



Reports

Naturals and strivers: Preferences and beliefs about sources of achievement

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ABSTRACT

To understand how talent and achievement are perceived, three experiments compared the assessments of “naturals” and “strivers.” Professional musicians learned about two pianists, equal in achievement but who varied in the source of achievement: the “natural” with early evidence of high innate ability, versus the “striver” with early evidence of high motivation and perseverance (Experiment 1). Although musicians reported the strong belief that strivers will achieve over naturals, their preferences and beliefs showed the reverse pattern: they judged the natural performer to be more talented, more likely to succeed, and more hireable than the striver. In Experiment 2, this “naturalness bias” was observed again in experts but not in non-experts, and replicated in a between-subjects design in Experiment 3. Together, these experiments show a bias favoring naturals over strivers even when the achievement is equal, and a dissociation between stated beliefs about achievement and actual choices in expert decision-makers.

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Descended from a long line of Bohemian glass artists, Leopold Blaschka and his son Rudolph were gifted with such extraordinary skill and passion for their work that one might argue these attributes were indeed ‘in their blood’.

Peabody Museum of Natural History, Harvard University
[Description of the artists who created the famous glass flowers]

Almost as complex as talent itself is the ability to recognize it. Whether the domain is art, athletics, or the intellect, talent is identified on the basis of socially shared and culturally evolved notions of what makes for greatness. Routinely, experts in every field distinguish among their peers by nurturing, promoting, rewarding, and selecting some over others. To do so, experts must decide whether a scientific discovery is extraordinary, whether a gymnast warrants a perfect score, or whether a musician has created a new sound. More routine decisions of professionals everywhere are offered by experts in their domain, whether they are engineers or salespeople, prosecutors or social workers, who determine through their words and actions what they judge the nature of talent to be. Teachers and parents attempt to do the same for every child by evaluating whether the talent before them is in any way extraordinary and worth further investment. What goes into the mental computation of the assessment of talent? Specifically, what are the beliefs, attitudes, and behaviors that talent engenders in decision-makers?

In this paper, we examine stated preferences and beliefs about talent and the choices that are actually made about those who exhibit

extraordinary talent by the gate-keepers of talent. Our goal is to understand what experts pay attention to when making decisions about talent and achievement and whether their stated beliefs and preferences are consistent with their actual choices.

To situate this work in the larger domain to which it belongs, we should note that there is robust evidence about how decisions are affected by dimensions other than those that are stated. Among the well-documented results are those that show the importance of situational factors (Ariely & Norton, 2008) that affect the perception and judgment of others (Chinander & Schweitzer, 2003; Epley, Keysar, Van Boven, & Gilovich, 2004; Van Boven, Dunning, & Loewenstein, 2000), which in turn can have dramatic effects on predictions, preferences, and selection in a wide range of domains, from partner selection (Sedikides, Ariely, & Olsen, 1999) to auction bidding decisions (Ariely & Simonson, 2003). In music, “blind” auditions have fostered greater impartiality in the judgment of achievement and in hiring, suggesting how even panels of experts who are “listening” may be affected by the gender of the musician (Goldin & Rouse, 2000). In clinical psychology where clinicians’ trained intuition typically directs both diagnosis and course of treatment, statistical prediction rules have been shown to outperform experts’ integration of information (Dawes, 2005).

We examined the role of a particular set of preferences and beliefs about talent that has not been studied previously. We tested the influence of beliefs about the source of talent—whether it is *natural* to the individual or achieved through *striving*, on evaluations of expert performance, holding constant the objective levels of demonstrable skill. It is hardly controversial to claim that achievement in any sphere is a function of both natural talent and striving. But whether we speak of the developing talents of young children or the mastery of mature professionals, beliefs about the relative contributions of these two

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sources that lead to achievement become interesting because they can differentially drive perceptions of talent and even affect the identification of talent independently of actual achievement.

Gladwell (2002) first offered the thesis that the American society resoundingly favors natural talent. This tendency to attribute greater legitimacy to those who have been deemed naturally talented has been documented by researchers working to identify natural talent early in education (Pfeiffer, 2002a,b; Richards, Encel, & Shute, 2003; Terry & Bohnenberger, 2003). Gladwell coined the term “naturalness bias” to describe the tendency to rank innate sources over earned sources of achievement. Consistent with this claim, in some domains, such as chess, mathematics, and music, there indeed appears to be a singular and public fascination with child prodigies (Subotnik, 2000, 2003). From Bobby Fischer to Midori, the emphasis on youth and early talent is undeniably appealing. On the other hand, the universal emphasis on effort, epitomized in the American exaltation of the “Horatio Alger” archetype, seems equally pervasive. To explore the role of these differing but coexisting idealized exemplars of achievement, we tested both explicit beliefs about “naturals” versus “strivers” and actual choices made by experts and novices.

As the effects of the naturalness bias may be most prominent in domains where the criteria for achievement are more ambiguous (Darley & Gross, 1983; Kruger, Wirtz, Van Boven & Altermatt, 2004), we chose to focus our initial inquiry in the domain of music. As an art form, musical achievement offers sufficient ambiguity in the information provided and a role for subjective taste such that systematic biases that involve extra-musical intrusions can play a role and be tested.

We also use music as the domain to test the emphasis on naturals versus strivers because the immersion in this domain by one of the authors suggested a possible dissociation between explicit statements of pro-striving and potentially less conscious favoring of natural ability. As in other fields of achievement, expertise in music is achieved with deliberate effort, with elite performance being the product of at least a decade of consistent, accumulated practice (Ericsson, Krampe, & Tesch-Römer, 1993). At the same time, there are various anecdotal accounts of musicians themselves falling prey to the naturalness bias—in spite of dedicating many hours to honing their art, musicians use an array of creative methods to obstruct views of their practice rooms and understate the hours of practice they undertake. The story that Beethoven's father misstated his age as lower than it actually was is not likely to be the only one of its kind.

In the first two experiments, we explored whether naturals or strivers are evaluated differently in spite of equal levels of objective achievement (Experiment 1), and whether experts differ from amateurs in vulnerability to the bias (Experiment 2). Our strategy was to familiarize participants with two musicians, using background descriptions that were matched for the level of performance, but which differed in minimal reference to the source of achievement—one musician was described as “natural” whereas the other was described as a “striver.” Then, participants heard audio performances attributed to each individual, but which in reality were performed by the same musician, thus controlling for the actual level of accomplishment. After hearing each performance, participants evaluated the natural versus striver on several dimensions intended to gauge their perceptions of the performers' achievement. Experiment 3 focused on clarifying whether the previous findings would also emerge in a between-subjects design, in which the direct contrast between the natural and striver was absent.

Experiment 1: a first test of the naturalness bias

In Experiment 1, we used weak cues to convey that a high-achieving musician was either a “natural” or a “striver” to see if even minimal mention of these sources of achievement would affect the evaluation of the musician and her performance. We recruited

professional musicians to determine how they would evaluate the equivalent musical achievements of the natural versus the striver. We also measured their explicit statements of the importance of “natural” versus “striver” orientations in predicting success.

Method

Participants

103 professional or conservatory-trained musicians (27 females, 73 males), ages 18–65, volunteered to participate.

Procedure

Participants were presented with a profile and sample performance excerpt of a high-achieving musician. After rating the first musician, the process was repeated with the second. Since the biographies were based on the career of pianist Gwyneth Chen, participants were screened for prior knowledge of her career and the excerpted performance clips.¹ Participants were also screened for any suspicion that the music clips were from the same performer. Only two showed any recognition; data from these participants were excluded from the analysis.²

Manipulation of the perceived source of achievement

Participants were informed that although the two profiles were similar, this was done to avoid biasing the participants and help them concentrate on the performance. The manipulation in each profile shifts the focus towards either natural or learned achievement. Three sentences differed between the profiles, highlighting the musician's practice routine and entry into the field, and a colleague's evaluation (Appendix I).

After reading one of the profiles, the participants listened to a 20-second audio clip ostensibly performed by that musician. The clip was actually excerpted from Chen's recording of Stravinsky's *Trois Mouvements de Petrouchka*. After answering questions about the musician, the participants repeated the procedure with the second musician. The questions included four performer evaluation items on a 9-point scale about the musician's perceived talent, likelihood of success, and response to adversity, as well as the participant's willingness to hire the musician. A different segment of the same recording was used for the second musician, ensuring that the skill level of the clips was equivalent. After rating the second musician, participants answered questions about the extent to which they valued innate ability and effortful training as contributors to musical achievement, again on 9-point scales. The order in which participants encountered the natural and striver musicians was counterbalanced.

Results and discussion

We first examined self-reports of beliefs about the source of musical achievement. Ratings of the value and the importance of natural talent were highly correlated, $r(101) = .70, p < .001$. The same two items on effortful training were also highly correlated, $r(101) = .48, p < .001$. Both pairs were averaged to form indexes of emphasis on talent versus training. A pairwise comparison showed that participants claimed to place more value on effortful training ($M = 7.83, SD = 1.08$) than on innate ability ($M = 7.08, SD = 1.54$), $t(100) = -4.28, p < .001$.

Pairwise comparisons revealed that the natural was rated higher in musical talent, $t(102) = 2.80, p < .01$, the likelihood of future professional success, $t(102) = 1.96, p = .05$, and desirability as an employee, $t(102) = 2.23, p = .03$. The discriminant validity was obtained in the result that strivers scored higher on the measure of resilience, $t(102) = -2.64, p = .01$. This supports the naturalness

¹ Permission was obtained to use excerpts of Chen's biography and work.

² Several participants completed all study sections, except the demographic items and general belief items.

bias, showing that for all but one quality, the natural was rated higher than the striver (Table 1). This also suggests that the preference for the natural is not simply a general preference or a halo effect of being identified as a natural, as the natural would have been preferred on all dimensions if this was the case.

Our findings show that given identical performances, expert participants preferred the natural, contradicting their expressed beliefs. This contradiction highlights the hidden nature of the naturalness bias, at least in a culture such as the contemporary American society, where conflicting messages about the relative importance of inborn versus learned achievement are present.

Experiment 2: the role of expertise in the naturalness bias

We recruited individuals with varying degrees of experience with music performance to test the role of expertise. On the one hand, novices may demonstrate a stronger naturalness bias; their lack of ability to judge may lead them to rely even more on the “natural” criterion. On the other hand, the experienced participants may be more prone to the naturalness bias because they might possess stronger beliefs about the legitimacy of natural talent in their domain of expertise. Data on biases such as the “hot-hand” in basketball and Gladwell’s analysis of the “quarterback problem” suggest that experts are likely to be as susceptible as novices (Gilovich, Vallone, & Tversky, 1985; Gladwell, 2002). There is the additional possibility that experts may be more prone to the bias if naturalness is silently admired, while social demands drive a more conscious appreciation of striving. Accordingly, we recruited both music professionals and non-professionals and used level of experience as a predictor variable.

The results from Experiment 1 suggested that the naturalness bias is likely to operate in a subtle fashion, since the professional musicians’ evaluations and stated beliefs were at odds. Additionally, the results of Experiment 1 may be due to experts’ familiarity or identification with one of the two types of performers. There may be an aspirational character to their preference, such that experts want to be like the natural performer. Participants may have also believed that in predicting future performance, it is the natural who has greater potential to succeed while the striver has already exhausted her potential. In Experiment 2, we added items evaluating the musicians’ motivation and resiliency, the participants’ identification and familiarity with each musician, and the performance samples.

Several methodological improvements were also made, including the variation in the surface similarity in the descriptions of the musicians’ specific accomplishments, while holding constant the overall level of achievement, in order to create a more realistic sense of the performers as unique individuals.

Method

Participants

184 participants (118 females, 66 males), ages 18–65, volunteered to participate. Participants were asked to indicate their level of

experience with music performance (none, childhood, conservatory-level, professional). Two categories of expertise were created by collapsing the data across the lower two (none or childhood, $n = 106$) and upper two (conservatory-level or professional, $n = 78$) levels of participant experience. Participant experience, or expertise, served as a predictor variable in subsequent analyses.³

Procedure

The extent to which the performer was a natural versus a striver was again manipulated in a within-participants design through the profiles (Appendix II). The items from Experiment 1 were again administered, with several additional measures including an assessment of the performance, familiarity and identification with the musician, and the musician’s motivation and potential. Participants again answered the questions used in Experiment 1 to measure explicit beliefs about the importance of innate ability and effortful training for musical achievement.

Results and discussion

The data on the determinants of musical achievement were subjected to a principal component factor analysis with an oblique rotation. This analysis revealed a two-factor structure (importance and value of innate ability, importance and value of striving) accounting for 77.8% of the item variance. The same two items evaluating innate ability were correlated ($r = .55$, $p < .001$), as were the two items regarding training ($r = .54$, $p < .001$), and each pair was averaged to create indexes of the perceived value of training versus innate ability.

Through a Participant Experience \times Index (perceived value of effortful training, perceived value of innate ability) ANOVA, with the first factor as a predictor variable, and the second factor within-participants, we again found a reliable main effect of the source of achievement, $F(1, 179) = 13.86$, $p < .001$. This reflected an overall tendency for the participants to rate effortful training ($M = 7.43$, $SD = 1.45$) as more valuable than innate ability, ($M = 6.92$, $SD = 1.51$). Both this effect, and the main effect of participant experience, $F(1, 179) = 9.28$, $p = .003$, were qualified by their interaction, $F(1, 179) = 4.95$, $p = .027$.

We computed paired comparisons to examine perceptions of strivers and naturals separately for musical novices versus experts. Individuals with more experience rated effortful training ($M = 7.90$, $SD = 1.18$) as significantly more important than innate ability ($M = 7.01$, $SD = 1.63$), $t(75) = -3.84$, $p < .001$, Cohen’s $d = 0.63$; individuals with less experience did not, $t(104) = -1.17$, $p = n.s.$ Experts and novices differ in their beliefs regarding the relative contributions of innate talent versus hard work to achievement, such that experts explicitly place greater value on training and effort.

The findings also suggest that the apparent dissociation between explicit and implicit preferences in experts is not simply due to a “conditional” explicit evaluation. One explanation for the findings in Experiment 1 is that in responding to explicit items regarding beliefs about ability, experts assume that natural talent already exists, because they are more familiar with or more readily identify with the natural. However, this is not the case. Experts do not liken themselves to the natural more so than the striver, report knowing others who resembled the natural more so than the striver, or express a greater desire to be more like the natural than the striver. This suggests that perceptions of familiarity and the level of identification with the performer are not likely to account for these results.

We conducted a principal component analysis on the items measuring perceptions of achievement and motivation for each performer. A four-factor solution emerged, accounting for 67.9% of the item variance. One factor included perceived talent, success, and

Table 1

Ratings of performers as a function of the implied source of musical achievement, Experiment 1.

Rating item	Source of achievement			
	Innate ability		Effortful training	
	Mean	SD	Mean	SD
Talent compared to other professionals	7.23	1.29	6.86	1.57
Likelihood of success in the future	6.95	1.66	6.68	2.01
Value as an employee	6.99	1.84	6.64	1.99
Ability to overcome obstacles to career	5.50	1.84	6.02	1.94

Note. All means are based on scales anchored 1 = “none” or “not at all” to 9 = “a lot.”

³ Data from the participants who did not fully finish all study sections were excluded.

hirability of the striver ($\alpha = .78$); and the second factor included items concerning overcoming adversity, taking constructive criticism, and enjoying teaching ($\alpha = .73$). The other two factors were identical to the first two in item content, but involved ratings of naturals ($\alpha = .76$ and $.67$). Accordingly, for each musician, we averaged the talent, likelihood of success, and willingness to hire scores to form an index of *perceived achievement*, and the remaining items to form an index of *perceived resilience*.

Perceived achievement

A Participant Experience \times Source of Musician Achievement (natural, striver) analysis of variance was conducted on the indexes of the perceived achievement for the two musicians, where the first factor was a measured predictor, and the second was within-participants.

Neither the main effect of participant experience, nor that of the source of achievement, was a reliable predictor of perceived achievement. However, the interaction of these two variables attained significance, $F(1, 179) = 10.93, p = .001$. The effect of participant experience on the judged achievement for the natural was opposite to that for the striver (Fig. 1).

We examined the difference between the judged achievement of the natural versus striver separately for expert and novice participants. Individuals with more experience rated the natural ($M = 7.02, SD = 1.22$) as more capable than the striver ($M = 6.39, SD = 1.54$), $t(76) = 3.45, p = .001$, Cohen's $d = 0.79$; individuals with less experience did not distinguish between the two, $t(103) = -1.07, p = \text{n.s.}$

In Experiment 1, judgments of psychological resilience were not vulnerable to the naturalness bias, as were judgments of musical achievement. We sought to replicate this finding in Experiment 2, this time using an index including the items of ability to overcome obstacles, response to constructive criticism, and enjoyment of teaching. The findings were parallel to those in Experiment 1. A Participant Experience \times Source of Achievement ANOVA on this index yielded as significant only the main effect of source of achievement, $F(1, 179) = 43.57, p < .001$. Participants judged the striver to be more resilient ($M = 5.79, SD = 1.53$) than the natural ($M = 4.77, SD = 1.53$).

When participants were given the choice to decide which musician's performance they would like to hear again, those with more experience were significantly more likely to show naturalness bias in their comparative preference for performance, Wald(1) = 5.10, $p = .02$. One-sample t -tests using "0" as a point of comparison revealed that participants with more experience preferred the performance of the natural ($M = 0.27, SD = 0.97$) over that of the

striver, $t(76) = 2.47, p = .02$, Cohen's $d = 0.57$; participants with less experience did not show this preference.

In Experiment 2, we replicated the results of Experiment 1. Professionals again viewed the musician with inborn ability as more accomplished than the one with learned ability, even though they claimed that effortful training was a superior determinant of achievement in music, and even when professionals are expected to be more able to evaluate performance.⁴ However, the naturalness bias was not obtained for the non-professional participants tested in Experiment 2. Expert participants viewed the natural as *more* talented than did less experienced participants, and also viewed the striver as *less* talented than did novices.

Experiment 3: a between-subjects test of the naturalness bias

It may be argued that in the previous experiments, the mode of evaluation contributed to the naturalness bias, which may be limited to situations in which one considers both types of achievement. The first two experiments used a within-subjects design to present the natural and striver musicians, making the sources of achievement salient and nudging the perceiver to select one. Although the minimal nature of the manipulation makes this unlikely, we tested the presence of this bias using a between-subjects design to provide the opportunity for both sources of achievement to be equally impressive to the perceiver. In addition, work on joint versus separate evaluation modes, where individuals compare between two options concurrently versus sequentially (Hsee, 2000; Hsee, Loewenstein, Blount, & Bazerman, 1999) suggests that preferences may reverse, such that the difficulty of evaluating attributes may affect concurrent assessment differently than they do with sequential assessment. A between-subjects manipulation of the achievement dimension would also explore the possibility that the naturalness bias might only surface in joint assessment given the difficulty in evaluating artistic performance.

Method

Participants

549 participants (304 females, 239 males), ages 18–65, who varied in levels of experience in music (none, childhood, conservatory-level, professional), volunteered to participate.²

Procedure

We implemented a between-subjects design to test whether the naturalness bias would emerge in contexts when only one musician (natural or striver) was evaluated. As in Experiment 2, the manipulation of the source of achievement was implemented through minimal differences in the profiles. We included the same measures, with ratings of the musicians and evaluations regarding the perceived value of effortful training versus innate ability to achievement.

Results and discussion

We subjected the data on the determinants of musical achievement to a principal component analysis with an oblique rotation. The analysis revealed a two-factor structure, accounting for 82.1% of the item variance. The items evaluating natural talent were correlated ($r = .62, p < .001$), as were those regarding training ($r = .65, p < .001$), and each pair was again averaged to create indexes of the perceived value of training, versus that of natural ability.

As in Experiment 2, a main effect of source of achievement, $F(1, 538) = 104.47, p < .001$, reflected the tendency for participants to



Fig. 1. Perceived ability of target musicians: Interaction between target musicians' implied source of musical achievement and participant level of domain experience.

⁴ Some research suggests that effort may be used as a heuristic for quality (Kruger, Wirtz, Van Boven, & Altermatt, 2004). However, this research is not directly comparable to ours because it does not include a comparison of innate versus effortful accomplishments.

rate effortful training ($M=7.55$, $SD=1.49$) as more valuable than innate ability ($M=6.68$, $SD=1.67$). Both this effect, and the main effect of participant experience, $F(1, 538)=4.08$, $p=.04$, were qualified by their interaction, $F(1, 538)=5.46$, $p=.02$. Collapsing again across the lower two and upper two levels of participant experience, the pattern from Experiment 2 holds: the more experienced the participant, the more value he or she placed on effortful training.

Perceived achievement

The items of how much participants liked the performance and how musical they found the performance to be were correlated ($r=.72$, $p<.001$), and the pair was averaged to create the index of *performance evaluation*. There was a main effect of source of achievement, $F(1, 543)=4.21$, $p=.04$, reflecting the tendency for participants to rate performance attributed to natural talent ($M=6.25$, $SD=1.72$) as of a higher level of performance than the same performance attributed to effortful training ($M=5.94$, $SD=1.80$).

Expertise was again related to a preference for the performance of the natural. Participants with more experience preferred the performance of the natural ($M=6.16$, $SD=1.92$) over that of the striver ($M=5.50$, $SD=1.80$), $t(142)=2.13$, $p=.035$, Cohen's $d=0.35$; participants with less experience did not show this preference.

As in Experiment 2, a Participant Experience \times Source of Achievement ANOVA conducted on a multi-item index (ability to overcome obstacles, response to constructive criticism, enjoyment of teaching) yielded as significant only the main effect of source of achievement, $F(1, 545)=6.80$, $p=.009$. Overall, participants judged the striver to be more resilient ($M=5.08$, $SD=1.43$) than the natural ($M=4.72$, $SD=1.46$).

These findings suggest that the naturalness bias is substantial enough to emerge in a between-subjects design, even when no direct comparison is present. Training is stated to be more important than and valued over talent, and this belief increases with expertise. Yet, the natural is preferred over the striver, replicating the previous findings on the evaluation of the musician and her performance. This preference also increases with the level of expertise. We further substantiate our general conclusions through the perception that the natural has more potential for progress, $\chi^2(1, N=548)=143.07$, $p<.001$, although this would not explain the general preference for the current performance of the natural.

General discussion

We began with an interest in perceptions of achievement that appear to emanate from innate qualities or to have been acquired through effort. In the description of the artists who created the glass flowers that we cited at the beginning of the paper, the writer clearly holds the view that when a skill is extraordinary, it must be inborn or in one's blood. Our findings suggest that the reverse is also true: if talent is assumed to be inborn, it is also regarded to be more extraordinary. We found evidence for the naturalness bias in perceptions of achievement in the field of musical performance. After hearing performances that were controlled so as to be equal in skill and quality, experts in Experiment 1 rated a musician described as having inborn ability (the natural), as more talented than a musician described as having worked hard to develop her ability (the striver). In spite of the way they evaluated the target performers, when asked directly about their general beliefs, experts regarded effortful training as a more influential determinant of musical achievement. The dissociation between the reported beliefs of what predicts success and achievement and actual choices of talented individuals suggests that the expression of the naturalness bias may operate less than consciously.

We replicated these results in Experiments 2 and 3, and extended them in several ways. Experts again rated effortful training as the superior

determinant of musical achievement, and this difference was more pronounced for experts than for novices. The naturalness bias seems to be the result of greater knowledge and experience, the very dimensions that ought to protect against such bias. The influence of the naturalness bias is therefore likely to be felt because it is decision-makers rather than mere observers of achievement who select naturals over strivers.

Given the research showing how elite performance is the product of striving (Ericsson et al., 1993), and given how participants report striving as more important to attaining high performance, the preference towards the natural may result in suboptimal choices and evaluations, with unintended consequences for both the perceivers and the target individuals. The present work is limited in having shown the naturalness bias only in the domain of musical achievement. However, our newer work in the domains of entrepreneurship, sports, and dance, demonstrates a similar naturalness bias, suggesting that it is not limited to musical achievement alone. While we selected the counter case of entrepreneurship as a domain in which lay intuition likely favors the striver, we still found evidence that naturalness was privileged.

In future research, additional measures of preference for naturals versus strivers will help to clarify the apparent contradiction between the inferences of achievement and the beliefs about the determinants of achievement. If biased interpretation of performance is a route through which the naturalness bias is expressed, it may not appear when the differences in performance are more obvious or criteria for success are more objective. New research could also employ the implicit association task (Greenwald, McGhee, & Schwartz, 1998) to explore potentially nonconscious cognitive associations regarding innate origins of talent.

Another fruitful area to explore is how beliefs about the determinants of achievement may vary across domains. For example, while both natural talent and effort contribute to achievement, the degree to which they are combined in mental calculation may change depending on the domain. While the domains we have thus far investigated may cohere on certain dimensions that place a high premium on natural talent, there may be domains in which natural talent is not assumed to be a predictor. This may be the case for more routine tasks or domains in which what is valued is average, rather than exceptional achievement. Literature on theories of ability will also offer insight into the range of beliefs about sources of achievement (Dweck, Chiu, & Hong, 1995).

It may be that experts are prone to greater levels of dispositional bias, and that naturalness is more dispositional than striving because of a possible belief that it is less susceptible to contextual variables. Experts may be more likely to explain high levels of performance as resulting from innate ability, associating innate ability more easily with extraordinary performance. We have conducted research in which we quantified the cost of the naturalness bias using conjoint analysis, and showed that experts were more willing to give up better-qualified individuals in favor of the natural performer.

Much work remains to be done to clarify the processes producing the naturalness bias, and the conditions under which it is and is not likely to occur. Given the consequential implications of the bias for decisions involving educational placement and professional selection and advancement, an investment in the mission to understand the naturalness bias more deeply would be well justified. This research may be of interest to those interested in decision-making about achievement and in the path to identifying those who truly have the greatest achievement rather than those perceived to have it.

Supplementary data associated with this article can be found, in the online version, at doi:10.1016/j.jesp.2010.12.010.

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