptical. Studies 1 to 2 demonstrate a general tendency for people to prefer achievement over effort as a criterion for reward. And, other studies demonstrate a tendency for observers to reward others based on outcomes (e.g., refs. 14–16, 40). Indeed, when given an opportunity to redistribute income between two workers, spectators reward productivity and largely (but not entirely) ignore productivity differences arising from luck, incentives, or opportunities to work (41, 42). Based on these data, we expect differences in how workers and spectators reward effort to be small.

Conclusion. Though our studies find little role for effort in spontaneous feelings of entitlement, we have suggested some contexts and conditions where effort may affect entitlement. In the meantime, our findings recommend a portrait of spontaneous, mundane subjective entitlement that places *achievement* at its center. To wit: Achievement subjectively licenses reward even when it is made easy (perhaps from lucky access to talent, tools, or undemanding clientele). Dedicated effort to an ultimately unachieved goal does not.

Methods

All materials, preregistrations, data, and analysis code are on ResearchBox: https://researchbox.org/2921. This work was approved by the office of research ethics at Yale University. Informed consent was obtained from all participants prior to their participation. We conducted Studies 3 to 12 using Prolific. For Studies 4 to 11, we limited recruitment to people living in the United States who had completed at least 30 other Prolific tasks, had an approval rating ≥95%, and were using a desktop computer with audio enabled. In Studies 3 to 12, we did not exclude any participants who completed the study from our analyses.

Study 1.

Participants. Study 1 used data collected by the International Social Survey Programme (ISSP) on attitudes toward social inequality (28). In 1992, 1999, and 2009, the ISSP measured respondents' attitudes about whether hard work and job performance ought to determine pay. We combined data across these years, yielding a total of 157,446 respondents across 35 countries (M_{age} = 38_{min}–53_{max}, 53% female). Respondents represented countries from North America (United States and Canada), South America (Chile, Venezuela), Western Europe (e.g., Iceland, France, Germany, United Kingdom), Eastern Europe (e.g., Russia, Croatia, Hungary, Poland, Slovenia), Southern Europe (e.g., Italy, Spain, Portugal), Asia (e.g., Japan, Taiwan), Oceania (e.g., Australia), and Israel and South Africa (*SI Appendix*, Table S1).

In our first analysis, we examined average responses to the hard work and performance items within each country. To do this, we removed all participants who did not provide an answer, or reported that they could not choose an answer, to either the hard work or performance item, leaving 93,284 respondents across 35 countries (M_{age} = 37_{min}–52_{max}, 53% female). When we conducted a similar analysis across job categories, we filtered out respondents for whom we lacked ISCO88 (International Standard Classification of Occupations 1988) industry codes or who worked in industries with small samples, leaving 70,655 respondents. Follow-up analyses investigated what survey items correlate with judgments that hard work should determine pay. We ran several models that increased the number of controls. We continued to filter out respondents who did not respond to all items, so sample size decreased across models (Model 1: N = 89,324, Countries: 35; Model 2: 75,526, Countries: 35, Model 3: 44,033, Countries: 31).

Procedure. In 1992, 1999, and 2009, the ISSP measured respondents' beliefs about what attributes ought to determine someone's pay with the question, "In deciding how much people ought to earn, how important should each of these things be, in your opinion?" What followed was a series of attributes and a rating scale from 1 (essential) to 5 (not important at all). We focused on two attributes: "How hard the person works at the job" (M = 1.98, SD= 0.80) and "How well he or she does at the job" (M = 1.86, SD = 0.75). Other attributes measured in these years included, "How much responsibility goes with the job" (M = 1.96, SD = 0.75), "The number of years spent in education and training" (M = 2.41, SD = 0.90), "What is needed to support a family" (M = 2.55, SD = 1.07), and "Whether the person has children to support" (M = 2.72, SD = 1.15).

In our first analysis, we compared judgments of job performance to hard work within each country for all countries. We regressed importance ratings on a two-level factor (hard work vs. performance) and included by-respondent random intercepts. Sample sizes ranged from n = 844 (Finland) to 6,009 (Germany); Mdn_n = 2,383. In our second analysis, we compared judgments of hard work to performance within superordinate ISCO88 industries. We excluded participants without industry codes (n = 22,231) and industries with fewer than 100 responses (5 industries, n = 134). Sample sizes for the remaining 37 industries ranged from 140 ("skilled agricultural and fishery workers") to 5,674 ("personal and protective services workers"); Mdn_n = 1,891. We again regressed importance ratings on a two-level factor (hard work vs. performance) and included by-respondent random intercepts.

We next conducted a series of linear mixed-effects models (LMEMs) that regressed importance of hard work ratings on importance of performance ratings (with other survey items as control; see *SI Appendix*, Table S2). Model 1 included random by-country, by-year, and by-religion intercepts, but no other clustering or controls. Model 2 added demographic controls of sex, age, social class, and education, and included as control all other "importance" ratings. Model 3 added nine items as additional controls that measured attitudes about what characteristics of a person enable them to get ahead, including "hard work," "ambition," "education," one's "gender" and one's "connections."

Study 2.

Participants. We recruited 346 participants (53% women, M_{age} = 31) from the Yale School of Management behavioral lab.

Procedure. Study 2 had two sections separated by an unrelated task. In the first section, participants were asked to imagine that they set the policy for allocating end-of-the-year bonuses at a small company. We asked participants to write out what rules they would use to determine who would receive bonuses at the end of the year. In the second section, all participants were asked to recall a time when someone decided whether to give them a bonus, pay raise, or promotion. They then listed out what went into that person's decision that they thought were fair and unfair. Two independent coders, unaware of our hypotheses, independently recorded for each participant whether they cited job performance or effort (among other themes) and then resolved disagreements through discussion. Intercoder reliability was moderately high (Part 1: k = 0.85; Part 3: k = 0.77). *SI Appendix*, section 20 contains coding instructions.

Study 3.

Participants. We recruited 240 participants (55% women, M_{age} = 38) from Prolific.

Design and procedure. Participants imagined that they had just finished another year working at a tech company. They then read one of four descriptions of their past year of work. These four descriptions reflected a crossed 2 (Performance: Low vs. High) × 2 (Effort: Low vs. High) design. Participants first read about how hard they worked the past year. They read either that over the last year they worked much less hard on their job to prioritize other things in their life (Low effort) or that they worked much harder at their job than they normally do (High effort). Participants then read about how well they did in the past year based on revenue generated, customers acquired, and feedback from customers and coworkers. Participants read either that they did not meet expectations (Low performance) or that they exceeded expectations (High performance) as evaluated by their supervisor. Participants then reported how they would behave regarding two decisions. The one we were primarily interested in concerned a salary increase. Participants could advocate for either the standard inflation-adjusted raise of 4% or a special 6% raise available to one-third of the company's employees. Participants read that, because their supervisor was "biased toward liking them very much," they were guaranteed to be able to convince the supervisor to give them whichever salary they wanted. Participants reported which salary they think they would choose on a seven-point scale (−3 = *Very likely to choose a 4% raise*, 0 = *Could go either way*, 3 = *Very likely to choose a 6% raise*). We also measured self-reported likelihood to treat themselves to a dinner at a fancy restaurant (1 = *Not at all*, 7 = *Very likely*) (*SI Appendix*, Fig. S2 and Section 7). Participants then provided demographic information (age and gender) to complete the study.

Study 4.

Participants. We recruited 997 participants (55% men, 43% women, 2% other; M_{age} = 42) from Prolific.

Stimuli. Participants were randomly assigned to either a "difficult" audio transcription task or an "easy" audio transcription task. The difficult task used a 20-second audio clip from George Loewenstein's Data Colada seminar (43), "*A narrative or a story places, um, events on a timeline and establishes causal links between them. According to Aristotle, a narrative has a beginning, a middle, and an end, and it's more effective when those events follow as cause and effect.*" We then muffled the audio by applying a low-pass filter with a cutoff frequency of 650 Hz and a roll-off of 24 dB per octave. To create an easy transcription task, we used the first half of this audio clip ("*A narrative or a story places, um, events on a timeline and establishes causal links between them.*") and left it unmuffled. Participants who attempted the easy task reported exerting lower effort, but feeling better about their performance, compared to participants who attempted the difficult task (*SI Appendix*, section 8).

Design and procedure. Participants were randomly assigned to one of four conditions in a 2 (task: easy vs. difficult) × 2 (instructions: deserve vs. financially best) between-subjects design. All participants read that they were helping us develop a task to be used in future studies. They read instructions for how to properly transcribe audio and were then assigned to either the easy or difficult audio clip. All participants were given two minutes to transcribe the audio. After two minutes, and only after two minutes, the study automatically advanced to the next page. Participants were then thanked for completing the transcription task[§§] and given an opportunity to claim a bonus. The remaining instructions on this page reflected the instructions manipulation. Half of the participants were prompted to choose the bonus "that you think you deserve." The other half were prompted to choose the bonus that "will leave you financially best off." After deciding their bonus (on a 51-point slider scale from $0.00 to $0.50), participants filled out exploratory measures and gave feedback about the task.

For every participant in Studies 4 to 12, we calculated their "transcript score" and "transcript length." The transcript score represented the percentage of the audio that the participant successfully transcribed (see our calculation procedure in *SI Appendix*, section 13). The character length was the total number of characters in the submitted transcript, including spaces. In Studies 4 to 11, we edited transcripts to remove material that would distort these measures (e.g., comments left to the experimenters) prior to calculating transcript scores and transcript lengths; *SI Appendix*, section 13. In Studies 4 to 12, we paid all participants whatever bonus they chose within several days of ending data collection. And, in all studies, participants completed a brief demographics form reporting their age and gender.

Study 5.

Participants. We recruited 603 participants (57% women, 42% men, 1% other; M_{age} = 38 y) from Prolific.

Design and procedure. We randomly assigned participants to one of six difficulty conditions. In Difficulty Level 1, participants transcribed the "Easy" audio clip from Study 4. In Difficulty Level 6, participants transcribed the "Difficult" audio clip from Study 4. In Difficulty Levels 2 to 5, participants transcribed an audio clip that featured the same content as the Difficult task, but the audio quality varied in how severely it was muffled (from no muffling in Level 2 to severe muffling in Level 5). Participants received the same transcription instructions from Study 4 and again had only two minutes to complete the task. After the task, participants were thanked and given the following instructions: "We are offering all participants an optional bonus reward. You can choose a bonus between $0.00 and $0.50 based on what you think you earned." On the next page, participants saw the transcript they submitted and answered four questions about it and their experience. Two questions measured self-rated performance ["Please assign a letter grade for the transcript above (A/B/C/D/F)"; "How well does the transcript above reflect the content of the original audio clip?" (1 = *Not well at all*, 5 = *Extremely well*)], r = 0.75. The other two questions measured their self-rated effort ["How hard do you feel like you worked on the audio transcription task?" (1 = *Not hard at all*, 5 = *Extremely hard*); "Relative to all other tasks you have ever done on Prolific, how hard do you feel like you worked on the audio transcription task?" (1 = *Not hard at all*, 5 = *Extremely hard*)], r = 0.61. Questions appeared in a random order.

Study 6.

Participants. We recruited 796 participants (51% women, 47% men, 2% other; M_{age} = 38 y) from Prolific.

Design and procedure. Study 6 matched the design and procedure of Study 4 except that we removed the "deserve" (or "financially best") instructions for how to choose their bonus. Participants were thanked for completing the task, told that we are rewarding participants with a bonus, and that they can choose a bonus between $0.00 and $0.50. Participants chose their bonus on the same 51-point slider scale as in previous studies.

Study 7.

Participants. We recruited 500 participants (51% women, 47% men, 2% other; M_{age} = 39 y) from Prolific.

Design and procedure. Study 7 matched Study 6 in procedure except that participants now learned that they were going to be assigned to transcribe either an easy or difficult audio clip. Participants read that the easy clip was "relatively effortless" and rated as "easy" by 88% of past workers and that the other was "very effortful" and rated as "difficult" by 96% of past workers. We based these values on an early pretest of these stimuli. Participants were then randomly assigned either of these tasks. The task they were assigned to was labeled at the top of the screen [e.g., "You have been assigned to transcribe the (easy|difficult) audio clip (Audio Clip (A|B))"]. As in previous studies, participants had two minutes to transcribe the audio. After the task, when participants chose their bonus, they read, "Thank you. We are offering all participants in this study an optional bonus reward. You can choose a bonus between $0.00 and $0.50." Participants chose their bonus on the same 51-point slider scale as in previous studies.

Study 8.

Participants. We recruited 493 participants (53% women, 46% men, 1% other; M_{age} = 38 y) from Prolific.

Procedure. Study 8 matched the design of Study 7 with one change: Participants now chose either the easy or difficult task. After reading instructions for how to transcribe audio, participants learned that they could choose either "an easy audio clip" or "a difficult audio clip" to transcribe. As in Study 7, participants read that the easy clip was "relatively effortless" to transcribe and that 88% of past workers rated it as easy, and that the difficult clip was "very effortful" and that 96% of past workers rated it as difficult. At the bottom of the screen, they responded to the question, "Which audio clip would you like to transcribe?" and could choose either "Audio Clip A" (which was further labeled "easy") or "Audio Clip B" (which was further labeled "difficult"). The rest of the procedure was the same as in Study 7.

Study 9.

Participants. We recruited 796 participants (49% men, 49% women, 2% other; M_{age} = 41 y) from Prolific.

Design, stimuli, and procedure. The procedure matched Study 8, but participants were now randomly assigned to one of four conditions. In the (a) "difficult" and (b) "easy" conditions, the audio was the same as in Studies 4 to 8. However, we now also included two audio clips that were trivially easy to transcribe. The (c) "trivially easy 1" condition contained 6 seconds of audio from Lady Gaga singing, "Oh say can you see." The (d) "trivially easy 2" condition contained a 7-second professional recording of "Row, row, row your boat, gently down the stream."

We also conducted a posttest for Study 9 (N = 796; 49% men, 49% women, 2% other; M_{age} = 41 y). In this posttest, participants experienced the same procedure as in Study 9. Except, on the bonus page, participants read, "We are considering offering bonuses to participants in future versions of this study. Although we will not be giving bonuses to the current study participants, we would still like to ask you the following questions." Participants then responded to two questions (in a counterbalanced order): "Ignore how hard you worked. Based only on how well you did, what bonus do you think you would have deserved?" and "Ignore how well you did. Based only on how hard you worked, what bonus do you think you would have deserved?" (the same 51-point slider scale from $0.00 to $0.50).

Study 10.

Participants. We recruited 449 participants (66% women, 33% men, 1% other; M_{age} = 38 y) from Prolific.

[§§]We included the word "completing" in Studies 4 and 6 because we did not want participants to think that they might have to revisit their transcript or do another one. However, we began to worry that the word "complete" might induce participants to consider achievement-based entitlements. We dropped this wording in Studies 5 and 7 to 12. This change had no apparent effect on our findings.

Design and procedure. Study 10 replicated the methods of Study 5, but we now randomly assigned participants to one of three conditions: "difficult," "easy," or "effortful." The difficult condition was the same as in prior studies. In the easy condition, participants transcribed the same easy audio clip as in previous studies, but unlike in previous studies, we did not impose any minimum or maximum time limit. The effortful condition was brand new. In this condition, participants transcribed an audio clip that featured the same content as the "difficult" condition, but now the audio was unmuffled and they had unlimited time to complete it. After the screen automatically advanced from the transcript task screen (difficult condition), or participants chose to advance (easy and effortful conditions), participants chose their bonus. They read, "Thank you. We are going to pay you a bonus, but you will decide the amount. Please choose a bonus between $0.00 and $1.00 based on what you think you earned."

Study 11.

Participants. We recruited 701 participants (43% men, 55% women, 2% other; M_{age} = 37 y) from Prolific.

Design, stimuli, and procedure. Study 11 used the same procedure as Study 9 with two modifications. Participants were now randomly assigned to either a trivially easy task (the "row your boat" audio clip from Study 9) or a "difficult" task (the "difficult" task from Studies 4 to 10). Participants were also randomly assigned to one of two instruction conditions. Half were instructed, "Please choose an optional bonus based on how hard you worked" (effort instructions condition) while the other half were told to choose a bonus "based on how well you did" (performance instructions condition). Participants chose a bonus between $0.00 and $0.50 in 1-cent increments.

Study 12.

Participants. For Study 12, we recruited participants from Italy, Great Britain, and France. We restricted recruitment to Prolific workers whose nationality matched the target country, who were born and resided in the target country, and who were fluent in English. We aimed to recruit 300 participants from each country. But we were only able to do so for Italy and Great Britain. For France, due to a smaller recruitment pool, we recruited only 173 participants in the seven days following the posting of our study. We stopped recruitment after seven days in line with our preregistration. In total, we recruited 300 Italian participants (38% women, 60% men, 2% other; M_{age} = 31 y), 300 British participants (34% women, 65% men, 1% other; M_{age} = 41 y), and 173 French participants (41% women, 57% men, 2% other; M_{age} = 29 y).

Design and procedure. The design and procedure were the same across the three samples. For each sample, we randomly assigned participants to either the "easy" or "difficult" condition. After the transcription task, participants chose a bonus for themselves based on what they thought they earned ("You can choose a bonus between $0.00 [in USD] and $0.50 [in USD] based on what you think you earned") using the same 51-point slider scale (from $0.00 to $0.50) form prior studies. Afterward, participants saw the transcript they submitted, and below it, rated their performance (using the same two measures from Study 5; r = 0.85) and rated their effort (again using the same two measures from Study 5; r = 0.70).

Data, Materials, and Software Availability. .csv data have been deposited in ResearchBox (https://researchbox.org/2921) (44).

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1. A. W. Cappelen, A. D. Hole, E. Ø. Sørensen, B. Tungodden, The pluralism of fairness ideals: An experimental approach. *Am. Eco. Rev.* **97**, 818–827 (2007).
2. C. Engel, Dictator games: A meta study. *Exp. Eco.* **14**, 583–610 (2011).
3. E. Hoffman, M. L. Spitzer, Entitlements, rights, and fairness: An experimental examination of subjects' concepts of distributive justice. *J. Legal Stud.* **14**, 259–297 (1985).
4. O. Korenok, E. Millner, L. Razzolini, Feelings of ownership in dictator games. *J. Eco. Psychol.* **61**, 145–151 (2017).
5. T. L. Cherry, S. Kroll, J. F. Shogren, The impact of endowment heterogeneity and origin on public good contributions: evidence from the lab. *J. Eco. Behav. Organ.* **57**, 357–365 (2005).
6. B. J. Ruffle, More is better, but fair is fair: Tipping in dictator and ultimatum games. *Games Eco. Behav.* **23**, 247–265 (1998).
7. P. Burrows, G. Loomes, The impact of fairness on bargaining behaviour. *Exp. Eco.* **1**, 21–41 (1994).
8. E. Karagözoğlu, A. Riedl, Performance information, production uncertainty, and subjective entitlements in bargaining. *Manage. Sci.* **61**, 2611–2626 (2015).
9. J. S. Adams, Inequity in social exchange. *Adv. Exp. Soc. Psychol.* **2**, 267–299 (1965).
10. J. Greenberg, Employee theft as a reaction to underpayment inequity: The hidden cost of pay cuts. *J. Appl. Psychol.* **75**, 561–568 (1990).
11. J. Greenberg, Stealing in the name of justice: Informational and interpersonal moderators of theft reactions to underpayment inequity. *Organ. Behav. Hum. Decis. Process.* **54**, 81–103 (1993).
12. J. Konow, Fair shares: Accountability and cognitive dissonance in allocation decisions. *Am. Eco. Rev.* **90**, 1072–1092 (2000).
13. F. A. Hayek, *The Constitution of Liberty: The Definitive Edition* (The University of Chicago Press, 2011).
14. F. Cushman, A. Dreber, Y. Wang, J. Costa, Accidental outcomes guide punishment in a "trembling hand" game. *PloS One* **4**, e6699 (2009).
15. M. E. Oswald, U. Orth, M. Aeberhard, E. Schneider, Punitive reactions to completed crimes versus accidentally uncompleted crimes. *J. Appl. Soc. Psychol.* **35**, 718–731 (2005).
16. B. Weiner, A. Kukla, An attributional analysis of achievement motivation. *J. Pers. Soc. Psychol.* **15**, 1–20 (1970).
17. C. Cusimano, G. P. Goodwin, in *Advances in Experimental Philosophy of Free will and Responsibility*, T. Nadelhoffer, A. Monroe, Eds. (Bloomsbury Publishing, London, UK, 2022).
18. M. Kneer, E. Machery, No luck for moral luck. *Cognition* **182**, 331–348 (2019).
19. J. Konow, A positive theory of economic fairness. *J. Eco. Behav. Organ.* **31**, 13–35 (1996).
20. M. Inzlicht, A. Shenhav, C. Y. Olivola, The effort paradox: Effort is both costly and valued. *Trends Cogn. Sci.* **22**, 337–349 (2018).
21. Y. E. Bigman, M. Tamir, The road to heaven is paved with effort: Perceived effort amplifies moral judgment. *J. Exp. Psychol.: General* **145**, 1654 (2016).
22. J. B. Celniker *et al.*, The moralization of effort. *J. Exp. Psychol.: General* **152**, 60 (2023).
23. B. Weiner, *Judgments of Responsibility: A Foundation for a Theory of Social Conduct* (Guilford Press, 1995).
24. R. Kivetz, Y. Zheng, Determinants of justification and self-control. *J. Exp. Psychol. Gen.* **135**, 572–587 (2006).
25. R. Kivetz, I. Simonson, Earning the right to indulge: Effort as a determinant of customer preferences toward frequency program rewards. *J. Marketing Res.* **39**, 155–170 (2002).
26. R. Y. Schrift, R. Kivetz, O. Netzer, Complicating decisions: The work ethic heuristic and the construction of effortful decisions. *J. Exp. Psychol. Gen.* **145**, 807–829 (2016).
27. A. Westbrook, D. Kester, T. S. Braver, What is the subjective cost of cognitive effort? Load, trait, and aging effects revealed by economic preference *PLoS One* **8**, e68210 (2013).
28. ISSP Research Group, International Social Survey Programme: Social Inequality I-V Cumulation. GESIS, Cologne. ZA8790 Data file Version 1.0.0. https://doi.org/10.4232/1.14226. Accessed 23 July 2024.
29. G. Loewenstein, Because it is there: The challenge of mountaineering. for utility theory. *Kyklos* **52**, 315–343 (1999).
30. C. Y. Olivola, E. Shafir, The martyrdom effect: When pain and effort increase prosocial contributions. *J. Behav. Decision Making* **26**, 91–105 (2013).
31. C. J. Bechler, S. Lutfeali, S.-C. Huang, J. I. Morris, Working hard for money decreases risk tolerance. *J. Consumer Psychol.* **34**, 110–118 (2024).
32. G. Loewenstein, S. Issacharoff, Source dependence in the valuation of objects. *J. Behav. Decision Making* **7**, 157–168 (1994).
33. L. Babcock, G. Loewenstein, S. Issacharoff, C. Camerer, Biased judgments of fairness in bargaining. *Am. Eco. Rev.* **85**, 1337–1343 (1995).
34. D. M. Messick, K. P. Sentis, Fairness and preference. *J. Exp. Soc. Psychol.* **15**, 418–434 (1979).
35. L. Thompson, G. Loewenstein, Egocentric interpretations of fairness and interpersonal conflict. *Organ. Behav. Hum. Decis. Process.* **51**, 176–197 (1992).
36. J. Kruger, D. Wirtz, L. Van Boven, T. W. Altermatt, The effort heuristic. *J. Exp. Soc. Psychol.* **40**, 91–98 (2004).
37. D. I. Green, Pain-cost and opportunity-cost. *Q. J. Eco.* **8**, 218 (1894).
38. J. Gallus, J. Reiff, E. Kamenica, A. P. Fiske, Relational incentives theory. *Psychol. Rev.* **129**, 586–602 (2022).
39. Y. Zhang, N. Epley, Self-centered social exchange: Differential use of costs versus benefits in prosocial reciprocity. *J. Pers Soc. Psychol.* **97**, 796–810 (2009).
40. J. Kim, V. Izmaylova, C. Cusimano, Do people feel entitled to rewards for AI assisted work? (2025). Accessed 1 January 2025.
41. P. Andre, Shallow meritocracy. *Rev. Econ. Stud.* **92**, 772–807 (2024).
42. L. Dong, L. Huang, J. W. Lien, "They never had a chance": Unequal opportunities and fair redistributions. *Econ. J.* **135**, 914–942 (2024).
43. G. Loewenstein, "Narratives and valuation" (Data Colada Seminar Series, 2022). https://www.youtube.com/watch?v=px8EDXIIqIM. Accessed 1 November 2022.
44. C. Cusimano *et al.*, Data from "Achievement, effort, and entitlement." ResearchBox. https://researchbox.org/2921. Deposited 9 January 2025.
45. C. Cusimano, N. Zorrilla, D. Danks, T. Lombrozo, Psychological freedom, rationality, and the naive theory of reasoning. *J. Exp. Psychol. Gen.* **153**, 837–863 (2024).
46. J. Rawls, A Theory of Justice. (Belknap Press, Revised Edition, 1999).
47. M. J. Sandel, Justice: What's the right thing to do? (Macmillan, 2010).
48. U. Simonsohn, Interacting with curves: How to validly test and probe interactions in the real (nonlinear) world. *Adv. Methods Pract. Psychol. Sci.* **7**, 1 (2024).
49. J. E. Dannals, J. J. Zlatev, N. Halevy, M. A. Neale, The dynamics of gender and alternatives in negotiation. *J. Appl. Psychol.* **106**, 1655 (2021).
50. L. J. Kray, J. A. Kennedy, M. Lee, Now, women do ask: A call to update beliefs about the gender pay gap. *Acad. Manage. Discoveries* **10**, 7–33 (2024).
51. M. Niederle, L. Vesterlund, Gender and competition. *Annu. Rev. Eco.* **3**, 601–630 (2011).