

# What Goes Up Apparently Needn't Come Down: Asymmetric Predictions of Ascent and Descent in Rankings

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## ABSTRACT

In eight studies, we document an *upward mobility bias*, or a tendency to predict that a rise in rankings is more likely than a decline. This asymmetry was observed in predictions of classroom performance, NBA and NFL standings, business school rankings, and employee performance rankings. The bias was found for entities people care about and want to see improve their standing, as well as entities in which people are not invested. It appears to result from people's tendency to give considerable weight to a focal agent's intentions and motivation, but to give less weight to the intentions of competitors and other factors that would thwart the focal agent's improvement. We show that this bias is most pronounced for implicit incremental theorists, who believe that performance is malleable (and hence assign more weight to intentions and effort). We discuss implications of this asymmetry for decision making and for an understanding of the underdog bias. Copyright © 2015 John Wiley & Sons, Ltd.

**KEY WORDS** upward mobility bias; focalism; relative performance; prediction

In an often-told tale, two campers see a bear running toward them and realize there's no way they can outrun it. One nevertheless proceeds to swap his hiking boots for a swifter pair of sneakers. The other finds this odd and remarks, "What are you doing? You can't outrun a bear." "I don't have to," he replies, "I only have to outrun you."

As this tale highlights, success in competitive settings is measured in relative terms. Financial success is commonly expressed in relative terms (e.g. "the 1%"; "middle class"), students are frequently graded "on a curve," sport teams advance to the playoffs based on how their record compares to others', and workers are named "employee of the month" whether absolute performance that month was strong or weak. Predicting performance in competitive settings therefore involves an extra layer of complexity, as it requires assessing not just the attributes of a target person, team, or organization, but the attributes of its competitors as well. How, and how well, do people make such predictions?

## Predicting relative and absolute performance

Attribution theorists have explored the naïve psychological processes underlying people's understanding of behavior. Nearly all of them have highlighted the distinction between personal and impersonal causal factors. Heider (1958) suggested that three factors affect a person's understanding of an agent's behavior: the agent's motivation (i.e. the extent to which she is trying to perform the behavior), her ability (i.e. the extent to which she is able to perform the behavior), and external circumstances beyond the agent's control (i.e. the extent to which environmental forces prevent, hinder, facilitate, or virtually guarantee the behavior). To the extent that an individual is believed to be both motivated and able

to overcome external obstacles, she would be expected to succeed at the task at hand. In contrast, to the extent that an individual's motivation or ability is seen as insufficient to overcome any inhibitory forces, she is considered likely to fail. A student believed to be both motivated and intellectually able is expected to succeed in her courses. A student known to be insufficiently motivated or intellectually lacking is expected to do poorly. When predicting achievement in absolute settings—where performance is measured according to objective criteria—the only information necessary is whether the person's motivation and ability surpass any inhibiting external forces.

In competitive settings, prediction is more complex. Since a target's ranking is, by definition, relative (the rise of one person, team, or company necessarily entails the decline of another), accurate predictions of performance must take into account each competitor's motivation and ability in addition to those of the focal target.

Imagine a course in which students are graded on a curve. To simplify matters, imagine that only two students are enrolled in the course, one of whom will receive an A while the other will have to settle for a B. How would the professor go about predicting the performance of Student X, when X nervously asks her to do so during office hours? First, as attribution theory suggests, the professor will need to infer Student X's motivation and ability from her past behavior (e.g. her attendance record), accomplishments (e.g. her GPA), and so on. Second, the professor will need to assess the attributes of the other student, Student Y—her motivation and ability. Third, the professor will need to account for any external circumstances that might affect one student more than the other (e.g. Student X's financial situation or extracurricular entanglements, Student Y's health issues). To predict Student X's performance, all of these factors must be considered.

Now imagine instead that 30 students are enrolled in the course. How would the professor go about predicting Student

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X's performance in such a setting? In addition to assessing Student X's motivation and ability, the professor would now need to consider each of the other 29 students' attributes. Furthermore, beyond considering the impact of external circumstances shared by all students (e.g. time allotted for the final exam), the professor would need to consider each student's individual circumstances (e.g. Student Z's family situation) as well as circumstances shared by subsets of students (e.g. students with time extensions). Obviously, computing the likely impact of factors that affect relative performance in competitive settings is a challenge.

Given all the difficulties involved, it is unlikely that people predict performance in competitive settings the same way they do in non-competitive settings, where performance is measured relative to an objective benchmark. The sheer number of factors that need to be taken into account complicate the already challenging task of predicting uncertain future events.

### **An upward mobility bias in predictions of relative performance**

It is not uncommon for people to substitute an easy assessment that comes to mind automatically for the more challenging judgment that's actually required (Kahneman & Frederick, 2002). When it comes to the computationally complex task of predicting relative performance, a likely substitution is the relatively simple assessment of likely absolute performance. Focusing on a target's absolute attributes rather than how those attributes compare to those of the target's competitors greatly simplifies the prediction process. Indeed, evidence from several lines of research supports the idea that both personal (i.e. motivation and ability) and impersonal (i.e. external circumstances) factors that might affect the performance of the target's competitors are barely taken into consideration—if at all. That is, when making predictions of relative standing (Klar & Giladi, 1997; Kruger, 1999; Kruger & Burrus, 2004) or when predicting the outcome of explicit competitions (Moore, 2005; Moore & Kim, 2003; Radzevick & Moore, 2008; Windschitl et al., 2003), people often focus exclusively on a target's personal attributes and all but ignore its competitors' capabilities.

If, as past research suggests, people ignore the efforts, abilities, and actions of the target's competitors, on what, exactly, are they likely to focus? Following Heider (1958), we predict that people tend to focus on a target's effort and ability. In many circumstances, furthermore, it is much easier to assess whether the requisite effort is present than to assess whether the target has sufficient ability. In this paper, we propose that the narrow focus on a target's motivation and effort leads to an *upward mobility bias* in predictions of performance: that is, people tend to predict that a rise in rankings is more likely than a decline. Because people generally want to improve their standing in a competition, a focus on the motivation of a lowly ranked target will give credence to the prospect of her moving up. At the same time, because those who are highly ranked generally want to stay in the higher echelon, focusing on a highly ranked target's motivation will make the prospects of a decline seem remote.

Declines, after all, are not intended, and happen despite a person's efforts. But of course, rankings are by definition zero-sum: one person's (or team's) rise in rankings is always accompanied by another's decline.

To illustrate, imagine once again that a student asks her professor to predict her likely performance on the final exam, based on her midterm performance. If, as we argue, the professor engages in a type of attribute substitution, she will focus her assessment on this particular student's ability and (especially) motivation, and neglect the attributes of the other students in the class. As long as the professor believes that her student is sufficiently able and motivated, she is likely to predict that Student X will rank higher (relative to the other students) than she had ranked on the midterm. This leads to a logical impossibility: students near the bottom of the class will generally be seen as motivated to do better and therefore be expected to rise in the rankings; at the same time, students ranked near the top of the class will likely be seen as motivated to remain at the top, and therefore expected to stand their ground. But because a rise of one student necessitates the decline of another, these two predictions are in conflict. Although intuitively appealing (students' motivation and ability *should* affect their performance) predictions that focus solely on a given student and disregard the motivations and talents of the rest of the class are inherently flawed.

To examine this account of the upward mobility bias, we asked participants to predict the relative performance of a focal target in various settings, including athletics (Studies 1 and 3A), academia (Studies 2, 3B, 4, 5A, and 5B), and employment (Study 6). Participants considered an individual (or team of individuals) previously ranked high or low in the domain in question and were asked to predict the future ranking of that same individual (or team). In line with the *upward mobility bias*, we predicted that participants would see a rise in rankings as more likely than a decline. We predicted that this would be the case both when participants might be interested in seeing the targets succeed (Study 1) and when they likely had no rooting interest (Studies 2–6). Furthermore, we predicted that this effect would result from participants' overreliance on the attributes of the target of prediction, especially the target's perceived motivation. Among the consequences of this focus on the target's motivation, we predicted that incremental “theorists,” who believe that traits and abilities are subject to change and who prize and attend to effort (Dweck, 1999), would be especially prone to the upward mobility bias.

### **STUDY 1: NATIONAL FOOTBALL LEAGUE (NFL) RANKINGS**

We first asked participants to predict performance in a domain in which rankings and relative assessments are ubiquitous: sports. We examined whether sports fans, who are presumed to know a lot about different teams and are familiar with the relativity of performance, would predict that a team near the bottom of the standings is more likely to rise in

rankings than a team near the top of the standings is to drop. We asked discussants in an on-line sports forum to assess the future standing of NFL teams based on their past standing. We predicted that participants would exhibit an upward mobility bias and assign a higher likelihood of low-ranked teams rising in rankings than high-ranked teams dropping in them.

## Method

### Participants

Sixty-nine participants (1 female,  $M_{\text{age}} = 24.26$ ), recruited from a popular NFL fan forum,<sup>1</sup> volunteered for this study.

### Materials and procedure

Several times each year, the popular sports network ESPN publishes a “power ranking” of the 32 National Football League (NFL) teams based on the assessments of its sports analysts. Ten days following the publication of ESPN’s post-NFL-draft power ranking (23 May 2014), participants were presented with the rank assigned to eight teams and asked to predict each team’s ranking at the end of the following season. To simplify their task, participants were asked to assess the likelihood that next year a given team would finish among the top or bottom 16 of the league. For example, some participants estimated the likelihood that the Seattle Seahawks (ranked #1) would either remain in the top 16 of the league or drop to the bottom 16. The eight teams were presented randomly, such that each participant predicted the performance of one team from the top 4 teams, one team from the second 4 (places 5–8), one team from the third 4 (places 9–12), and so forth.<sup>2</sup> For each participant, the teams in the top and bottom halves of the rankings were matched to be equally distant from the middle rank. For example, participants who predicted the future standing of the Seattle Seahawks (ranked #1), the New Orleans Saints (#5), the Philadelphia Eagles (#9), and the Baltimore Ravens (#13) also predicted the future standing of the Cleveland Browns (#32), the Washington Redskins (#28), the Miami Dolphins (#24), and the Detroit Lions (#20). Participants typed their percentage estimates of the likelihood of a given team ending up in the bottom half and top half of the rankings and were unable to proceed if the sum did not equal 100%.

After eliciting their predictions, we assessed participants’ interest in football with 3 questions: “To what extent do you consider yourself a football fan?” (1—I don’t consider myself a fan at all, 5—I am an avid fan), “To what extent do you follow the NFL?” (1—Not at all, 5—Very much so), and “To what extent do you care about the outcomes of games in the NFL?” (1—Not at all, 5—Very much so). We averaged these questions to create an index of participants’

interest in football (Cronbach’s  $\alpha = 0.84$ ). As expected given the subject pool, all but 2 participants rated themselves as extremely avid fans ( $M = 4.72$ ,  $SD = 0.47$ ).

## Results

We averaged participants’ likelihood estimates for the four low-ranking and the four high-ranking teams to create composite measures of the anticipated likelihood of a rise in rankings and a drop in rankings, respectively. For the *rise in rankings* measure, we averaged participants’ estimates that each of the four teams from the bottom 16 of the current power rankings (places 17–32) would rise to the top 16 the following year. For the *drop in rankings* measure, we averaged participants’ estimates that each of the four teams from the top 16 of the current rankings (places 1–16) would drop to the bottom 16 the following year.

Consistent with our hypothesis, participants exhibited an upward mobility bias in their predictions of teams’ rankings from one year to the next. Participants estimated that a team previously ranked in the bottom half of the league would be significantly more likely to rise to the top half of the rankings ( $M = 33.93\%$ ,  $SD = 10.83$ ) than a team ranked in the top half would be to drop to the bottom half ( $M = 28.91\%$ ,  $SD = 10.80$ ),  $t(68) = 2.99$ ,  $p < .005$ . This was most pronounced for teams farthest from the middle of the pack. Despite being equally distant from the mid-rank, participants thought that a team ranked in the bottom 4 of the league was significantly more likely to rise to the top 16 ( $M = 25.41\%$ ,  $SD = 23.49$ ) than a team ranked in the top 4 was to drop to the bottom 16 ( $M = 12.78\%$ ,  $SD = 18.05$ ),  $t(68) = 5.07$ ,  $p < .0001$ . They also thought that a team ranked 25th–28th was more likely to rise to the top 16 ( $M = 27.68\%$ ,  $SD = 16.75$ ) than a team ranked 5th–8th was to drop to the bottom 16 ( $M = 21.88\%$ ,  $SD = 16.77$ ),  $t(68) = 2.08$ ,  $p < .05$ . Participants’ estimates for the teams ranked 21–24 and 9–12 and the teams ranked 17–20 and 13–16 did not differ significantly from each other.<sup>3</sup>

## STUDY 2: BUSINESS SCHOOL RANKINGS

Participants in Study 1 exhibited an upward mobility bias in predictions of performance in the NFL: they estimated that low-ranked teams are more likely to rise in the standings than high-ranked teams are to drop. Of course, this is impossible: given that NFL standings are a zero-sum game, the rise of one team requires the drop of another. It is noteworthy that participants exhibited this bias even though they predicted the performance of specific teams (e.g. the Saints and Dolphins) rather than abstract entities (the “5<sup>th</sup> ranked” and “24<sup>th</sup> ranked” teams) and despite making several predictions (which should highlight the relativity of each team’s performance).

<sup>1</sup><http://www.reddit.com/r/nfl/>

<sup>2</sup>Participants were randomly presented with eight teams drawn from one of the following four sets: (#1, #5, #9, #13, #20, #24, #28, #32), (#2, #6, #10, #14, #19, #23, #27, #31), (#3, #7, #11, #15, #18, #22, #26, #30), or (#4, #8, #12, #16, #27, #21, #25, #29).

<sup>3</sup>Not surprisingly given that there was so little variability in the measures of participants’ interest in the NFL, interest in professional football did not qualify any of our results.

In Study 2, we examined the robustness of these findings and addressed a potential artifact in Study 1. It is likely that participants (who were avid football fans) were reluctant to indicate that their favorite team would drop in the rankings. To the extent that participants were likely to invest psychologically in winners and root for teams ranked at the top of the league, they may have inflated their estimates of highly ranked teams staying at the top out of self-interest. Indeed, when asked about their favorite NFL team, 69% of participants listed a team in the top half of the league, and 37% named a team in the Top 4. Therefore, the upward mobility bias found in Study 1 may have been the result of participants' unwillingness to imagine their team dropping in rankings (rather than a general tendency to posit a great deal of movement upwards on the part of lower-ranked teams). In Study 2, we examined predictions in a domain in which participants had little or no prior exposure to the entities in question and were unlikely to have much of a rooting interest in their rankings.

## Method

### Participants

One hundred six Mechanical Turk participants (62 females,  $M_{\text{age}}=35.30$ ) completed the study in exchange for modest monetary compensation.

### Materials and procedure

Every two years, Bloomberg Businessweek magazine publishes its ranking of the top full-time MBA programs in the United States, based on past and present students' satisfaction with their education, the views of corporate recruiters, and statistics such as a school's placement record in top firms. Participants were presented with the rankings of the Top 20 business schools as ranked in 2012. They were also informed of each program's cost, enrollment, geographical location, and current dean. They were reminded of the importance of such rankings in influencing applicants' enrollment decisions and were asked to predict the schools' 2014 rankings. To engage participants in the prediction task, they were asked to consider the factors that are likely to play a role in determining the future ranking of the school. Participants were then given time to type their thoughts about whatever factors seemed important to them before continuing to the prediction task.

After reviewing the rankings and the information about each school, participants estimated the likelihood that a given school's standing would change from one ranking to the next. Specifically, participants were asked to assess the likelihood that a given school would finish among the top 5, the second 5, the third 5, or the bottom 5 of the rankings in 2014 based on its rank in 2012. For example, participants who were presented with the University of Chicago (ranked #1) were asked to estimate the likelihood that it would either remain in the top 5 or drop to each of the other quadrants in the rankings. Participants were randomly presented with two schools: one school from the top 10 and one from the bottom 10 of the rankings. They typed their percentage estimates of

the likelihood of a given school ending up in each of the quadrants, and were unable to proceed if the sum did not equal 100%.

## Results

Each participant made two sets of predictions—one for a high-ranking school and one for a low-ranking school. We therefore computed for each participant two likelihood assessments—that a school in the bottom 10 would rise to the top 10 and that a school in the top 10 would drop to the bottom 10. For the *rise in rankings* measure, we summed participants' estimates that a school from the bottom 10 (i.e. ranks 11–20) would rise to either the top 5 or the second 5 in the rankings. For the *drop in rankings* measure, we summed participants' estimates that a school from the top 10 would either drop to the third 5 or the bottom 5.

Participants exhibited an upward mobility bias in their predictions of business school rankings. They estimated that a school previously ranked in the bottom 10 would be significantly more likely to rise to the top 10 ( $M=27.21\%$ ,  $SD=20.86$ ) than a school ranked in the top 10 would be to drop to the bottom 10 ( $M=16.05\%$ ,  $SD=17.87$ ),  $t(105)=4.68$ ,  $p<.0001$ . Furthermore, despite being equally distant from the middle rank, participants believed that a school ranked in the bottom 5 (16<sup>th</sup>–20<sup>th</sup>) would be significantly more likely to rise to the top 10 ( $M=23.30\%$ ,  $SD=22.42$ ) than a school ranked in the top 5 would be to drop to the bottom 10 ( $M=9.21\%$ ,  $SD=12.13$ ),  $t(32)=3.22$ ,  $p<.005$ , and that a school ranked in the third 5 (11<sup>th</sup>–15<sup>th</sup>) would be more likely to rise to the top 10 ( $M=34.92$ ,  $SD=20.61$ ) than a school ranked in the second 5 (6<sup>th</sup>–10<sup>th</sup>) would be to drop to the bottom 10 ( $M=20.92$ ,  $SD=17.10$ ),  $t(24)=2.93$ ,  $p<.01$ .

## STUDIES 3A AND 3B

Studies 1 and 2 provided support for the upward mobility bias in predictions of relative performance. When predicting the future standing of NFL teams or MBA programs, participants considered a rise in rankings to be more likely than a decline. In both cases, participants had quite a bit of information about the targets in question. Participants in Study 1 were avid NFL fans and likely knew a great deal about the personnel and off-season personnel changes of the different NFL teams. Participants in Study 2 were given detailed information about the top 20 MBA programs in the country. This information may have facilitated the upward mobility bias by enabling people's tendency to process information in ways that confirm preconceived notions (Cohen, 1981; Gilovich, 1991; Lord et al. 1979). That is, participants may have selectively attended to the information about the team or school whose ranking they were asked to predict and construed it in ways that implied a rise in rankings. For example, when asked to predict the performance of a school with a high enrollment rate, participants may have seen the enrollment as a signal of the school's popularity and therefore as supportive of its likely rise in rankings. However, when asked to predict



the performance of a school with a low enrollment rate, participants may have treated that piece of information as indicative of the school's selectivity and therefore as similarly implying a rise in the rankings.

Although biased processing of specific items of information may play some role in the upward mobility bias, we don't believe it is the main determinant. Instead, we argue that the bias is mainly due to people's overreliance on the target's motivation. When predicting the performance of a low-ranked team, school, or individual, people are likely to focus on its drive to succeed and therefore believe that it is likely to rise in the rankings. In contrast, when predicting the performance of a high-ranked team, school, or individual, people are likely to focus on its drive to remain successful and therefore believe that it is likely to remain near the top of the rankings. Indeed, when an entity experiences a drop in rank, it is generally despite its efforts, not because of them. If such a narrow focus on motivation is the driving force behind the upward mobility bias, then the bias should still be present when predicting the performance of abstract entities—those about whom one has no concrete, detailed knowledge. We tested this idea in Studies 3A and 3B. Participants in Study 3A predicted the future rankings of sport teams based on their past standings. Unlike Study 1, these predictions were made about abstract entities (e.g. the 11<sup>th</sup> ranked team) and hence in the absence of any detailed information about the team in question. Study 3B was a conceptual replication in the domain of class standing.

### STUDY 3A: NATIONAL BASKETBALL LEAGUE (NBA) RANKINGS

#### Method

##### Participants

One hundred eighty-eight Mechanical Turk participants (100 females,  $M_{\text{age}} = 35.41$ ) completed the study in exchange for modest monetary compensation.

##### Materials and procedure

The National Basketball Association (NBA) has 30 teams that, at the end of each regular season, can be ranked according to win-loss record (which is done, for example, to help establish the order in which teams can draft collegiate and eligible foreign players). Participants were asked to estimate the probability that a team's ranking would differ from one season to the next. To control for the strength of the teams participants were asked to consider, we specifically drew their attention to teams ranked in the top or bottom tertiles. In the *rise in rankings* condition, participants were asked to estimate the likelihood that a team ranked 30<sup>th</sup>, 26<sup>th</sup>, or 21<sup>st</sup> one year would either remain in the bottom 10 of the league or rise to the middle or top 10 the following year. In the *drop in rankings* condition, participants were asked to estimate the likelihood that a team ranked 1<sup>st</sup>, 5<sup>th</sup>, or 10<sup>th</sup> in one year would either remain in the top 10 or drop to the middle or bottom 10 the following year. Note that teams ranked 1<sup>st</sup> and 30<sup>th</sup> are equidistant from the middle 10 of the league,

as are teams ranked 5<sup>th</sup> and 26<sup>th</sup>, and teams ranked 10<sup>th</sup> and 21<sup>st</sup>. Participants typed their percentage estimates, and were unable to proceed if their estimates about each team did not sum to 100%.

After eliciting their predictions, we assessed participants' interest in basketball with 3 questions: "To what extent do you consider yourself a basketball fan?" (1—I don't consider myself a fan at all, 5—I am an avid fan), "To what extent do you follow the NBA?" (1—Not at all, 5—Very much so), and "To what extent do you care about the outcomes of games in the NBA?" (1—Not at all, 5—Very much so). We averaged these questions to create an index of interest in the NBA (Cronbach's  $\alpha = 0.95$ ).

#### Results

We summed participants' estimates of the likelihood that a team's standing would differ from one year to the next. In the *rise in rankings* conditions, we summed participants' estimates that a team previously ranked in the bottom 10 (ranked 30<sup>th</sup>, 26<sup>th</sup>, or 21<sup>st</sup>) would be ranked in the middle or top 10 in the following year. In the *drop in rankings* conditions, we summed participants' estimates that a team previously ranked in the top 10 (ranked 1<sup>st</sup>, 5<sup>th</sup>, or 10<sup>th</sup>) would be ranked in the middle or bottom 10.

Replicating the findings from Studies 1 and 2, participants exhibited an upward mobility bias in their predictions of teams' ranking from one year to the next. As shown in Figure 1, participants estimated that a team previously ranked 30<sup>th</sup> ( $M = 53.62\%$ ,  $SD = 21.07$ ), 26<sup>th</sup> ( $M = 50.96\%$ ,  $SD = 20.35$ ) or 21<sup>st</sup> ( $M = 59.19\%$ ,  $SD = 19.02$ ) would be significantly more likely to rise in the rankings than a team ranked 1<sup>st</sup> ( $M = 43.71\%$ ,  $SD = 25.84$ ), 5<sup>th</sup> ( $M = 41.78\%$ ,  $SD = 16.89$ ) or 10<sup>th</sup> ( $M = 48.30\%$ ,  $SD = 16.98$ ) would be to drop in the rankings. A planned contrast between the three *rise in rankings* estimates and the three *drop in rankings* estimates was significant,  $F(1,182) = 11.23$ ,  $p = .001$ . Furthermore, despite being equally distant from the middle 10, participants believed that a team ranked 21<sup>st</sup> ( $M = 41.15\%$ ,

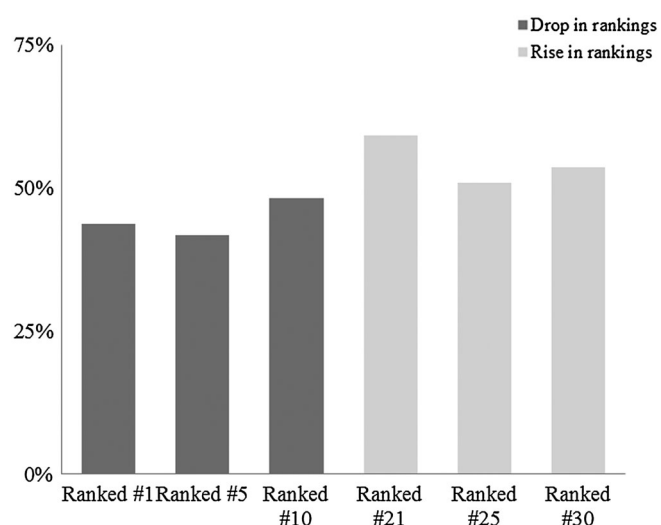


Figure 1. Perceived likelihood of a rise/drop in NBA rankings by previous season ranking (Study 3A)

SD=17.13) was significantly more likely to move to the middle 10 than a team ranked 10<sup>th</sup> ( $M=31.45\%$ ,  $SD=10.79$ ),  $F(1, 182)=7.93$ ,  $p=.005$ , that a team ranked 26<sup>th</sup> ( $M=32.08\%$ ,  $SD=11.36$ ) was marginally more likely to do so than a team ranked 5<sup>th</sup> ( $M=25.94\%$ ,  $SD=10.43$ ),  $F(1, 182)=3.03$ ,  $p=.08$ , and that a team ranked 30<sup>th</sup> ( $M=37.50\%$ ,  $SD=17.36$ ) was significantly more likely to do so than a team ranked 1<sup>st</sup> ( $M=26.22\%$ ,  $SD=15.19$ ),  $F(1, 182)=10.02$ ,  $p=.002$ . These effects remained unchanged after controlling for participants' self-reported interest in the NBA.

### STUDY 3B: CLASS STANDING

#### Method

##### Participants

One hundred twenty-two Cornell University undergraduates (96 females,  $M_{age}=19.75$ ) participated for extra credit in their psychology and human development courses.

##### Materials and procedure

Participants were asked to estimate the probability that a student's grade would differ from one exam to the next. Specifically, participants were asked to imagine a course in which 30 students were graded on a curve, such that the top 10 students on each exam receive an A, the middle 10 receive a B, and the bottom 10 receive a C. They then estimated the likelihood of a student with a particular grade on the first exam receiving each of the three grades on the second exam. In the *rise in rankings* condition, participants estimated the likelihood that a randomly selected student who received a C on the first exam would receive an A, B, or C on the second. In the *drop in rankings* condition, participants estimated the likelihood that a randomly selected student who received an A on the first exam would receive each of the three grades on the second. Participants wrote their estimates in percentages, with a written reminder that they should total 100%.<sup>4</sup>

#### Results

In the *rise in rankings* condition, we summed participants' estimates that a student who received a C on the midterm would do better (receive an A or B) on the final; in the *drop in rankings* condition, we summed participants' estimates that a student who received an A on the midterm would do worse (receive a B or C) on the final.

As expected, participants exhibited an upward mobility bias, estimating that a rise in rankings is significantly more likely than a decline. Whereas participants in the *rise in rankings* condition estimated that a student who was previously at the bottom 10 of the class had a 56% ( $SD=12.35$ ) chance of rising to the middle 10 or higher, participants in the *drop in*

*rankings* condition estimated that a student who was previously in the top 10 had only a 43% ( $SD=15.69$ ) chance of dropping to the middle 10 or lower,  $t(117)=4.91$ ,  $p<.0001$ . Furthermore, despite being equally distant from the middle 10, participants believed that a randomly selected student from the bottom 10 had a 35% ( $SD=8.29$ ) chance of rising to the middle 10 (i.e. receive a B following a C), but that a student from the top 10 had only a 28% ( $SD=7.98$ ) chance of dropping to the same middle third,  $t(117)=4.75$ ,  $p<.0001$ .<sup>5</sup>

### STUDY 4: AN ALTERNATIVE ACCOUNT TO THE UPWARD MOBILITY BIAS

Studies 3A and 3B testify to the robustness of the upward mobility bias by showing that it occurs even when participants do not have any detailed information about the target entities in question and are estimating the performance of abstract targets (e.g. the 12<sup>th</sup> ranked team). Participants estimated that low-ranked teams (Study 3A) and students (3B) were significantly more likely to rise in the rankings than high-ranked targets were to drop.

We contend that the upward mobility bias is due to a kind of attribute substitution: that people's lay theory of motivation—that most people strive to improve a weak performance but don't strive to get worse—is highly accessible and is all-but substituted for the difficult assessment of how the person or team in question will stack up to the competition. An alternative account of this bias is that people simply anchor on the most salient position in any rankings—the top position—and insufficiently adjust from it (Epley & Gilovich, 2001, 2006; Tversky & Kahneman, 1974). That is, the salience of “1” or “top” exerts a pull on people's estimates of rising and declining in rankings, leading the former to be higher than the latter.

We tested this alternative account in Study 4 by manipulating the desirability of rising in ranking. Being highly ranked is often desirable. It is desirable for a country to be ranked high in per capita income, for a university to be ranked high in terms of Nobel Prize winners, or for a basketball team to be ranked high in assists. In those circumstances, the upward mobility bias can be explained both by an anchoring account as well as an attribute substitution account. But sometimes a drop in ranking is more desirable. It is not desirable for a country to be ranked high in corruption, for

<sup>4</sup>Three participants' likelihood assessments exceeded 100%. Since these participants either did not understand or did not pay attention to the directions, we excluded their data from the analyses.

<sup>5</sup>Because participants were asked to estimate the likelihood that a student would receive each of the three grades (A, B or C), it could be that we inadvertently cued them to think about performance in the classroom in absolute rather than relative terms. We therefore replicated this study with minor changes. We presented 148 Mechanical Turk participants (81 females,  $M_{age}=33.92$ ) with a similar scenario, but rather than having them predict a random student's grade, they were asked to predict the student's ranking on the second exam based on her ranking in the first exam (e.g. given that a student was ranked in the bottom 10, what is the likelihood that she will rise to the middle 10). The instructions made no reference to specific grades. Participants still exhibited an upward mobility bias, estimating that a student from the bottom 10 had a 51% ( $SD=19.88$ ) chance of rising to the middle 10 or higher, but that a student from the top 10 had only a 35% ( $SD=21.44$ ) chance of dropping to the middle 10 or lower  $t(146)=4.56$ ,  $p<.0001$ .

a university to be ranked high in sexual assault charges, or for a basketball team to be ranked high in turnovers. In these circumstances, the two accounts make different predictions.

According to the anchoring account, people anchor on the top rank and insufficiently adjust from it, leading to estimates of a rise that are higher than estimates of a decline both when a rise in ranking is desirable and when it is not. In contrast, the desirability of a rise in ranking is critical to the attribute substitution account. When being highly ranked is *undesirable*, the relevant targets are motivated to drop in rankings. Therefore, when it comes to “undesirable” rankings, people should see a drop in ranking as more likely than a rise. In Study 4, we tested this prediction by examining whether participants would see a rise in rankings as more likely than a decline only when a rise is desirable.

## Method

### Participants

One hundred twenty six Mechanical Turk participants (59 females, 61 males, 6 unspecified,  $M_{\text{age}} = 33.89$ ) completed the study in exchange for modest monetary compensation.

### Materials and procedure

Participants were asked to estimate the probability that a student's absentee rate would differ from one half of the semester to the next. Specifically, participants were asked to imagine a class of 30 students in which the teacher kept track of the students' number of absences. To examine the two accounts of the upward mobility bias, we manipulated the desirability of being highly ranked. In the *desirable-ranking* condition, participants were told that the rankings ranged from the students with the least absences (top 10) to those with the most (bottom 10). Therefore, to get good grades, the students “try to *rise* in the rankings by minimizing their absences.” In the *undesirable-ranking* condition, participants were told that the rankings ranged from students with the most absences (top 10) to those with the least (bottom 10). In this condition, participants read that to get good grades the students “try to *drop* in the rankings by minimizing their absences.” We crossed ranking desirability with direction of prediction in a  $2 \times 2$  between-subjects design. In the *rise in rankings* condition, participants were asked to assess the likelihood that a randomly selected student who was in the bottom 10 of the class in absences in the first half of the semester would rank in each third of the distribution on the second half. In the *drop in rankings* condition, participants assessed the likelihood that a randomly selected student in the top 10 of the class would rank in each third of the distribution on the second half.

If the upward mobility bias is due to participants anchoring on the top rank, then the desirability of being highly ranked should be irrelevant to predictions of future absences. However, if the bias is due to overweighting the impact of the target's motivation to better her standing, the desirability of being highly ranked should significantly influence participants' estimates.

## Results

In the *rise in rankings* condition, we computed a measure of estimated likelihood of change in the student's ranking by summing participants' estimates that a student who previously ranked at the bottom 10 would rank in the middle 10 or higher. In the *drop in rankings* condition, we summed their estimates that a student who had previously ranked in the top 10 would rank in the middle 10 or lower.

As expected, the interaction between condition (desirable-ranking vs. undesirable-ranking) and direction of change (rise or decline) was significant,  $F(1, 125) = 10.82$ ,  $p = .001$  (see Figure 2). When a rise in ranking was desirable, participants estimated that a rise in ranking ( $M = 53.61\%$ ,  $SD = 19.85$ ) is more likely than a decline ( $M = 37.33\%$ ,  $SD = 24.22$ ),  $t(125) = 2.83$ ,  $p = .005$ . In contrast, when a rise in ranking was *undesirable*, participants exhibited the opposite pattern, estimating that a drop in ranking ( $M = 45.42\%$ ,  $SD = 26.44$ ) is marginally more likely than a rise ( $M = 34.79\%$ ,  $SD = 20.01$ ),  $t(125) = 1.82$ ,  $p = .07$ . Although these data indicate that anchoring may indeed play a role in predictions of this sort—strengthening the upward mobility bias in the desirable-ranking condition and weakening it in the *undesirable-ranking* condition—they cast doubt on a simple anchoring account of the bias documented in the studies we report here. The significant interaction provides clear support for the attribution substitution account.

### STUDIES 5A AND 5B

Another alternative account of the upward mobility bias is that people are simply motivated to think that positive events are more likely than negative events. Because a rise in rankings is a more positive event than a decline, participants may be eager to see the former as more likely than the latter, even when they have no attachment to the school (Study 2), team (Study 3A), or student (Studies 3B and 4) in question.

We test this alternative account in the following studies by manipulating the amount of control the target has over the

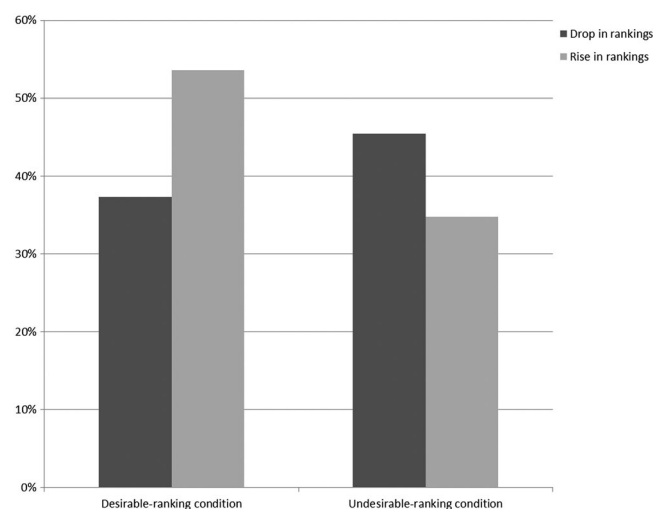


Figure 2. Perceived likelihood of a rise/drop in ranking when a rise in ranking is desirable (desirable-ranking condition) and undesirable (undesirable-ranking condition) (Study 4)



outcome in question (Study 5A) and the motivation to exercise that control (Study 5B). If participants are merely being optimistic in thinking that a rise in rankings is more likely than a decline, they should be equally likely to exhibit this bias both when a person can exert considerable control over her performance and when control is limited. A rise in rankings is a positive outcome in either context. However, if the upward mobility bias is due, as we claim, to overweighting the target's motivation, participants should only exhibit the bias when motivation is seen as both high and relevant to performance. In Studies 5A and 5B, we predicted that participants would see a rise in rankings as more likely than a decline only when the target of prediction is willing and able to influence the outcome.

#### STUDY 5A: INFLUENCE OF PERCEIVED CONTROL ON PREDICTIONS OF STUDENT PERFORMANCE

##### Method

###### *Participants*

One hundred three Mechanical Turk participants (47 females,  $M_{\text{age}}=32.21$ ) completed the study in exchange for modest monetary compensation.

###### *Materials and procedure*

As in Study 3B, participants estimated the probability that a student's grade would differ from one exam to another. However, we manipulated the student's perceived control over her performance. In the *high-control* condition, participants were told that the second exam was administered a month following the first one, that "the students have a lot of extra time to study between the first and the second exam," and that the available time is "more than enough for the students to rehearse the material again and make sure they know everything." In the *low-control* condition, participants were told that the second exam was administered the day following the first exam, that "the students do not have extra time to study between the first and the second exam," and that the available time is "not enough for the students to rehearse the study material again and make sure that they know everything. All the students can do is hope that the exam on the second day will not include things they didn't know on the first day." In the *rise in rankings* condition, participants were then asked to assess the likelihood that a randomly selected student who was in the bottom 10 of the class on the first exam would rank in each third of the distribution on the second exam. In the *drop in rankings* condition, participants assessed the likelihood that a randomly selected student who was in the top 10 on the first exam would rank in each third of the distribution on the second exam.

If the upward mobility bias is due to participants wanting to see success as more likely than failure, the timing of the two exams should be irrelevant to estimates of relative performance. Participants should want a student who did poorly on the first exam to do better on the second one (*rise in rankings* condition) and a student who already did well on the first exam to keep doing well (*drop in rankings* condition).

However, if the bias is due to overweighting the impact of the target's motivation, the timing of the two exams is highly relevant. Participants should see a rise in rankings as more likely than a decline only when outcomes are (at least partly) within the target's control. When the target's ability to affect her performance is limited (e.g. when she doesn't have enough time to learn from her mistakes on the first exam), participants should think of a rise and decline in rankings as equally likely.

##### Results

As before, we computed a measure of change in ranking by averaging participants' estimates of the likelihood that a student would receive a grade that ranked her in a different third of the class than where she ranked on the previous exam. In the *rise in rankings* condition, we summed participants' estimates that a student who previously ranked at the bottom 10 would rank in the middle 10 or higher. In the *drop in rankings* condition, we summed their estimates that a student who had previously ranked in the top 10 would rank in the middle 10 or lower.

As expected, participants exhibited the upward mobility bias only when the students were assumed to have considerable control over their performance on the second exam. When the students could exert control over their performance (the two exams were separated by a month, allowing motivated students to practice the material), participants thought that rising from the bottom 10 of the class to the middle 10 or higher was significantly more likely ( $M=60.53\%$ ,  $SD=19.67$ ) than dropping from the top 10 to the middle 10 or lower ( $M=34.89\%$ ,  $SD=19.68$ ),  $t(102)=4.99$ ,  $p<.0001$ . However, when the students' ability to determine their performance was limited (the two exams were on consecutive days, thus constraining the students' ability to study the material), participants did not think that rising from the bottom 10 was significantly more likely ( $M=41.65\%$ ,  $SD=19.99$ ) than dropping from the top 10 ( $M=35.17\%$ ,  $SD=21.15$ ),  $t(102)=1.05$ , *ns*. The interaction between condition (high vs. low control) and direction of change (rise or decline) was significant,  $F(1,99)=5.66$ ,  $p=.019$ .

#### STUDY 5B: INFLUENCE OF PERCEIVED MOTIVATION ON PREDICTIONS OF STUDENT PERFORMANCE

In Study 5A we manipulated the amount of control targets had over their performance and found that the upward mobility bias was evident only when participants thought the targets could influence their standing. In Study 5B, we manipulated the target's motivation to control her standing. We maintain that the upward mobility bias results from overweighting the impact of the target's motivation. Therefore, we predicted that participants would only exhibit the bias when they thought the target's motivation to influence her standing was high.



## Method

### Participants

One hundred twenty-two Mechanical Turk participants (75 females,  $M_{\text{age}}=33.48$ ) completed the study in exchange for modest monetary compensation.

### Materials and procedure

As before, participants estimated the probability that a student's grade would differ from one exam to the next. However, we manipulated participants' sense of the student's motivation by altering the stakes involved in the second exam. In the *high-stakes* condition, participants were told that the students were "about to graduate and look for a job" and that they were convinced that their final grades play a large role in their employment prospects. In contrast, in the *low-stakes* condition, participants were told that the students had already sent out all their job applications and therefore were convinced that their performance on the second exam wouldn't influence their prospects. In the *rise in rankings* condition, participants were then asked to assess the likelihood that a randomly selected student who was in the bottom 10 of the class on the first exam would rank in each third of the distribution on the second exam. In the *drop in rankings* condition, participants assessed the likelihood that a randomly selected student who was in the top 10 on the first exam would rank in each third of the distribution on the second exam.

## Results

We summed participants' estimates of the likelihood that a student would receive a grade that ranked her in a different third of the class than where she ranked on the previous exam. As expected, participants exhibited the upward mobility bias only when the students were assumed to be highly motivated to succeed (Figure 3). When the stakes for the second exam were high (i.e. the students believed their job prospects depended on their final grade), participants thought that rising from the bottom 10 of the class to the middle 10 or higher was significantly more likely ( $M=60.81\%$ ,  $SD=18.19$ ) than dropping from the top 10 to the middle 10 or lower ( $M=34.48\%$ ,  $SD=21.24$ ),  $t(121)=4.85$ ,

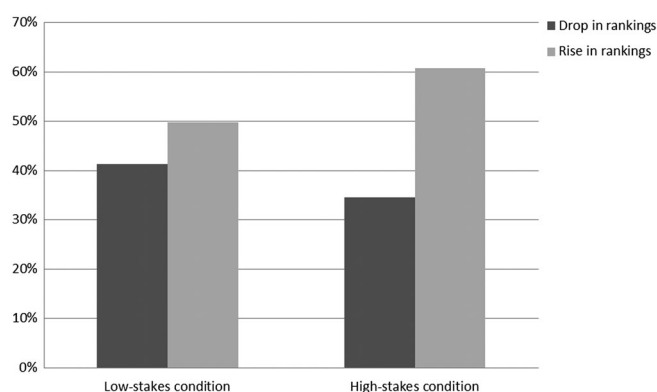


Figure 3. Perceived likelihood of a rise/drop in class rankings when the motivation is low (low-stakes condition) and high (high-stakes condition) (Study 5B)

$p < .0001$ . However, when the stakes were low (i.e. the students believed their final grade would not influence their job prospects), participants did not think that rising from the bottom 10 was significantly more likely ( $M=49.80\%$ ,  $SD=25.82$ ) than dropping from the top 10 ( $M=41.36\%$ ,  $SD=23.43$ ),  $t(121)=1.42$ , *ns*. The interaction between condition (high vs. low stakes) and direction of change (rise or decline) was significant,  $F(1,118)=4.95$ ,  $p=.028$ .

## STUDY 6: IMPLICIT PERSONALITY THEORY AND PREDICTIONS OF EMPLOYEE PERFORMANCE

Studies 5A and 5B provided support for an attribute substitution account of the upward mobility bias. Only when performance was seen as within the focal individual's control, and only when the individual was seen as highly motivated to exercise that control, did participants estimate that a rise in rankings was more likely than a decline. Of course, people vary in the degree to which they focus on (and attribute behavior to) motivation, variability that is likely to have implications for the strength of the upward mobility bias. Researchers have documented considerable variability in the extent to which people believe abilities are stable, and consequently differ in the role they ascribe to effort in influencing performance (Dweck, 1999; Hong et al., 1999). Whereas entity theorists tend to believe that personal attributes are relatively fixed (agreeing with such statements as "People can do things differently, but the important parts of who they are can't really be changed" and "As much as I hate to admit it, you can't teach an old dog new tricks"), incremental theorists are more likely to believe that ability is malleable and subject to change due to effort (Dweck, 1999). We therefore designed Study 5 to examine whether a person's implicit personality theory or "mindset" influences the likelihood that they would exhibit an upward mobility bias. More specifically, we examined whether the bias is more pronounced for incremental theorists than for entity theorists. We also wanted to further test the pervasiveness of the bias by seeing whether it exists in yet another domain—sales performance.

## Method

### Participants

One hundred six Mechanical Turk participants (71 females, 1 unspecified,  $M_{\text{age}}=33.18$ ) completed the study in exchange for modest monetary compensation.

### Materials and procedure

Participants read a scenario describing a retail store in which 30 salespeople were ranked at the end of each month according to their sales, with the top 10 receiving a bonus. They then estimated the likelihood that an employee's ranking would differ from one month to the next. In the *rise in rankings* condition, participants estimated the likelihood that an employee who was in the bottom 10 the previous month would rank in each third of the distribution the next month.

In the *drop in rankings* condition, participants estimated the likelihood that an employee who was previously ranked in the top 10 would rank in each third of the distribution the next month.

Following their predictions, participants completed a measure of implicit personality theory (Dweck, 1999). They indicated their agreement with eight statements (e.g. “the kind of person someone is, is something very basic about them that can’t be changed very much”, “everyone is a certain type of person, and there is not much that can be done to really change that”), presented in a different random order for each participant, on a 6-point scale (1-strongly disagree, 6-strongly agree). We reverse-scored the four entity items and averaged them with the incremental items to create an incrementalist composite (Cronbach’s  $\alpha=0.88$ ; Levy et al., 1998).

## Results

We summed participants’ estimates of the likelihood that an employee’s ranking would differ from one month to the next. In the *rise in rankings* condition, we summed the estimates that an employee who previously ranked in the bottom 10 would rank in the middle 10 or higher. In the *drop in rankings* condition, we summed participants’ estimates that an employee who previously ranked in the top 10 would subsequently rank in the middle 10 or lower.

Participants exhibited an upward mobility bias, giving higher estimates of the likelihood of a rise in rankings than a decline. Whereas participants in the *rise in rankings* condition thought that an employee who was previously in the bottom 10 in sales had a 56% ( $SD=18.88$ ) chance of rising to the middle 10 or higher, participants in the *drop in rankings* condition thought that an employee who was previously in the top 10 had only a 40% ( $SD=15.84$ ) chance of dropping to the middle 10 or lower,  $t(104)=4.74$ ,  $p<.0001$ . Furthermore, whereas participants believed that a randomly selected employee from the bottom 10 had a 34% ( $SD=11.37$ ) chance of rising to the middle 10, they thought that an employee from the top 10 had only a 26% ( $SD=8.25$ ) chance of dropping to the same third,  $t(104)=4.15$ ,  $p<.0001$ .

As predicted, the interaction between condition (rise vs. drop in rankings) and participants’ personality mindset was significant,  $F(3,102)=5.13$ ,  $p=.006$ . Figure 4 presents the estimated predictions for any participant scoring 1 standard deviation above and below the mean on the mindset measure (Aiken & West, 1991). As can be seen, high incremental theorists were significantly more likely to exhibit the upward mobility bias than low incremental theorists. High incremental theorists thought that a rise in rankings is significantly more likely than a drop in rankings,  $t(102)=5.39$ ,  $p<.001$ , but no such tendency was observed for low incremental theorists,  $t(102)=1.39$ ,  $p=.17$ . It thus appears that the belief that performance is malleable and subject to one’s effort plays a role in the upward mobility bias.

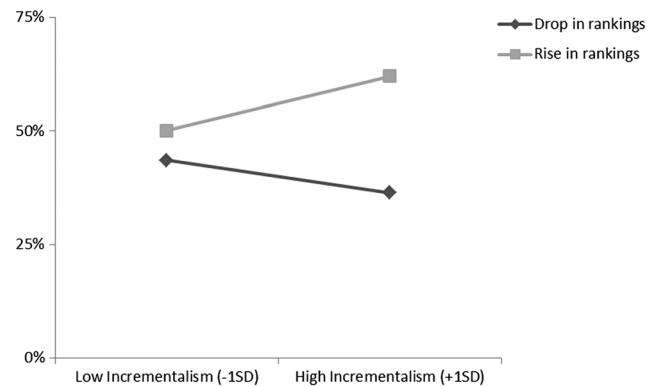


Figure 4. Perceived likelihood of a rise/drop in employee rankings by participants’ personality mindset (entity/incremental) at  $\pm 1SD$  (Study 6)

## GENERAL DISCUSSION

Eight studies provided consistent evidence of an upward mobility bias in predictions of performance in competitive settings. Regardless of whether they were predicting athletic (Studies 1 and 3A), academic (Studies 2, 3B, 4, 5A, and 5B), or vocational (Study 6) performance, participants thought that a rise in rankings was significantly more likely than a decline. This bias is not the product of simple optimism or wishful thinking. Rather, we obtained evidence that the upward mobility bias is due to the emphasis given to a target’s motivation, and a relative disregard of contextual factors influencing the target’s standing, such as the likely performance of competitors. Only when an individual was seen as willing and able to influence her performance was a rise in rankings judged to be more likely than a decline. When an individual’s ability to control her own performance was limited or when she was seen as not sufficiently motivated to do so, a rise and fall in rankings were judged equally likely. Study 6 provided evidence that some people are predictably more prone to this bias than others. Participants who consider ability to be malleable rather than stable (Dweck, 1999), and who are therefore more likely to emphasize motivation and effort in their predictions, indicated that a rise in rankings is more likely than a decline.

Although the upward mobility bias results from entirely different psychological mechanisms, it bears some resemblance to the tendency for people to give more weight to facilitatory than inhibitory factors in judgment. Hansen and Hall (1985), for example, found that people are more likely to attribute the outcome of a competition to the strength of the winner than the weakness of the loser. Similarly, people’s causal attributions tend to be more influenced by factors that promote a given action (e.g. taking a class because the professor is popular) than factors that inhibit it (e.g. it meets early in the morning) (Newton, 1974). With the respect to the upward mobility bias, people give great weight to a particular facilitatory cause on the part of low ranked targets (their motivation to rise in the ranking) while giving little or no weight to inhibitory causes acting on those who are already at the top (regression, the decline in motivation that often accompanies success).

The upward mobility bias may contribute to the pervasive tendency to root for the underdog. In competitive sports (Frazier & Snyder, 1991), horse racing (Griffith, 1949), business endeavors (Michniewicz & Vandello, 2013), political campaigns (Goldschmied & Vandello, 2009), international relations (Vandello et al. 2007) and artistic competitions (Kim et al., 2008) people are often drawn to those who face long odds. The underdog bias has been attributed to the tendency to sympathize and identify with the struggle of competitors with low *a-priori* chances of winning (Kim et al., 2008) as well as to spectators' motivation to remain engaged in the competition (Frazier & Snyder, 1991). But the upward mobility bias may play a role as well. As we have shown, people are relatively sanguine about the likelihood of success for low-ranked individuals or teams. As long as the underdog is seen as sufficiently motivated to succeed, people believe that a rise in their rank is quite possible. Indeed, people generally expect low-performing targets to take actions that better their performance, and hence improve their future standings (Lawrence & Makridakis, 1989; see also Lawrence et al., 2006). Thus, an inflated sense of the likelihood of future success may contribute to the appeal of rooting for the underdog. Because people's beliefs about a target's motivation to improve is an important component of the upward mobility bias, it should be the case that the more salient an underdog's motivation to succeed, the more likely it is that observers will overestimate its success and therefore be drawn to it.

The psychological processes underlying the upward mobility bias no doubt contribute to people's asymmetrical beliefs about upward and downward economic mobility. In previous work (Davidai & Gilovich, 2015), we found that people believe that a person is more likely to move up the economic ladder than down. Whereas people overestimated the likelihood that an individual born to a family in the bottom income quintile would rise to the middle quintile or higher as an adult, they underestimated the likelihood of an individual born to a family in the top income quintile dropping to the middle quintile or lower. Consistent with the results of the present studies, people appear to overweight the impact of others' motivation to better their life circumstances and underweight the strong situational factors that work against their efforts to do so. The upward mobility bias therefore may make it easier for people to accept considerable economic inequality because it leads to an inflated sense of how likely it is to better one's economic position.

## CONCLUSION AND FUTURE RESEARCH

We have found that people believe that a rise in ranking is more likely than a decline, a belief that appears to be robust across a variety of domains. It remains to be seen whether it generalizes across cultures as well. Because participants from interdependent cultures pay more attention to contextual factors than participants from independent cultures (Masuda & Nisbett, 2001; Miyamoto et al., 2006), the former may give more weight to various impersonal causal influences, such as competitors' motivation and ability, and therefore be less likely to exhibit the upward mobility bias. At the same time,

we have shown that people who hold an incremental theory of personality are more likely to fall prey to the bias. Given that people from more interdependent cultures are more likely to hold incremental beliefs regarding the malleability of personal attributes (Norenzayan et al., 2002), they may be *more* likely to exhibit the upward mobility bias. We therefore remain agnostic about the generalizability of this bias across cultures and urge further research to explore this question.

To probe the generalizability of this bias, we had participants assess the likelihood that individuals or teams would move up or down in rankings when they had rich, detailed information about the targets (Studies 1 and 2) and when they did not (Studies 3–6). However, our results do not imply that the upward mobility bias will trump all types of detailed information when predicting performance in competitive settings. Knowing that a student was often absent from class would probably affect predictions of her academic success in both absolute and relative terms, leading her to be seen as less likely to rise in rankings and more likely to drop. Note, however, that a student's frequent absence from lectures should not in and of itself affect predictions of the student's relative performance and is diagnostic only to the extent that it relays comparative information (e.g. the amount the student was absent relative to her peers). However, as we noted above, people often substitute absolute assessments for relative ones (Klar & Giladi, 1997, Klar & Giladi, 1999; Kruger & Burrus, 2004; Kruger et al., 2008; Moore, 2005; Windschitl et al., 2003). Therefore, when given specific information about a student's lack of motivation (or ability), people may jump to an overly pessimistic conclusion that a drop in ranking is more likely than a rise. Devoid of this information, participants in our studies seemed to believe that competitors (e.g. students, NBA teams, employees, etc.) are motivated to succeed and proceeded to overweight this assumption in their predictions, resulting in an upward mobility bias.

Motivation is likely to be seen as especially relevant when there appears to be considerable room for improvement. People may therefore assign considerable weight to a lower-ranked target's motivation because those ranked near the bottom have plenty of room for improvement. People may assign less weight to a higher-ranked target's motivation because, as hard as such a target might try, there is relatively little room to improve. Future research might therefore examine whether the tendency to overweight a target's motivation that we have documented in these studies is inversely related to a target's ranking: the lower a target is ranked, the more weight people assign to the motivation to improve.

It is also worth considering how the upward mobility bias may be influenced by the number of contestants in a competition. The difficulty of predicting a target's relative performance is likely to increase with the number of competitors. As a result, the more competitors there are, the more likely it is that the target's desire to move up or down in the rankings will be substituted for the likelihood that the target will do so. We would expect, then, that as the number of competitors increases, so should the belief that a rise in ranking is more likely than a decline.



Might it be beneficial to believe that a rise in rankings is more likely than a decline? To the extent that the upward mobility bias leads to inflated estimates of future success, it may increase engagement in competitions both as spectators and competitors. However, to the extent that people overestimate the probability of success of lower-ranking competitors, the bias can lead to post-competition disappointment. It is possible, therefore, that people are especially likely to exhibit the bias prior to the beginning of a competition, and gradually correct their predictions as more information about the competitors' relative advantages and disadvantages is revealed. Given that information about a favorite NBA team is highly accessible and salient during pre-season, a fan may be more likely to overestimate the team's success before the season commences, when information about the strength of the team's rivals is not as salient. However, as league play gets underway, information about other teams and their relative abilities and motivations may then command more attention, thereby reducing the bias. As fans of many struggling NBA franchises have been painfully shown, the prospect of rising in the league's rankings can seem very likely right up until the tip-off on opening night.

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