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HR for Humans

How behavioral economics can reinvent HR

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"*You spend more time working than doing anything else in life. It's not right that the experience of work, even at some of the best employers, should be so demotivating and dehumanizing.*"

— Laszlo Bock, *Work Rules!*[1]

FROM MANAGEMENT-LED TO EVIDENCE-BASED HR

The human resource function is at a crossroads. People are the heart of our organizations, yet many fundamental management and HR practices are based on outdated ideas of human psychology and organizational design. Often they are rooted in stories about successful business leaders operating in specific places and times (for example, Jack Welch at GE in the 1980s and '90s). These anecdotes and examples evolve into management trends and, later, received wisdom that executives try to implement—at least while they're on bestseller lists and magazine covers.

But it is rare for such practices to be rigorously evaluated. To paraphrase a well-known psychologist, they lack the character of scientific knowledge: "They tend neither to be refuted nor corroborated, but instead merely fade away as people lose interest."[2]

The time has come for a fresh look at evidence-based HR, founded on two key premises.

First: ***HR practices, policies, and programs should be designed to reflect our best understanding of human psychology.*** This simple idea carries huge implications, thanks to the revolution in our understanding of human psychology and behavior that Nobel laureate Daniel Kahneman and his collaborators and followers have ushered in over the past four decades. This work has fundamentally challenged and changed virtually every field involving human behavior, including behavioral economics and finance, marketing, behavioral health, and happiness research. HR should be next.

Second: ***HR practices, like all business programs, should be tested and validated.*** While the major findings of cognitive psychology and behavioral economics are well validated, the practical effectiveness of specific applications varies from context to context. A practice that flies at an online retailer, for instance, might flop at an ad agency. So whenever possible, researchers need to field-test new ideas using what the medical profession calls randomized controlled trials and what Internet companies call A/B testing: Try it on one randomly selected group and compare the results with those of a control group. Doing this enables HR departments to learn what works and what doesn't and to quantify the economic value being created (or destroyed).

These two principles are the pillars of the "behavioral insights" movement that is reshaping the public policy world.[3] Since the 2008 publication of *Nudge* by Richard Thaler and Cass Sunstein, policymakers have come to recognize that public sector interventions—ranging from government forms' color and word choice to the design of job centers and after-school programs—should be designed to go with, rather than against, the grain of human psychology.[4] And rather than simply follow tradition, accept authorities' prescriptions, or adhere to industry benchmarks, policymakers are using A/B testing and data analysis to help design and evaluate programs.

The HR domain should embrace a behavioral insights movement of its own, founded on three premises that correspond to the major themes of behavioral economics (see the "Humans 101" sidebar):

- **Play Moneyball (bounded rationality):** The fact that the human mind relies on storytelling—not statistics and logic—to make everyday decisions has a profound implication for HR managers. When it comes to hiring and promotion decisions, even simple predictive models run circles around unaided professional judgment.

- **Nudge your colleagues (bounded willpower):** Understanding the nuances

of our imperfect willpower gives HR leaders a powerful new toolkit—called *choice architecture*—to bust bureaucracy and help employees make better diet, exercise, charitable giving, and investment decisions.

- **Leverage intrinsic motivation (bounded self-interest):** HR leaders can improve business performance by recognizing that such traditional reward-based policies as incentive pay, goal-setting, performance ratings, and promotions have far less impact on actual performance and collaborative activity than traditionally thought. Indeed, the impact can actually be negative.

HUMANS 101: THREE THEMES OF BEHAVIORAL ECONOMICS

The past 40 years have seen an explosion of research revealing dozens of surprises about how actual people ("Humans") behave, often diverging from how rational economic actors ("Econs") are presumed to behave. These findings fall into three major themes:[5]

Rationality: Traditional economic thinking holds that each of us makes decisions by gathering all available information and analyzing it with the kind of cost/benefit logic characteristic of *Star Trek*'s Mr. Spock. In reality, many of our intuitive decisions are predictably illogical—often in surprising ways. It turns out that even highly trained professionals—doctors, judges, underwriters, hiring managers—routinely lean on fallible rules of thumb and intuition ("thinking fast") to make complex decisions that require careful data analysis ("thinking slow").

Willpower: Econs enjoy perfect willpower and never let short-term distractions compromise long-term goals. Clearly, such beings exist only in Econ 101 textbooks. Understanding how and when we fall short of this ideal can help policymakers and HR executives design "choice environments" that steer us toward making smarter decisions.

Motivation: Econs act purely out of economic self-interest: If Dan puts in an extra hour on the job, it's because he either relishes the expected reward and/or fears the punishment he'd face if he failed to do so. In reality, factors beyond economic self-interest—for example, fairness, professional pride, and societal responsibility—also strongly affect our decisions and choices.

Richard Thaler calls these characteristics of human behavior the "three bounds": bounded rationality, willpower, and self-interest. Each of them points to major opportunities to rethink, redesign, and radically improve our management strategies.

Taken together, these principles offer a framework to drive a new generation of HR strategies that create happier, more motivated, and higher-performing teams. And thanks to the power of A/B testing, HR professionals can rigorously measure these strategies' effectiveness.

Principle 1: Bounded rationality and why HR needs to play Moneyball

Moneyball—the title of Michael Lewis's famous book and the subsequent movie adaptation—has become shorthand for the type of data-driven decision making now widely used to improve decisions in realms far beyond professional sports: health care, financial services, entertainment, consumer business, public affairs, and more.[6] So it is ironic that data-driven methods have made comparatively few inroads into the sorts of decisions at the heart of the *Moneyball* story: hiring. Hiring decisions are still routinely made largely on the basis of unstructured interviews— the corporate analog of baseball scouts' use of gut feel to select players—which are notoriously unreliable predictors of future performance.[7]

THINK ABOUT LINDA: WHY EXPERTS NEED EQUATIONS

To get a feel for how badly our mental shortcuts ("heuristics") can lead us astray, take a moment to consider a young woman named Linda. Linda is 24 years old, single, outspoken, and very bright. She majored in philosophy. As a student, she was deeply concerned with issues of inequality and social justice and also participated in the Occupy movement.

Now ask yourself: Which of two alternatives is more likely?

a) Linda is a bank teller

b) Linda is a bank teller who is active in the Occupy movement

Most people answer (b), even though a moment's thought reveals that this cannot possibly be the better response: The set of politically engaged bank tellers is a subset of the world's bank tellers![8]

This little test illustrates a fundamental feature of human cognition that psychologists have brought to light in the past four decades. Human thought comprises two sorts of mental operations that Daniel Kahneman calls "thinking fast" (System 1) and "thinking slow" (System 2). Thinking fast is automatic and effortless, valuing stories that possess *narrative* coherence. Thinking slow is controlled and effortful, valuing analyses with *logical* coherence. The bulk of our mental operations are System 1, and most of the time this serves us well—after all, we would be paralyzed if we had to logically analyze each of the thousands of decisions we make every day.

But there's a rub: System 1 is terrible at statistics, and comes with dangerous unconscious biases. We humans are natural storytellers but poor natural statisticians. We are so far from being rational Econs that Kahneman calls the mind "a machine for jumping to conclusions."[9]

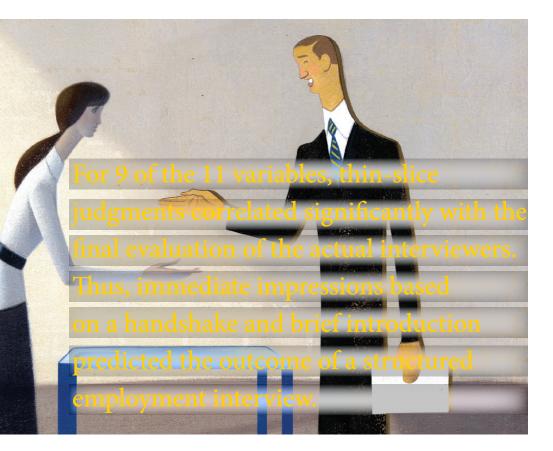Often without even realizing it, we tend to:

- Overgeneralize from small samples of personal experience: *The last two interns I recruited from the University of X were great—let's focus our recruiting there.*

- Assume that the evidence before our eyes is all that's relevant: *The résumé looks good, and she came across well in the interview—what more do we need to know?*

- Overweight factors that readily come to mind: *That candidate was able to give a smart answer to the question of how many golf balls would fit in a school bus.*

- Assume that people's observed behaviors—such as earning a high GPA or appearing distracted at a job interview—are manifestations of abiding character traits rather than situational factors, like having gone to a school with grade inflation or dealing with a family crisis at home.[10]

- Form an overall impression ("halo") of a person based on specific factors that we like or dislike: *Let's promote Bill to manage the new team, since he looks manager-ready, always gets to the office on time, and does what he is asked.*

- Let the emotional tail wag the rational dog: We selectively process information about a person depending on whether we basically like or dislike the person.[11] Did we simply "feel good" about the job candidate we just met? Yes, let's just hire him. (But we forgot to test him to even see if he has the skills to do the job! Oops.)

As if this were not bad enough, our susceptibility to cognitive biases is strongly tied to our physical energy level. For example, a study of eight judges making a total of more than 1,000 parole decisions over a 10-month span found that first thing in the morning, the judges granted parole to over 60 percent of the cases presented to them. This rate shrank steadily to zero just before the judges' first meal break, after which it spiked back up to 60 percent and so on throughout the day. This phenomenon, called "decision fatigue," is useful to keep in mind when scheduling full days interviewing job candidates or making year-end rating decisions.[12]

A psychological study, discussed by Google's Laszlo Bock in *Work Rules!*, illustrates the havoc that cognitive biases routinely wreak in job interviews. (See the "Think about Linda" sidebar for further background.) Researchers showed study participants short clips of videos of actual job interviews:[13]

> *Slices were extracted from each interview, beginning with the interviewee knocking on the door and ending 10 seconds after the interviewee took a seat, and shown to naïve observers. Observers provided ratings of employability, competence, intelligence, nervousness, ambition, trustworthiness, confidence, nervousness, warmth, politeness, likeability, and expressiveness. For 9 of the 11 variables, thin-slice judgments correlated significantly with the final evaluation of the actual interviewers. Thus, immediate impressions based on a handshake and brief introduction predicted the outcome of a structured employment interview.[14]*

In other words, the great bulk of the actual time spent in the interviews did little more than confirm the first impression that the interviewee made on the interviewer. The problem is that those first impressions are worthless at predicting success on the job.

Consider a second, and more dangerous, outcome of intuition-driven hiring: unconscious bias and discrimination. A study conducted by University of Chicago and Harvard economists studied the effects of randomly assigned "white sounding" and "African-American sounding" names atop otherwise identical résumés. The study found that the former résumés yielded call-backs for interviews 50 percent more often than the latter.[15] This type of fast thinking—by time-crunched hiring managers quickly sorting candidates into *yes* and *no* piles—can lead to lawsuits, to say nothing of neglected job candidates and foregone workforce diversity.

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Thinking fast can also lead to gender bias. For example, renowned classical music conductors have been known to dismiss female musicians as having "smaller techniques," being more temperamental, and so on. When orchestras began holding blind auditions, female musicians began to be hired in greater numbers. Physical blinds overcame the mental blinders resulting from thinking fast.[16]

The problem is clear and pervasive, but what can be done? As *Moneyball* illustrates—and psychological research dating back to the 1950s clearly demonstrates—the answer is using evidence, experimentation, and predictive models as thinking-slow correctives to biased, unaided judgment.[17] While few HR departments have as much "big data" as statistics-obsessed baseball teams, we are clearly moving in this direction. Companies have mountains of data about their people, and we are only now starting to learn how to use that information to improve HR practices.

More fundamentally, a lot can be accomplished with traditional data sources. Laszlo Bock notes that the results of work samples, tests of general cognitive ability, the results of structured interviews, and tests of such non-cognitive abilities as conscientiousness are all (to varying degrees) predictive of future job performance. As one might expect, combining these assessment techniques into a single predictive model outperforms any one of them individually.[18]

We have spoken with insurance companies, consumer goods companies, and retailers who are using analytics techniques to identify the characteristics of high performers and then apply them on the job.

- A movie theater chain radically changed its hiring practices—and boosted profitability—after studying the characteristics of teams with high levels of popcorn sales.

- A retailer identified the cognitive skills needed to effectively sell cosmetics and changed its hiring to focus on cognitive abilities, not just beauty and charm.

- A sporting-goods distributor found that "people who love the outdoors" are far better performers than those with strong technical skills in their business.[19]

With different workforces, practices, and needs, companies should experiment and learn from experience to refine the hiring process over time. Google, which shares much of its experimentation publicly, has analyzed its own data to dramatically alter its hiring practices. For example, the company:

- Moved from nearly a dozen interviews to a mere four after an analysis established that the marginal utility of more than four interviews was virtually nil

- Banned the use of brainteaser interview questions, such as "How many golf balls would fit in a school bus?," after determining that they have no predictive value

- Stopped placing great weight on degrees from elite universities, realizing that excellent candidates from less prominent institutions were being overlooked

The common theme here is to be scientific: Gather, standardize, and analyze the data resulting from interview processes rather than skipping a System 2 process in favor of raw intuition. As Linda, our philosophy major, can attest, this results in better decisions.[20]

Furthermore, as organizations become ever more adept at data science, it is increasingly practical to build predictive models to facilitate the hiring process. HR departments' hard drives and file cabinets are filled with data that can fuel such applications: employees' and candidates' job history, educational experience, prior employers, roles and job titles, performance ratings, and even tests and assessments. One major software company, for example, found that candidates with successful tenures at a particular competitor almost always proved to be effective employees in sales positions. Another found that the most predictive factor among candidates who did not succeed in their first year was "typos and spelling errors on their résumé."

HR departments can also use innovative behavioral and lifestyle data sources to supplement traditional data. A fundamental truth about making nearly any kind of predictions about people is that past behavior is the best predictor of future behavior.[21] Furthermore, the "digital breadcrumbs" we continually leave behind in our digitally mediated lives are behavioral data sources that can be used in novel ways. For example, we used the sort of lifestyle data traditionally applied to target marketing promotions and catalogs to help a major financial services company better predict which sales agents were likely to make it through the interview process and succeed on the job.

An emerging type of behavioral data relevant to HR is *sociometric* data. Sociometric badges are recording devices capable of measuring patterns of nonverbal communication and team interaction. For example, sociometric data have been found to be predictive of which call-center conversations are likely to end well, which doctors are relatively likely to be sued for malpractice (hint: patients sue likeable doctors less frequently), and which banking employees are likely to sell the most products and services.[22]

Sociometric data and email metadata can also provide useful insights by measuring patterns of collaboration and piecing together an organization's social-network graph. For example, several studies have shown that in roles such as engineering, research, and consulting, individuals with larger "internal collaboration networks" outperform those who operate and work independently. Tribal wisdom

and fast thinking might advise that we just hunker down and do our work, but data-rich slow thinking tells us to take some extra time, meet our colleagues, and build a network of partners in the organization.

Principle 2: Choice architecture and how little nudges can make a big difference

A core theme of classical economics is that once an Econ has logically calculated the optimal choice, he or she acts on it without hesitation. But decades of behavioral economics research reveal that a large number of what Thaler calls "supposedly irrelevant factors" affect our choices—often strongly.[23]

For example, we are more likely to tip a taxi driver 20 percent (rather than less) if the payment touchscreen offers a 25 percent option; we tend to cut our electricity usage when informed that it's much higher than that of neighbors living in similar homes (this is more effective than either economic arguments or environmental pleas); and we are more likely to purchase a jar of jam if we are presented with five flavors than if we see a choice-overloading array of 25 flavors.[24]

The choice-architecture lessons of Thaler and Sunstein's *Nudge* are, we believe, entirely applicable to HR: Given that "everything matters" in the way environments affect our behaviors, we can intentionally *design* those environments in ways that prompt—nudge—people to take the short-term actions that are consistent with their long-term goals.

Consider the challenge of getting people to use the stairs at work. If the office stairs are stylish and centrally located (think of the set in the later seasons of *Mad Men*[25]), while the elevator is nondescript and requires a key card to use, people are likely to use the stairs more often than were the arrangement reversed. This encourages exercise, gives people a chance to move around, and even creates a more open work environment. (Similar research has shown that people with more light in their workspace were happier and more collaborative than those in dimmer offices.[26] Apparently, many Humans—unlike Econs—are heliotropes.)

While some view choice architecture as a form of Big Brother central planning—and yes, it can be abused along such lines—its inspiration is rooted in user-centric design.[27] For example, iPads and iPhones are designed so that even children can pick them up and start using them with little instruction. Why can't we design forms, policies, programs, and indeed all physical and choice environments in a similarly transparent, human-centered spirit?[28]

As it happens, one of the greatest choice-architecture success stories resides in the HR domain: prompting employees to save more for retirement. Knowing that idiosyncratic Humans tend to shrug and select the "default choice" led Thaler to suggest that companies *automatically enroll* employees in retirement savings accounts

(requiring them to unenroll if they don't want the default choice). Classical economics predicts that the default setting—a "seemingly irrelevant factor"—would have little effect: What self-respecting Econ would let filling out a silly form stand in the way of a more prosperous retirement? Yet the effects can be huge: An early study reported participation jumping from 49 percent to 86 percent.[29] This is a cost-free bit of choice architecture that yields an outsized effect that benefits employees (and society).

When one thinks along these lines, any number of workplace choice-architecture applications—both actual and eminently plausible—leap to mind:

- Confronting the problem that employees enroll in savings accounts at distressingly low rates, Thaler and Shlomo Benartzi took the above application of choice architecture to the next level with a program called Save More Tomorrow, in which companies give employees the option to automatically tie future retirement savings rate increases to future raises.[30] Rather than inertia getting the better of people, choice architecture *applies* inertia to workers' benefit.

- Similar logic can help employees choosing among health plans and other benefits. The benefits industry typically focuses on providing information and education. But nudges—here in the form of smart defaults—can be more effective. For example, a new paper by behavioral economists Saurabh Bhargave, George Loewenstein, and Justin Sydnor finds that a majority of workers (in particular, older workers, women, and low earners) choose options in which they spend extra for unnecessary benefits. The authors comment: "Most employees would have fared better had they instead been enrolled in the single actuarially best plan."[31]

- Similarly, choice architecture is now a hot topic in health insurance exchanges. Eric Johnson of Columbia University performed an experiment in which people made better choices if offered a simplified list of health plan options (called EZPath, invoking fast-track lanes on toll highways) rather than a list of all available plans.[32] For Humans, unlike Econs, less can be more.

- A dramatic illustration of the power of choice architecture involves organ donation. When the Illinois Department of Motor Vehicles made opting in easier by asking people renewing their driver's licenses, "Do you wish to be an organ donor?," the donation rate rose to 60 percent, compared with 38 percent nationally.[33] Companies could employ essentially the same strategy to promote charitable giving: Rather than sending an easily ignored HR

email urging employees to opt in, a company could (for example) require each employee to make a donation decision (one option of which would be a zero donation) on the first of the fiscal year. Taking the idea further using the Benartzi/Thaler logic, companies could consider implementing "donate more tomorrow" schemes by linking future pay increases to matching donation increases. Here, inertia enables the employee to nudge himself or herself in the pro-social direction, and his or her experience of loss aversion is diminished because the increased donation occurs in the dimly imagined future.

- HR can go beyond its traditional roles to creatively envision and test choice architecture to promote employee wellness. In *Work Rules!*, Bock describes

Wharton economist Jonathan Kolstad recently studied the effect of physician report cards on a group of heart surgeons. Contrary to expectations, the report cards had little effect on consumer demand—though they *did* produce improved physician performance, resulting in significant declines in mortality rates. Kolstad found that intrinsic motivations—professional pride and the desire to do well—trumped economic incentives by a wide margin.

an experiment that involved placing healthier snacks at eye level and making them more visually appealing, while placing sweets in opaque containers. Measured against a baseline, this small intervention led to a 30 percent reduction in calorie consumption, as people opted for the more visible and accessible healthy snacks. Bock reports that such nudges were more effective in prompting healthier food choice than either providing information or restricting choices.[34] This is consistent with dozens of studies finding

that nudging is more effective than attempts to provide information or education. Remember Humans' bounded rationality.

- The surprising impact of resetting defaults from opt-in to opt-out hints at the outsized (but often neglected) effect that bureaucratic overhead has on our working lives. It is too common for employees to confront time, expense, and performance-review systems requiring time-consuming data entry via buggy user interfaces. *Financial Times* columnist Lucy Kellaway recently wrote of a foreign-correspondent colleague—accustomed to working in some of the world's most dangerous places—who found the company's expense system so confounding that he was given special permission to use an older system.[35] Similar to nudging health and safety, HR functions can create economic value by endeavoring to measure—and control—bureaucratic overhead.

We believe that HR departments should assign someone to "own" such choice-architecture applications. Just as online retailers employ webmasters who use A/B testing to optimize the design of their websites, perhaps HR departments should have chief nudge officers to better understand and improve the small things that have outsized effects on workers' lives.

Principle 3: Leverage intrinsic motivation: Beyond carrots and sticks

"We're adding a little something to this month's sales contest. As you all know, first prize is a Cadillac Eldorado. . . . Second prize is a set of steak knives. Third prize is you're fired."

—David Mamet*, Glengarry Glen Ross*[36]

Perhaps HR organizations' biggest opportunity is to design policies and programs that really drive superior performance. We talk a lot about employee engagement and what we need to do to make our organizations "irresistible."[37] But do we really understand what motivates people in the first place?

Many traditional HR and management practices—command-and-control management, pay-for-performance, rank-and-yank, year-end ratings, and so on—are based on the premise that employees' primary motivation is economic self-interest. As Adam Smith himself put it: "It is not from the benevolence of the butcher, the brewer, or the baker that we expect our dinner, but from their regard to their own interest."[38]

The third principle of behavioral economics is that Humans, unlike textbook Econs, are motivated by factors other than economic self-interest. We also value

peer recognition, respect, freedom to contribute, and the sense of self-esteem—not just a bigger paycheck. (Our research shows that "saying thanks" is one of the best things you can do to drive performance.[39]) And punishment, while it may work with children, is problematic.

Yet many core management and HR practices (bonuses, pay for performance, merit raises, performance ratings, potential ratings, high-potential lists, economic consequences for not reaching goals) are based on the idea that people work harder and produce more output in exchange for money and positional power.

Psychologists call such carrot-and-stick tactics *extrinsic motivation*. It turns out that such external rewards are really not what drives superior performance—it's *intrinsic motivation* that matters: the desire to do a job for its inherent rewards.[40]

The behavioral economist Dan Ariely illustrates the idea: "Imagine you go to a dinner party and offer to pay your host a $100 reward for cooking such a wonderful meal. He or she is likely to be insulted, and may never invite you back again."[41] The host is motivated not by the prospect of remuneration but by the intrinsic rewards of cooking for friends and taking pleasure in their appreciation.

Ariely's example also hints at a subtler effect: Economic incentives can actually *crowd out* the inherent motivators that drive superior performance and ethical behavior. A well-known experiment suggests why. An A/B test involving a group of day care centers in Israel found that imposing fines for picking up children late resulted in *increased* tardiness, since the fines transmuted what parents had previously viewed as a social obligation into an economic transaction. Furthermore, the damage was lasting: The higher level of tardiness remained even after the fines were lifted.[42]

Think about the potential impact of a pay-for-performance program. A number of studies have shown that when we crowd out intrinsic motivation with pay, we end up with poor service quality (for example, focusing on time per call instead of customer satisfaction), poor product quality (for example, rushing products through the production line), and even poor health outcomes.[43]

Evidence is not hard to find:

- A group of prominent behavioral economists tested the effect of level of pay on performance. The study was conducted in India, where economically meaningful incentives could be provided within the budget of the study. Researchers randomly assigned participants to groups offered either a day's pay, two weeks' pay, or five months' pay in reward for performing a variety of tasks requiring motor coordination, concentration, or creativity. The economists observed little difference in the performance of the low- and middle-pay groups. And they observed *worse* performance in the high-pay group.[44]

- In a three-year randomized controlled trial, RAND researchers found that offering US middle-school math teachers $15,000 bonuses had no effect on students' standardized test scores.[45]

- Wharton economist Jonathan Kolstad recently studied the effect of physician report cards on a group of heart surgeons. Contrary to expectations, the report cards had little effect on consumer demand—though they *did* produce improved physician performance, resulting in significant declines in mortality rates. Kolstad found that intrinsic motivations—professional pride and the desire to do well—trumped economic incentives by a wide margin.[46]

- In *Drive*, Daniel Pink discusses a study demonstrating that designers who were "paid extra" for certain designs produced less innovative work and ultimately reduced their creativity and willingness to experiment.[47]

- A London School of Economics analysis of 50 studies found "overwhelming evidence" that financial incentives diminish employees' natural motivation and pleasure derived from doing their work. One of the researchers commented, "We find that financial incentives may indeed reduce intrinsic motivation and diminish ethical or other reasons for complying with workplace social norms such as fairness. As a consequence, the provision of incentives can result in a negative impact on overall performance."[48]

What can HR teams do to promote intrinsic motivations? We suggest two fundamental actions. First, apply "design thinking" to all your HR programs. Rather than rely on the classical economics worldview, traditional "best practices," or business-guru books, think about people from the inside out; begin with psychological insights about what motivates superior performance and ethical behavior. Second: Test everything.

Let's start with the psychological insights. There is an emerging consensus that intrinsic motivation is characterized by the desire to achieve *mastery* of a craft, the desire for *autonomy* in going about one's work, and the need to infuse one's work with a sense of *purpose*. Psychologist Barry Schwartz is eloquent on this point:

We want work that is challenging and engaging, that enables us to exercise some discretion and control over what we do, and that provides us opportunities to learn and grow. We want to work with colleagues we respect and with supervisors who respect us. Most of all, we want work that is meaningful—that makes a difference to other people and thus ennobles us in at least some small way.[49]

Such principles are often honored more in the breach than in the observance.

But successful organizations increasingly exemplify them in their practices:

- **Mastery:** Some organizations make active efforts to inculcate a learning culture. For example, Google holds a celebrated TechTalks series attracting prominent thinkers to share leading-edge thinking with its community. Deloitte Consulting LLP holds an annual data science summit at which the firm's data scientists can bond with, and learn from, each other. Beyond the economic efficiency of self-training rather than paying for external trainers, enabling employees to gain recognition as teachers who are masters of their domains is a powerful motivator.

- **Autonomy:** Give people opportunity for creativity and innovation in their jobs. One of 3M's scientists developed the post-it note during his "15 percent time."[50] Google's Gmail and AdSense are credited to the company's similar "20% time" program, in which employees were allowed a day each week to work on side projects.[51] In *The Good Jobs Strategy*, Zeynep Ton argues that retailers who give employees more training, freedom, and flexibility outperform higher-paying peers.[52] Zappos, known for excellent customer service, does not monitor its customer representatives' call times or assign them scripts to read. The company simply instructs the reps to serve its customers well.[53]

- **Purpose:** Netflix's influential 124-page culture slide deck starts out with a clear statement that its corporate values are not words on a page but, rather, the behaviors and skills that colleagues value.[54] In *Work Rules!*, Bock comments on the ability of Google's concise mission statement—"to organize the world's information and make it universally accessible and useful"[55]—to help give individuals' work meaning.[56] And the need to give work intrinsic meaning is hardly restricted to professional jobs. For example, in the essay quoted above, Barry Schwartz discusses a study of custodians working in an academic hospital who, for no extra pay, took it upon themselves to comfort patients and their families, and to help professional staff with patient care. The custodians stated that this "extra," unpaid work was the aspect of their jobs that motivated them the most.[57]

These examples can help motivate good HR "design thinking." But of course, organizations differ, and you will need to experiment to nail the execution. Harvard Business School professor Teresa Amabile points out that finding the right mix of intrinsic and extrinsic rewards can be tricky.[58] For example, Google experimented with—but ultimately dropped—a start-up-like "Founders' Award" program rewarding exceptional performance with commensurate (up to seven-figure)

financial rewards. The company found that the program inadvertently celebrated money above other values and pleased almost no one. People in vital but back-office roles knew they had little chance of winning, near-winners experienced excruciating cases of loss aversion, and even many of the winners were disappointed by smaller rewards than they expected. Learning from this experience, Google has shifted from providing monetary rewards to experiential rewards such as gifts and dinners out.[59]

Performance management should be a big area of focus: Research shows that simply rating people reduces their self-esteem and creates animosity and competi-

Culture, engagement, and retention of people are the foremost issues on the minds of business and HR leaders. Behavioral economics provides a new and powerful set of principles to help us improve the slippery and complex process of hiring and promoting the right people, motivating our teams, and driving superior performance.

tion among peers.[60] Amabile found that manager evaluation of subordinates (characteristic of traditional performance evaluation and rank-and-yank) can crowd out creativity, since people hesitate to suggest unusual ideas for fear of a harsh evaluation. Yet absence of feedback also causes problems—it makes people feel uncertain and nervous. The right balance is work-relevant feedback that is frequent, informative, and constructive. Some organizations are beginning to experiment with new approaches such as a frequent "check-in" process.[61]

So for example, a large health care company is simultaneously A/B testing four different forms of performance evaluation: One group is using the traditional rating and ranking process, the second is using a simplified rating process, the third is using no ratings at all, and the fourth group is letting people rate each other. After six months, managers plan to look at how each group performed, to see which one delivered the highest output measured by employee performance, engagement, retention, and learning.

Consider one of the biggest issues businesses face today: corporate scandals and the increasing need for regulation in almost every industry. Research by Deloitte Australia suggests that threatening more draconian punishment actually results in lower compliance than does building a "culture of compliance."[62] Other research shows that "toxic employees" (that is, those who steal or cheat) are infectious and create patterns of bad behavior among those who sit nearby.[63] Rather than punish or threaten people to comply, we have to build a culture of "doing the right thing"—driving the intrinsic motivation to "be good" and model the behavior of others.

THE CHOICE IS OURS: BETTER HR THROUGH BEHAVIORAL ECONOMICS

HR professionals—the architects and designers of the people and management processes by which we work—play a crucial role in their organizations. By applying the proven principles of behavioral economics to rethink programs, HR can make them simpler, more effective, more scientific, more economically efficient—and more "human."

Marketing science, another domain concerned with human behavior, has taken this lesson to heart: Online retailers use A/B testing to evaluate advertisements and optimize the placement of web pages, and even test offers, prices, colors, and fonts. Similarly, HR departments should be testing new ideas to see what policies, programs, and messages best motivate people. HR owns the choice architecture of the workplace and should design it carefully, iterating and using data wherever possible.

Both the US and British governments now have "nudge units" dedicated to the people-centric design of programs and policies, and the data-driven evaluation of what works.[64] HR departments can do the same, perhaps even including their own behavioral insights teams led by a chief nudge officer.

Culture, engagement, and retention of people are the foremost issues on the minds of business and HR leaders.[65] Behavioral economics provides a new and powerful set of principles to help us improve the slippery and complex process of hiring and promoting the right people, motivating our teams, and driving superior performance.

It might take more than a nudge to get there, but the goals are worth striving for. **DR**

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Endnotes

1. Laszlo Bock, *Work Rules! Insights from Inside Google that Will Transform How You Live and Lead* (New York: Twelve, 2015).

2. The quote is by Paul Meehl, the psychologist whose discoveries about how simple predictive models routinely outperform expert judgment in virtually all domains was memorably dramatized in the book and movie *Moneyball*. Commenting on much of the psychological research of his time, Meehl wrote: "Theories in 'soft' areas of psychology lack the background of scientific knowledge. They tend neither to be refuted not corroborated, but instead merely fade away as people lose interest." From "Theoretical risks and tabular asterisks: Sir Karl, Sir Ronald, and the slow progress of soft psychology," *Journal of Consulting and Clinical Psychology* 46, 1978, pp. 806–34, http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.200.7648&rep=rep1&type=pdf, accessed October 20, 2015.

3. In *Misbehaving: The Making of Behavioral Economics* (New York: W.W. Norton, 2015), Richard Thaler recounts his role in the formation of UK Prime Minister David Cameron administration's influential Behavioral Insights Team (aka "Nudge Unit"). In September 2015, Barack Obama signed an executive order establishing a similar unit in the US government, www.whitehouse.gov/the-press-office/2015/09/15/executive-order-using-behavioral-science-insights-better-serve-american, accessed October 20, 2015.

4. Richard H. Thaler and Cass R. Sunstein, *Nudge: Improving Decisions about Health, Wealth, and Happiness* (New Haven, CT: Yale University Press, 2008).

5. See the "Law schooling" chapter of Thaler's *Misbehaving* and also "The importance of misbehaving: A conversation with Richard Thaler," *Deloitte Review* 18.

6. Michael Lewis, *Moneyball: The Art of Winning an Unfair Game* (New York: W.W. Norton, 2003).

7. In 1954, Meehl published *Clinical vs. Statistical Prediction: A Theoretical Analysis and a Review of the Evidence*, documenting the ability of even simple predictive models to outperform human experts at making predictions. This "disturbing little book," as Meehl later called it, documented 20 studies comparing the predictions of human experts with those of simple models. The predictions ranged from how well schizophrenic patients would respond to electroshock to how well prisoners would respond to parole. Meehl concluded that in none of the 20 cases could human experts outperform the models. In *Thinking, Fast and Slow*, psychologist Daniel Kahneman called Paul Meehl a hero of his. In a 2011 *Vanity Fair* profile of Kahneman, Michael Lewis wrote that a review of *Moneyball* by Richard Thaler and Cass Sunstein alerted him to the fact that Meehl's and Kahneman's work help explain the market inefficiency he had "stumbled on." See "The king of human error," *Vanity Fair*, December 2011, www.vanityfair.com/news/2011/12/michael-lewis-201112, accessed October 20, 2015.

8. See Daniel Kahneman, *Thinking, Fast and Slow* (New York: Farrar, Straus & Giroux, 2011). We have changed the wording of Kahneman and Amos Tversky's original scenario, which states that "she was deeply concerned with issues of discrimination and social justice and also participated in anti-nuclear demonstrations." When Kahneman and Tversky posed this question to students at UC Berkeley and Stanford, they found that 87 percent answered incorrectly. Interestingly, they also found that social-science graduate students who had been trained in statistics were less likely to answer incorrectly. The implication is that human judgment and decision making can be improved through statistical education and training. This theme is further explored in Philip E. Tetlock and Dan Gardner, *Superforecasting: The Art and Science of Prediction* (New York: Crown, 2015).

9. Kahneman, *Thinking, Fast and Slow*, p. 67.

10. For example, see Samuel Swift, Don Moore, Zachariah Sharek, and Francesca Gino, "Inflated applicants: Attribution errors in performance evaluation by professionals," *PLOS One*, July 24, 2013, http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0069258, accessed October 20, 2015. The authors state, "We find that candidates benefiting from favorable situations are more likely to be admitted and promoted than their equivalently skilled peers. The results suggest that decision-makers take high nominal performance as evidence of high ability and do not discount it by the ease with which it was achieved."

11. For mavens, these cognitive biases are known as the law of small numbers, what you see is all there is, the availability heuristic, the fundamental attribution error, the halo effect, and the affect heuristic. Daniel Kahneman discusses all of these—and many more—in *Thinking, Fast and Slow*. The clever phrase "the emotional tail wags the rational dog" is from the social psychologist Jonathan Haidt, in "The emotional dog and its rational tail: A social intuitionist approach to moral judgment," *Psychological Review*, vol. 108, 2001, pp. 814–34, www.motherjones.com/files/emotional_dog_and_rational_tail.pdf, accessed October 20, 2015.

12. Or, for that matter, if one is going up for parole. See, for example, "I think it's time we broke for lunch…," *Economist*, April 14, 2011, www.economist.com/node/18557594. John Tierney's *New York Times Magazine* piece "Do you suffer from decision fatigue?," August 17, 2011, contains a discussion of the judge case study and Roy Baumeister's work on decision fatigue more generally, www.nytimes.com/2011/08/21/magazine/do-you-suffer-from-decision-fatigue.html?_r=0; both accessed October 20, 2015.

13. Bock, *Work Rules!*, pp. 87–90.

14. J.T. Prickett, N. Gada-Jain, and F.J. Bernieri, "The importance of first impressions in a job interview," paper presented at the annual meeting of the Midwestern Psychological Association, Chicago, 2000.

15. Marianne Bertrand and Sendhil Mullainathan, "Are Emily and Greg more employable than Lakisha and Jamal? A field experiment on labor market discrimination," *American Economic Review* 94, no. 4, September 2004, pp. 991–1013, www2.econ.iastate.edu/classes/econ321/orazem/bertrand_emily.pdf, accessed October 20, 2015. A more recent study by Katherine Milkman and her colleagues, involving simulated letters being sent to thousands of professors, concluded that black-sounding names can also disadvantage candidates' prospects of getting into

top graduate schools. See Milkman, Modupe Akinola, and Dolly Chugh, "Temporal distance and discrimination: An audit study in academia," *Psychological Science* 23, no. 7, 2012, pp. 710–17, https://static1.squarespace.com/static/5353b838e4b0e68461b517cf/t/538503bde4b00c6f1fc1699c/1401226173020/temporal-distance-and-discrimination-.pdf, accessed October 20, 2015.

16.   See Marilyn Marks, "Blind auditions key to hiring musicians," *Princeton Weekly Bulletin*, February 12, 2001, www.princeton.edu/pr/pwb/01/0212/7b.shtml, accessed October 20, 2015.

17.   Another approach is to simply make people aware of the cognitive biases that can impair good judgment. For example, Google distributes a list of cognitive biases to employees engaged in performance-evaluation discussions. Another approach is tapping into "the wisdom of the crowd" to combine multiple interview or performance evaluations. See Laszlo Bock, *Work Rules!* and Adam Bryant, "Google's quest to build a better boss," *New York Times*, March 12, 2011, www.nytimes.com/2011/03/13/business/13hire.html, accessed October 20, 2015. For an excellent set of guides on countering unconscious biases, see the Google "re:Work" website, https://rework.withgoogle.com/subjects/unbiasing/. Of course, Google is not the only organization mindful of the need to counter biased Type 1 thinking—for example, see the following chapter of a World Bank publication, on "The biases of development professionals," www.worldbank.org/content/dam/Worldbank/Publications/WDR/WDR%202015/Chapter-10.pdf. The authors thank Andrew Blau and Peter Viechnicki, respectively, for these references. Bock also discusses the use of "the wisdom of crowds" (a.k.a. collective intelligence) methods to improve hiring decisions. The idea is that when independent, diverse perspectives are combined, individual-level cognitive biases cancel out. Of course if the group decision-making process is poorly structured, the result can be groupthink—the opposite of collective intelligence. For a general discussion, see Cass Sunstein and Reid Hastie, *Wiser: Getting Beyond Groupthink to Make Groups Smarter* (Cambridge, MA: Harvard Business Review Press, 2014). See also "From groupthink to collective intelligence: A conversation with Cass Sunstein," *Deloitte Review* 17, http://dupress.com/articles/groupthink-collective-intelligence-cass-sunstein-interview/. Sunstein and Hastie's discussion of "hidden profiles" is particularly relevant to the context of hiring and promotion decisions.

18.   It is important to note the distinction between structured and unstructured interviews. A relevant passage from *Work Rules!* is excerpted in Laszlo Bock, "Here's Google's secret to hiring the best people," *Wired*, April 2015, www.wired.com/2015/04/hire-like-google/, accessed October 20, 2015. Bock criticizes traditional interviews while promoting the use of structured (situational or behavioral) interviews. While traditional, unstructured interviews are breeding grounds for cognitive biases, Bock argues that structured interviews, composed of neutral and deliberately selected questions, do provide useful comparison among candidates because of the consistency that they enforce among interviewers. Enforcing consistency is also a major way in which predictive models help counteract cognitive biases. Bock comments, "Applying a boring-seeming rubric is the key to quantifying and taming the mess."

19.   Josh Bersin, "Making the job search work for you—The science of fit," *The Business of Talent*, May 11, 2012, www.bersin.com/blog/post/2012/05/Making-the-Job-Search-Work-for-You---The-Science-of-Fit.aspx, accessed November 2, 2015.

20.   We don't want to create the impression that all of these ideas originated at Google. To the contrary, many of the practices Laszlo Bock describes in *Work Rules!* are rooted in decades of consistent research in the social sciences. For example, in *Thinking, Fast and Slow*, Daniel Kahneman writes of an early experience of his using *Moneyball* principles to construct a statistical decision tool to improve on the Israeli army's then-intuition-based approach to interviewing candidates. Though his tool initially caused an uproar, the army eventually embraced and used it for decades. Kahneman comments, "Suppose that you need to hire a sales representative for your firm. If you are serious about hiring the best possible person for the job, this is what you should do. First, select a few traits that are prerequisites for success in this position (technical proficiency, engaging personality, reliability, and so on). Don't overdo it—six dimensions is a good number. The traits you choose should be as independent as possible from each other, and you should feel that you can assess them reliably by asking a few factual questions. Next, make a list of those questions for each trait and think about how you will score it, say on a 1–5 scale. You should have an idea of what you will call 'very weak' or 'very strong.' . . . To avoid halo effects, you must collect the information on one trait at a time, scoring each before you move on to the next one. Do not skip around. To evaluate each candidate add up the six scores. . . . Firmly resolve that you will hire the candidate whose final score is the highest, even if there is another one whom you like better. . . . A vast amount of research offers a promise: You are much more likely to find the best candidate if you use this procedure than if you do what people normally do in such situations, which is to go into the interview unprepared and to make choices by an overall intuitive judgment such as 'I looked into his eyes and liked what I saw,'" pp. 214–15.

21.   For example, prior job history and work samples are among the best predictors of future job performance; actuaries use records of prior accidents, violations, credit scores, and trails of digital breadcrumbs from telematics devices to predict the likelihood of future accidents; marketers know that the best way to estimate customer lifetime value is using records of past purchasing behavior; and health care data scientists know that past diet, exercise, and lifestyle data is the best predictor of future health behavior. For further examples and discussion of this theme, see James Guszcza and Bryan Richardson, "Two dogmas of big data," *Deloitte Review* 15, http://dupress.com/articles/behavioral-data-driven-decision-making/.

22.   Sociometric badges were invented in Alex Pentland's group at MIT Media Lab. See Pentland, *Social Physics: How Good Ideas Spread—The Lessons from a New Science* (New York: Penguin, 2014) and Pentland, "The new science of building great teams," *Harvard Business Review*, April 2012, https://hbr.org/2012/04/the-new-science-of-building-great-teams, accessed October 20, 2015. See also Ben Waber, *People Analytics: How Social Sensing Technology Will Transform Business and What It Tells Us About the Future of Work* (Upper Saddle River, NJ: FT Press, 2013) and

Aaron E. Carroll, "To be sued less, doctors should consider talking to patients more," *New York Times*, June 1, 2015, www.nytimes.com/2015/06/02/upshot/to-be-sued-less-doctors-should-talk-to-patients-more.html, accessed November 9, 2015.

23. Richard H. Thaler, "Unless you are Spock, irrelevant things matter in economic behavior," *New York Times*, May 8, 2015, www.nytimes.com/2015/05/10/upshot/unless-you-are-spock-irrelevant-things-matter-in-economic-behavior.html, accessed November 2, 2015.

24. This was an experiment famously performed, at Draeger's Market in Menlo Park, CA, by Columbia University professor Sheena Iyengar. See Iyengar and Mark R. Lepper, "When choice is demotivating: Can one desire too much of a good thing?," *Journal of Personality and Social Psychology*, vol. 79, no. 6, 2000, https://faculty.washington.edu/jdb/345/345%20Articles/Iyengar%20%26%20Lepper%20(2000).pdf. Iyengar gives a more entertaining account in her TED lecture "How to make choosing easier," www.ted.com/talks/sheena_iyengar_choosing_what_to_choose, both accessed November 4, 2015.

25. *Interior Design*, "Welcome to 1969: *Mad Men*'s award-winning set design," slideshow, April 25, 2014, www.interiordesign.net/projects/detail/2343-welcome-to-1969-mad-mens-award-winning-set-design/, accessed November 2, 2015.

26. Mohamed Boubekri et al., "Impact of windows and daylight exposure on overall health and sleep quality of office workers: A pilot study," *Journal of Clinical Sleep Medicine*, vol. 10, no. 6, 2014, www.aasmnet.org/jcsm/ViewAbstract.aspx?pid=29503, accessed November 12, 2015.

27. In *Misbehaving*, Thaler reports that while co-authoring *Nudge*, the breakthrough idea of choice architecture came from rereading Don Norman's classic *The Psychology of Everyday Things* (New York: Basic, 1988).

28. Another common misconception is that choice-architecture decisions must be kept secret to be effective. But as the above example suggests, this is generally not the case. In fact, someone designing an office could publicly crowdsource ideas from employees for how they would like to be nudged; the nudge tactics would almost certainly be no less effective. Similarly, it is likely that if asked, a majority of employees in most organizations would be in favor of "smart defaults" that nudge them to select health and retirement benefits estimated (using data) to be in their best interest. Cass Sunstein calls such scenarios "choosing not to choose." Nudges need not be covert to be effective; on the contrary, people can consciously choose to be nudged. See Sunstein, "Choosing not to choose," *Duke Law Journal,* vol. 64, no. 1, October 2014, http://scholarship.law.duke.edu/cgi/viewcontent.cgi?article=3776&context=dlj, accessed October 20, 2015.

29. Brigette C. Madrian and Dennis F. Shea, "The power of suggestion: Inertia in 401(k) participation and savings behavior," *Quarterly Journal of Economics*, vol. 141, Issue 4, November 2001, pp. 1149–87, www.retirementmadesimpler.org/Library/The%20Power%20of%20Suggestion-%20Inertia%20in%20401%28k%29.pdf, accessed November 2, 2015.

30. Richard H. Thaler and Shlomo Benartzi, "Save more tomorrow: Using behavioral economics to increase employee saving," *Journal of Political Economy*, vol. 112, no. 1, 2004, https://faculty.chicagobooth.edu/Richard.Thaler/research/pdf/SMarTJPE.pdf, accessed November 2, 2015.

31. See Saurabh Bhargava, George Loewenstein, and Justin Sydnor, *Do individuals make sensible health insurance decisions? Evidence from a menu with dominated options*, NBER, working paper no. 21160, May 2015, www.nber.org/papers/w21160, accessed October 20, 2015. We thank our Deloitte colleague Dan Coyle and Justin Sydnor of the University of Wisconsin-Madison for helpful conversations.

32. See Rebecka Rosenquist and Janet Weiner, *Nudging without shoving—choice architecture on health insurance exchanges*, Penn LDI, April 28, 2015, http://ldi.upenn.edu/nudging-without-shoving-choice-architecture-health-insurance-exchanges, accessed October 20, 2015.

33. See Richard H. Thaler, "Opting in vs. opting out," *New York Times*, September 26, 2009, www.nytimes.com/2009/09/27/business/economy/27view.html, accessed October 20, 2015.

34. See the chapter "Nudge . . . a lot" in *Work Rules!* Bock also describes the use, in Google's cafeterias, of Cornell professor Brian Wansink's "small plate" diet theory. Wansink is famous for the evil-genius "stale popcorn" experiment: At a movie theater, pass out free bags of unbuttered, unsalted popcorn that is so stale it squeaks. The popcorn is basically inedible, so no one eats all of it. The twist: If you randomly distribute small and big bags, the people given the bigger bags eat correspondingly more. See Wansink's website, http://mindlesseating.org/.

35. See Lucy Kellaway, "Hidden costs of hellish schemes for claiming expenses," *Financial Times*, August 16, 2015, www.ft.com/intl/cm ';s/s/0/e37503ec-41b6-11e5-b98b-87c7270955cf.html#axzz3oVvWR2R8, accessed October 20, 2015.

36. For the 1992 film adaptation of *Glengarry Glen Ross*, screenwriter David Mamet added Alec Baldwin's "motivational" speech to his 1984 play script. See www.youtube.com/watch?v=8kZg_ALxEz0, accessed November 2, 2015.

37. Josh Bersin, "Becoming irresistible: A new model for employee engagement," *Deloitte Review* 16, http://dupress.com/articles/employee-engagement-strategies/

38. Adam Smith, *An Inquiry into the Nature and Causes of the Wealth of Nations* (1776), chapter 2.

39. Companies with a high-impact recognition culture have a 31 percent lower voluntary turnover rate and significantly higher levels of profitability and innovation. See "Bersin & Associates unlocks the secrets of effective employee recognition," June 12, 2012, www.bersin.com/News/Content.aspx?id=15543, accessed November 2, 2015.

40. The pioneers in this field are Edward Deci and Richard Ryan of the University of Rochester. See for example "Intrinsic and extrinsic motivations: Classic definitions and new directions," *Contemporary Educational Psychology*, vol. 25, 2000, pp. 54–67, https://mmrg.pbworks.com/f/Ryan,+Deci+00.pdf, accessed October 20, 2015.

41. See Steffie Woolhandler and Dan Ariely, "Will pay for performance backfire? Insights from behavioral economics," Health Affairs Blog, October 11, 2012, http://healthaffairs.org/blog/2012/10/11/will-pay-for-performance-backfire-insights-from-behavioral-economics/, accessed October 20, 2015.

42. See Uri Gneezy and Aldo Rustichini, "A fine is a price," *Journal of Legal Studies*, vol. 29, January 2000, http://rady.ucsd.edu/faculty/directory/gneezy/pub/docs/fine.pdf, accessed October 20, 2015.

43. See, for example, Karen Cheung-Larivee, "Pay for performance fails to improve quality," *FierceHealthcare*, April 10, 2012, www.fiercehealthcare.com/story/pay-performance-fails-improve-quality/2012-04-10, accessed November 2, 2015.

44. Dan Ariely, Uri Gneezy, George Loewenstein, and Nina Mazar, *Large stakes and big mistakes*, Federal Reserve Bank of Boston working paper no. 05–11, July 23, 2005, www.bostonfed.org/economic/wp/wp2005/wp0511.pdf, accessed October 20, 2015.

45. See Matthew G. Springer et al., *Teacher pay for performance: Experimental evidence from the project on incentives in teaching*, National Center on Performance Incentives, September 2010, www.rand.org/content/dam/rand/pubs/reprints/2010/RAND_RP1416.pdf, accessed October 20, 2015.

46. Knowledge@Wharton, "How physician report cards can improve health care," August 28, 2014, http://knowledge.wharton.upenn.edu/article/how-physician-report-cards-can-improve-health-care/, accessed November 2, 2015.

47. Daniel Pink, *Drive: The Surprising Truth about What Motivates Us* (New York: Riverhead, 2009), p. 65. See Teresa M. Amabile, Elise Phillips, and Mary Ann Collins, "Person and environment in talent development: The case of creativity," in *Talent Development: Proceedings from the 1993 Henry B. and Jocelyn Wallace National Report Symposium on Talent Development,* edited by Nicholas Colangelo et al. (Dayton, OH: Ohio Psychology Press, 1993), pp. 273–74.

48. London School of Economics and Political Science, "When performance-related pay backfires," June 2009, www.lse.ac.uk/newsAndMedia/news/archives/2009/06/performancepay.aspx, accessed October 20, 2015.

49. See Barry Schwartz, "Rethinking work," *New York Times*, August 28, 2015, www.nytimes.com/2015/08/30/opinion/sunday/rethinking-work.html?_r=0, accessed October 20, 2015.

50. Kaomi Goetz, "How 3M gave everyone days off and created an innovation dynamo," *Co Design*, February 1, 2011, www.fastcodesign.com/1663137/how-3m-gave-everyone-days-off-and-created-an-innovation-dynamo, accessed November 2, 2015.

51. Jillian D'Onfro, "The truth about Google's famous '20% time' policy," *Business Insider*, April 17, 2015, www.businessinsider.com/google-20-percent-time-policy-2015-4, accessed November 2, 2015.

52. See Zeynep Ton, *The Good Jobs Strategy: How the Smartest Companies Invest in Employees to Lower Costs and Boost Profits* (New York: New Harvest, 2014), "Introduction," available at http://zeynepton.com/book/, accessed November 2, 2015.

53. Tony Hsieh, "How I did it: Zappos's CEO on going to extremes for customers," *Harvard Business Review*, July-August 2010, https://hbr.org/2010/07/how-i-did-it-zapposs-ceo-on-going-to-extremes-for-customers, accessed November 2, 2015.

54. Reed Hastings, "Netflix culture: Freedom & responsibility," August 1, 2009, www.slideshare.net/reed2001/culture-1798664, accessed November 2, 2015.

55. Google company overview, www.google.com/about/company/, accessed November 2, 2015.

56. Bock, *Work Rules!*, pp. 33–34.

57. See Jessica Stillman, "What you can learn about job satisfaction from a janitor," *Inc.*, June 7, 2013, www.inc.com/jessica-stillman/what-you-can-learn-about-career-satisfaction-from-a-hospital-janitor.html, accessed October 20, 2015.

58. See, for example, Theresa Amabile and Steve Kramer, "What doesn't motivate creativity can kill it," *Harvard Business Review,* April 25, 2012, https://hbr.org/2012/04/balancing-the-four-factors-tha-1, accessed October 20, 2015.

59. Bock, *Work Rules!*, pp. 242–49.

60. Recent research informed by neuroscience has found that performance rankings elicit an instinctive "fight or flight" response that actually inhibits the sort of coaching and development that performance management is ostensibly designed to promote. See, for example, David Rock, "Managing with the brain in mind," *Oxford Leadership Journal*, vol. 1, no. 1, December 2009, http://isites.harvard.edu/fs/docs/icb.topic1331850.files/Social%20Dynamics/Managing%20with%20the%20Brain%20in%20Mind.pdf, accessed November 4, 2015.

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63. Cornerstone on Demand, "Toxic employees in the workplace: Hidden costs and how to spot them," 2015, www.cornerstoneondemand.com/sites/default/files/whitepaper/csod-wp-toxic-employees-032015.pdf, accessed November 2, 2015.

64. See the Behavioural Insights Team's website, www.gov.uk/government/organisations/behavioural-insights-team, accessed November 2, 2015.

65. See Deloitte University Press, *Global Human Capital Trends 2015: Leading in the new world of work*, http://dupress.com/periodical/trends/human-capital-trends-2015/.http://dupress.com/periodical/trends/human-capital-trends-2015/.