

circumvent those errors. In the real world, where consequences for error are greater, individuals and organizations may have already found ways to begin to alleviate the problem of flawed self-assessment. Thus, as we examine self-judgment in real-world contexts, we also note instances in which individuals and institutions work to correct or repair such flaws.

EMPIRICAL EVIDENCE ON FLAWS IN SELF-ASSESSMENT

Over decades of research involving a wide variety of domains and circumstances, psychologists have examined how accurately people judge themselves. The usual finding is that people have a modest level of insight, at best, into their skill and character. First, researchers tend to find fairly small correlations between perceptions of skill and objective performance. Second, people tend to be too optimistic about their talents, expertise, and future prospects.

Correlations Between Perception and Reality

When researchers correlate self-assessments of knowledge and skill against objective performance, the relationship they find is rarely strong. Typically, it is modest to meager, and sometimes it is null. For example, people's views of their intelligence tend to correlate roughly .2 to .3 with their performance on intelligence tests and other academic tasks (Hansford & Hattie, 1982).¹ Students' ratings of their academic skill during their first year of college correlate only .35 with the evaluations their instructors give them (Chemers, Hu, & Garcia, 2001). People's beliefs about their ability to detect lying among others correlate only .04 with their performance (DePaulo, Charlton, Cooper, Lindsay, & Muhlenbruck, 1997). In the workplace, the correlation between how people expect to perform and how they actually perform hovers around .20 for complex tasks (Stajkovic & Luchins, 1998).

It is in the health domain that divergences between self-perceptions of knowledge and reality have been most commonly documented. Adolescent boys' confidence in their knowledge about how to use condoms correlates only slightly with their actual knowledge (Crosby & Yarber, 2001). Family practice residents' self-rated skill at interviewing patients and soliciting relevant health information correlates roughly .30 with ratings provided by their instructors (Stuart, Goldstein, & Snope, 1980). The confidence of nurses in their knowledge of basic life-support tasks fails to correlate at all with their actual level of knowledge

(Marteau, Johnston, Wynne, & Evans, 1989). Physicians' self-rated knowledge about thyroid disorders also fails to correlate with their performance on a quiz on the topic (Tracey, Arroll, Richmond, & Barham, 1997). Perhaps the most sobering finding is that surgical residents' views of their surgical skill also fail to correlate with their performance on a standardized board exam (Risucci, Torolani, & Ward, 1989).

Meta-Analytic Evidence

These demonstrations are not isolated instances. In 1982, Mabe and West searched the literature for studies that had examined the relationship between self-perceptions of knowledge and objective performance and then analyzed the results of all these studies as a group (i.e., performed a meta-analysis). They observed a large range of correlations between self-perception and performance, but when they took the average of all these correlations, they found that self-perceptions correlated with objective performance roughly .29—a correlation that is hardly useless, but still far from perfection.² Some domains produced higher correlations than others. In athletics, where feedback tends to be constant, immediate, and objective, the typical correlation was .47. In the realm of complex social skills, where feedback might be occasional and is often delayed and ambiguous, it tended to be much lower (e.g., .04 for managerial competence and .17 for interpersonal skills). Other meta-analyses, one on the self-perceptions of students in the classroom (Falchikov & Boud, 1989) and one on the perceptions of employees in the workplace (Harris & Schaubroeck, 1988), found similar modest relationships between what people believe about their skills and the performances they achieve.

Self Versus Peer Assessment

An additional finding buttresses the conclusion that self-insight about skills and knowledge is modest. Complete strangers armed only with scant information about an individual can predict that person's skills and abilities almost as well as he or she can, despite the fact that the individual has a lifetime of self-information to draw upon. Borkenau and Liebler (1993) showed participants videotapes in which target individuals walked into a room, sat behind a table, read a standard weather report, and then walked back out of the room—actions that typically took 90 seconds to complete. Participants who viewed these tapes—and who had no additional information—provided ratings of intelligence that predicted the targets' scores on standard IQ tests almost as well as the targets' self-ratings. Similarly, Epley and Dunning (2004) asked college students to rate their current romantic relationship along five dimensions and to answer three quick questions about

¹One way to assess the strength of these correlations in less technical terms is this: Suppose that among 100 people, 50 describe themselves as "above average," and 50 describe themselves as "below average." Now suppose that the correlation between perception and reality is zero. If that is the case, then 50% of these people will be right in their self-categorization, which is the same accuracy rate they would achieve if they judged themselves by flipping a coin. A correlation of .20 between self-categorization of "above" and "below" average and the reality would raise this accuracy rate to 60% (with 40% misclassifying themselves); a correlation of .40 would raise it to 70% (with 30% misclassifying). At a perfect correlation of 1.0, accuracy would be 100%.

²Mabe and West (1982) noted that the low correlation between perception and reality may be due, in part, to error in the measurement of self-evaluations and objective performance; that is, the measures used in the correlation may be unreliable to some extent. Thus, Mabe and West calculated what the perception-reality correlation would be if both variables were measured perfectly, without error. They estimated that the correlation would rise to .42—better, but still moderate in magnitude.

the relationship (e.g., what hobby or activity do you most enjoy doing together?). Complete strangers reading this minimal information were just as accurate as the students themselves at predicting whether their relationship would still be intact 6 months later.

A person's acquaintances may actually predict that person's abilities and performance better than the person him- or herself. To be sure, people may be more accurate than their peers in predicting some of their more mundane behaviors (Shrauger, Ram, Greninger, & Mariano, 1996) and also their emotional reactions to events (Spain, Eaton, & Funder, 2000), but this advantage can reverse (Kolar, Funder, & Colvin, 1996), particularly for more consequential behaviors. Although the self-views of surgical residents do not predict their performance on standardized board exams, their supervisor's ratings do, as do the ratings of their peers who are equally inexperienced (Risucci et al., 1989). Peer ratings of leadership, rather than self-ratings, predict which naval officers will be recommended for early promotion (Bass & Yammarino, 1991). College students predict the longevity of their roommates' romantic relationships better than they do their own (MacDonald & Ross, 1999).

Unrealistic Optimism

Self-assessments turn out to be flawed in another way. People overestimate themselves. They hold overinflated views of their expertise, skill, and character. That is, when one compares what people say about themselves against objective markers, or even against what might be possible, one finds that the claims people make about themselves are too good to be true. This bias toward undue optimism, self-aggrandizement, and overconfidence is exhibited in many ways.

Above-Average Effects

People, on average, tend to believe themselves to be above average—a view that violates the simple tenets of mathematics. In a survey of nearly one million high school seniors, 70% stated that they had “above average” leadership skills, but only 2% felt their leadership skills were “below average.” On their ability to get along with others, almost all respondents rated themselves as at least average—with 60% rating themselves in the top 10% of this ability and 25% rating themselves in the top 1% (College Board, 1976–1977). College students think they are more likely than their peers to live past 80 and have a good job; they think they are less likely to acquire a drinking problem or suffer a heart attack (Weinstein, 1980).

Such above-average effects, as they are called, are not constrained to college students. Motorcyclists believe they are less likely to cause an accident than is the typical biker (Rutter, Quine, & Albery, 1998). Business leaders believe their company is more likely to succeed than is the average firm in their industry (Cooper, Woo, & Dunkelberg, 1988; Larwood & Whittaker, 1977). People think they are less susceptible to the flu than their

contemporaries, and as a result avoid getting flu shots (Larwood, 1978). Of college professors, 94% say they do above-average work (Cross, 1977). People signing up to bungee jump believe they are more likely to avoid injury than the average bungee jumper, although their friends and family do not share this impression (Middleton, Harris, & Surman, 1996). Ironically, people even state that they are more likely than their peers to provide accurate self-assessments that are uncontaminated by bias (Friedrich, 1996; Pronin, Lin, & Ross, 2002).³

Overestimation of the Likelihood of Desirable Events

People overestimate their ability to bring about personally desirable events. Lawyers overestimate the likelihood that they will win the cases they are about to try (Loftus & Wagenaar, 1988). Stock pickers think the stocks they buy are more likely to end up winners than those of the average investor (Odean, 1998).

People also overestimate the likelihood that their own future actions will be socially desirable, even though their predictions regarding their peers' behavior turn out to be more accurate. In one large lecture class at Cornell University, 83% of students predicted that they themselves would buy flowers in an annual charity drive for the American Cancer Society, but that only 55% of their fellow students would do the same. The actual percentage buying flowers 4 weeks later was 43% (Epley & Dunning, 2000). In another class, 90% claimed that they would vote in an upcoming presidential election, but that only 75% of their peers would. The actual percentage was 69% (Epley & Dunning, 2004). Other work has shown similar errors in self-prediction (and rough accuracy for peer prediction) when students predict how much money they will donate to charity, whether they would volunteer for a long experiment so that a little girl can participate in a short one, and whether their romantic relationships will last longer than half a year (Epley & Dunning, 2000, 2004).

Underestimation of Task-Completion Times

People also consistently overestimate how easily they can complete tasks (as measured by time or money), a phenomenon known as the *planning fallacy* (Buehler, Griffin, & Ross, 1994). For example, the amount of time college students take to finish their senior thesis is 3 weeks longer than their most “realistic” estimate of how long it will take—and 1 week longer than what they describe as their “worst case” scenario (Buehler et al., 1994).

³We should mention one important caveat about the generality of the above-average effect. Although Americans, Canadians, and Western Europeans tend to see themselves as above average along any desirable dimension, respondents from Far East Asia do not (e.g., Heine & Lehman, 1995; Heine, Lehman, Markus, & Kitayama, 1999). Thus, the generality of the above-average effect across cultures is not a given, and its exact cultural and geographical boundaries could be explored further. In addition, further studies could explore the generality of other biases described in this review. One should not assume that the presence of one bias in a culture implies the presence all other biases in that culture. Similarly, the absence of one bias in the culture does not imply the absence of all. For example, although Eastern respondents avoid the above-average bias, some tend to be more overconfident than Americans and Canadians in the judgments they reach (e.g., Yates, Lee, & Bush, 1997; Yates, Lee, Shinotsuka, Patalano, & Sieck, 1998).

In one illustrative study, researchers asked students who were working on a class assignment to indicate the time within which they were 50% certain they could finish the project, as well as the time within which they were 99% certain they could finish it. On average, if the students were accurate, about half would have finished by the 50% deadline and 99% would have finished by their very conservative 99% deadline. However, only 13% had actually finished by their 50% deadline, and only 45% had finished by their 99% deadline. Thus, even for a deadline that students were virtually certain they would meet, their confidence far exceeded their accomplishments (Buehler, Griffin, & Ross, 2002). In a similar vein, citizens typically believe they will complete their tax returns more than a week sooner than they actually do (Buehler, Griffin, & MacDonald, 1997).

Overconfidence in Judgment and Prediction

Finally, people place too much confidence in the insightfulness of their judgments, overestimating the chances that their decisions about the present are sound and that their predictions about the future will prove correct. This phenomenon is known as the *overconfidence effect*. College students overestimate the probability that their answers to general knowledge questions are correct (Fischhoff, Slovic, & Lichtenstein, 1977). They are also overconfident in their forecasts of what events they will experience over the course of a semester (Dunning & Story, 1991; Vallone, Griffin, Lin, & Ross, 1990), as well as in their forecasts of the events their college acquaintances will experience (Dunning, Griffin, Milojkovic, & Ross, 1990). Analysts at the U.S. Central Intelligence Agency overestimate the accuracy of their predictions about future world events (Cambridge & Shreckengost, 1980). Surgical trainees place too much confidence in their diagnoses after looking at X-ray evidence (Oksam, Kingma, & Klasen, 2000). After looking over a client's case materials, clinical psychologists overestimate the chance that their predictions will prove accurate (Oskamp, 1965).

Indeed, even when people are the most confident, that certainty is no guarantee of accuracy. In studies in which college students expressed absolute (100%) certainty in their answers, they still were wrong roughly one time out of every five (Fischhoff et al., 1977). In another study, when doctors diagnosed their patients as having pneumonia, predictions made with 88% confidence turned out to be right only 20% of the time (Christensen-Szalanski & Bushyhead, 1981).

PSYCHOLOGICAL MECHANISMS

A wide variety of psychological mechanisms underlie these flawed self-assessments, and it would be difficult, if not impossible, to catalogue all of them in a single document. Instead, we focus on two of the most widely documented biases described in the preceding section—above-average effects and overestimation of the likelihood of desirable events—and describe two general themes that explain why these biases arise. The first

theme is that people typically do not possess all the information required to reach perfectly accurate self-assessments. Gaining an accurate view of self is an intrinsically difficult task (Dunning, 2005). There are too many factors that are unknown, unknowable, and undefinable for people to make adequate evaluations of their performance or accurate forecasts about how they will act in the future. We certainly do not blame people for failing to know everything, but we can say that people should take into account what they fail to know and adjust their predictions accordingly. The second theme we discuss is that even when people do have valuable information that would guide them toward appropriate self-evaluations, they often neglect it or give it too little weight; thus, they make potentially avoidable errors.

Let us consider the above-average effect and the overly optimistic prediction of desirable events, in turn, to see how lack of information on the one hand and neglect of valuable information on the other serve to produce each effect.

Explanations for the Above-Average Effect

People lack crucial information they need when they compare themselves against others; they also ignore valuable information that they actually possess or could seek out. These twin themes are quite evident when one examines research on the above-average effect. We cite four informational deficits that lead people to believe they are doing much better than their peers. In addition, people neglect important information that could prompt them to reach more accurate conclusions.

Information Deficits

The Double Curse of Incompetence. People often do not have the knowledge and expertise necessary to assess their competence adequately. Consider, for example, the plight of the incompetent, who are often not in a position to recognize just how poor their decisions are. In many significant social and intellectual domains, the skills necessary to recognize competence are extremely close if not identical to those needed to produce competent responses. For example, recognizing whether an argument is logically sound requires a firm grasp of the rules of logic. If people do not understand the rules of logic, not only will they make logical errors, but they will also not recognize that their arguments are logically defective—or that anyone else's argument is logically superior. Thus, incompetent individuals suffer a double curse: Their deficits cause them to make errors and also prevent them from gaining insight into their errors.

Several studies have now shown that incompetent individuals (i.e., those performing poorly relative to their peers) fail to show much insight into just how deficient their performance is (Kruger & Dunning, 1999). College students scoring in the bottom 25% on a course exam walked out of the exam room thinking that they outperformed a majority of their peers (Dunning, Johnson, Ehrlinger, & Kruger, 2003). Debate teams performing in the bottom 25% at a regional tournament believed they were winning 59% of