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SUPPRESSING INTELLIGENCE RESEARCH: HURTING THOSE WE INTEND TO HELP

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Research on intelligence is a tale of good and evil, or so the media would have us think. We are presented as mean-spirited pseudoscientists who are greasing the slippery slope to oppression and genocide with their elitist racist ideologies about human differences. On the other side are the earnest souls who would save us from those horrors by exposing the unscientific and immoral basis of the so-called "science" of intelligence differences. Even when the science is conceded to be accurate, it is often labeled dangerous and irresponsible (Block & Dworkin, 1974). If not life-imperiling, it at least threatens the foundations of American democracy. In short, the world must be made safe from intelligence research.

Perhaps ironically, institutional psychology has been busy doing just that for over thirty years. The media can keep repainting its libelous portrait of intelligence research only with the complicity of intelligence's mother field, psychology. Although intelligence tests are frequently cited as psychology's biggest success, psychology often treats researchers who study the origins and consequences of individual and group differences in general intelligence as its biggest embarrassment, the troublesome child or mad uncle whom a socially ambitious family would lock up

or have disappear. In doing so, it has undermined the integrity of psychological science, encouraged fiction-driven social policies that continue to disappoint and ratchet up blame, and blinded us to the daily risks and challenges faced by the less able among us.

A CASE STUDY IN SUPPRESSION: ARTHUR JENSEN AND THE SILENCED MAJORITY

Psychology is not a monolith, of course, but a semi-organized social system governed by regard and reputation, often dispensed (as well as coveted) by official representatives such as journal editors, awards committees, and association officers. It therefore seems emblematic that the American Psychological Association (APA) has never given an award to Arthur R. Jensen, the greatest contemporary scholar of intelligence and one of the fifty most "eminent psychologists of the twentieth century" (Detterman, 1998; Dittman, 2002, p. 29). Neither has the newer but more scientifically oriented American Psychological Society (APS).

Fair, Formidable, Fearless—and Correct After All

Jensen personifies the dedicated empiricist who seeks scientific truths, not popular acclaim. He would rather be right than seem right, which is personally costly when the truth is unpopular. He incurred steep costs by publishing and defending his 1969 *Harvard Educational Review* article, "How Much Can We Boost IQ and Scholastic Achievement?" (Jensen, 1969), and he continues to incur costs with his subsequent work. Recognizing that Jensen "will not receive the honors his work merits from organizations like the American Psychological Association," editor Douglas Detterman (1998) dedicated a special issue of the journal *Intelligence* ("A King Among Men") to honoring Jensen.

Peers wrote with the highest praise for the scientist and the man, and with outrage at the abuse Jensen has suffered for maintaining his scientific integrity. Despite repeatedly being abused by "thugs with pens" and threatened physically, Jensen has "[f]or more than 40 years ... unflinchingly strived to make psychology an honest science" (Scarr, 1998, pp. 227, 231). "Indeed, few people now alive have had more impact on the field" of human intelligence (Sternberg, 1998, p. 213). As a scholar, Jensen is "formidable" (Deary & Crawford, 1998, p. 274), "exceptional," "innovative," "prolific" (Nettlebeck, 1998, pp. 233, 239), "inspirational" (Rushton, 1998, p. 218), and "the quintessential scientist" (Kaufman, 1998, p. 253). He has "an ingenious ability to develop

quantitative analyses that address fundamental issues in highly original ways that advance our knowledge of critical issues in the field" (Brody, 1998, p. 246); he does research of "exceptional thoroughness and scientific rigor" (Vernon, 1998, p. 267) that is "intensive, detailed, exhaustive, fair-minded, temperate, and courageous" (Bouchard, 1998, p. 283); and he "has continued to blaze trails where others would not lead but many would later follow" (Gottfredson, 1998, p. 291). One commentator became "so thoroughly impressed by Jensen's empiricism, wisdom, and sense of fairness" after reading Jensen's "brilliant, data-based, meticulous critique" of the commentator's own work, one that had made him "sweat" to see Jensen "so familiar with my work and ... start his attack with smoking guns" (Kaufman, 1998, p. 250).

Detterman (1998, p. 177) emphasized an "unusual" trait of Jensen's "that [may be] impossible for Jensen's critics to understand" but which has allowed him to prevail scientifically. It is not the "thick skin" that many peers mentioned, but Jensen's "healthy agnosticism about everything."

> For years, his critics have called him every name in the book and have accused him of all kinds of biases and prejudices. In fact, I have never known anybody with fewer prejudices. The biggest prejudices scientists usually have are those in favor of their own ideas.... However, Jensen has no loyalty whatsoever to any theory or hypothesis even if they come from his own ideas. He would gladly know the truth even if it proved him wrong. In fact, he would be excited to know the truth.

Even into the late 1980s, Jensen assumed that only a small minority of experts shared his conclusions about intelligence. A handful had agreed publicly with the suddenly "notorious" Dr. Jensen, the inveterate Hans J. Eysenck (e.g., Eysenck, 1971) being the most vocal among them. More expressed their agreement only privately to him. Among the "closet Jensenists" in psychology were luminaries who could have provided Jensen's conclusions with strong and credible public support but instead asked him not to reveal their views. Beyond these small minorities, Jensen generally heard only resounding silence or condemnation from fellow psychologists.

The results of a 1984 survey (Snyderman & Rothman, 1988) of experts on intelligence and mental testing therefore surprised even Jensen. The experts' modal response on every question that involved the "heretical" conclusions from Jensen's 1969 article was the same as his (Jensen, 1998, p. 198). The experts' mean response overestimated

test bias, however, because there is none against blacks or lower social class individuals (Jensen, 1980; Neisser et al.1996; Snyderman & Rothman, 1988, p. 134; Wigdor & Garner, 1982). Here, in abbreviated form, are the survey's major questions and the 600 experts' responses.

Q: What are the important elements of intelligence?
A: "Near unanimity" (96 to 99 percent) for abstract thinking or reasoning, problem-solving ability, and capacity to acquire knowledge (p. 56).
Q: Is intelligence best described as a single general factor with subsidiaries or as separate faculties?
A: A general factor (58 percent, or 67 percent of those responding; p. 71).
Q: What heritability would you estimate for IQ differences within the white population?
A: Average estimate of 57 percent (p. 95).
Q: What heritability would you estimate for IQ differences within the black population?
A: Average estimate of 57 percent (p. 95).
Q: Are intelligence tests biased against blacks?
A: On a scale of 1 (not at all or insignificantly) to 4 (extremely), mean response of 2 (p. 117).
Q: Are intelligence tests biased against lower social class individuals?
A: On a scale of 1 (not at all or insignificantly) to 4 (extremely), mean response of 2 (p. 118).
Q: What is the source of average social class differences in IQ?
A: Both genetic and environmental (55 percent, or 65 percent of those responding; p. 126).
Q: What is the source of the average black–white difference in IQ?
A: Both genetic and environmental (45 percent, or 52 percent of those responding; p. 128).

Supposedly a fringe scientist, Jensen was actually in the mainstream because the mainstream had silently come to him (Gottfredson, 1997a). Meanwhile, public opinion was still being pushed in the opposite direction, creating an ever-greater gulf between societal perception and scientifically informed thought.

The Silent Majority

It is no mystery why so many experts in intelligence-related fields moved intellectually in Jensen's direction. New research, often conducted by

researchers eager to prove him mistaken (e.g., Brody, 1992, p. ix), kept supporting his conclusions. But why was the migration seemingly so secretive? And why did Jensen's colleagues keep silent while the media promulgated clear falsehoods as scientific truths, especially when, as Snyderman and Rothman (1988) demonstrated, the media portrayed expert opinion on intelligence as the opposite of what it really was? Worst of all, why did Jensen's peers turn away, or even throw a few stones themselves, while a brethren scholar with whom they agreed was viciously attacked?

Self-Serving Self Censorship

The ferocity of attacks on Jensen after publication of his 1969 article signaled what could happen to anyone who violated the new taboo against discussing the relation between intelligence and genes or race. If any reminder were needed, it was soon provided when Harvard psychologist Richard Herrnstein (1971) published an article in *The Atlantic Monthly* arguing that social class inequalities are rooted partly in genetic differences in IQ, a speculation since confirmed (Rowe, Vesterdal, & Rodgers, 1998). Herrnstein did not mention race, but was immediately denounced as racist (Herrnstein, 1973).

In fact, one need not mention either genes or race but merely take intelligence differences seriously to be accused of racism. Early in my career I reported that bright boys who had attended a school for dyslexics did not enter the usual high-level jobs (medicine, law, science, and college teaching). They had nevertheless succeeded at a high level by entering prestigious or remunerative occupations that required above-average intelligence but relatively little reading or writing: specifically, top management and sales positions. A colleague accused me of saying that "blacks can't make it because they are dumb." She taught me that the taboo's boundaries are broad but uncertain and that enforcement begins on its far outskirts.

It is understandable that many people keep far away from those amorphous but stinging boundaries. Moreover, the farther one goes into forbidden territory, the more numerous and more severe the sanctions become: first the looks of disapproval and occasional accusations of racism, then greater difficulty getting promotions, funding, or papers published, and eventually being shunned, persecuted, or fired. Experiencing the first mild sanction is enough to cause many to envision the worst and reverse course. As one chaired professor told me, just seeing how Jensen was mistreated was enough to convince her, like

others, to cease studying cognitive differences and switch fields in the early 1970s.

Because individual and group differences in phenotypic intelligence have substantial effects on so many social phenomena (e.g., Gordon, 1997; Lubinski & Humphreys, 1997), intelligence is relevant to many fields of psychological inquiry, among them education, child development, parenting, health behavior, vocational development, career counseling, and personnel selection. Avoiding the phenomenon, therefore, requires actively walling it off in a great variety of fields. Common forms of self-censorship include intentionally omitting relevant facts or findings from one's publications, ignoring them in others', failing to draw obvious connections between phenomena, neglecting to dispute clear but convenient falsehoods and to perform analyses that might produce the politically wrong answer, committing a deliberate act of omission, to which one leading social scientist later confessed (Coleman, 1990–1991). Researchers may also refuse to share relevant data with other scholars who are willing to perform the politically sensitive analyses that they are not, such as estimating the contribution of genetic differences to the mean black–white IQ difference (Rowe, 1997).

Cordoning off data, analyses, and conclusions according to the strictures of political correctness creates a safe distance between oneself and controversial research and researchers, but it simultaneously isolates those individuals and renders their research less credible to the scientifically uninformed. As they become the untouchables, "prudence" compels some of the discipline's informed members to distance themselves from them or their ideas by casting aspersions, lest potential critics think that they, too, harbor the proscribed thoughts. The best informed, who are often called upon for expert comment, cannot endorse clear falsehoods without jeopardizing their own standing within the discipline, but they sometimes dispute minor issues in a manner that the uninformed mistake for wholesale repudiation (Gottfredson, 1994a; Page, 1972).

Scientific societies also engage in various forms of self-censorship, presumably to avoid tainting themselves by giving credence to the disapproved person or idea. Although Jensen received honors before his 1969 publication (Guggenheim Fellowship, fellowship at Stanford's Center for Advanced Study in the Behavioral Sciences), he has received none since then from American psychology for his remarkable scientific contributions. His only award in more than thirty years came on the eve of his eightieth birthday in 2003: the Award for Distinguished

Contributions in Individual Differences from the International Society for the Study of Individual Differences, a small international society of academic psychologists.

American psychological societies have even withdrawn lifetime achievement awards from intelligence researchers, as did the APA in 1997 from the 92-year-old internationally eminent Raymond B. Cattell, whom detractors accused of scientific racism (Laurance, 1997) on the eve of the award ceremony. In like manner, various scientific and professional societies have invited Jensen to address their members, only to rescind their invitations when some critic objected. While APA president in 1975, Donald Campbell urged participants at the annual convention's membership meeting to do "plenty of hissing and booing" at Jensen's invited address on test bias (Jensen, 1983, p. 308), APA's Board of Directors later forced Campbell to apologize to Jensen, but then expunged the apology from its official minutes.

In fact, psychologists and their organizations often led the charge against Jensen. One of APA's larger divisions (Division 9, Society for the Psychological Study of Social Issues, SPSSI) immediately orchestrated a media campaign to discredit many of the main points in Jensen's 1969 article (Jensen, 1972, pp. 31–37). Psychologists at various regional meetings that year also organized calls to censure Jensen and expel him from the APA (Jensen, 1972, p. 39). SPSSI's president at the time, Martin Deutsch, soon announced that he had found fifty-three errors in Jensen's article, "all unidirectional and all anti-black," and that there must be "some other motive, not scientific," behind them. He finally provided the list two years later after APA's Committee on Ethical Standards intervened, but there were no errors among the fifty-three items (Jensen, 1983, p. 307). Psychologist Jerry Hirsch (Hunt, 1999, pp. 73–74) captured the tenor of the time when he repeatedly wrote and spoke about Jensen having "avowed goals" that were "as heinously barbaric as were Hitler's and the anti-abolitionists." With psychologists themselves loudly attempting to extrude the "heinous" Dr. Jensen from the discipline, it is no wonder that most others watched in silent fear.

This may also help explain why professional associations have, with a few exceptions (Jensen, 1983, p. 307), seemed deaf to requests for assistance from members targeted for harassment for their research. These requests surged in the 1980s when some universities acceded to demands that particular faculty's intelligence research be suppressed by banning requisite funding, blocking promotions and merit pay, requiring that lectures be given by videotape, instigating investigations for

hate crimes, threatening dismissal, and the like (Gottfredson, 1996c; Hunt, 1999; Kors & Silverglate, 1998; Lynn, 2001; Rushton, 1994). Although individual officers sometimes provide generous personal support (ex-APA president Robert Perloff being one, in my case), timely institutional action to protect the targeted members' academic rights has been rare because it requires, at minimum, getting a majority vote in one or more committees to take action that critics are likely to block or protest.

Censorship for the Public Good

There are inter- and intradisciplinary squabbles throughout the sciences, and academe is no less immune to petty politics and backbiting than any other realm. But the social processes that suppress unpopular intelligence research are extreme. They involve repeatedly violating the most fundamental norms of science, and often common decency as well. The daily personal slights can be humorous in hindsight, as when colleagues stumble over themselves to avoid being physically near the shunned colleague. However, having former friends violate the norms of civility and science to destroy one's career is not. Otherwise decent people who behave indecently toward fellow scholars usually justify it as a moral necessity. They are fighting evil, and proudly so.

Book and journal editors sometimes explicitly cite moral necessity to legitimate their holding "controversial" intelligence research to more numerous and onerous standards before judging it worthy of publication or dissemination. For example, in explaining why he was rejecting a paper I submitted to *The Public Interest* in 1986, editor Nathan Glazer stated that, although finding it scientifically sound, there were social "considerations" that "overweigh the claims of social science." (The manuscript described the employment inequalities that black–white differences in general intelligence typically create under race-blind hiring.) He would later write in *The New Republic* (Glazer, 1994, p. 16), in response to publication of *The Bell Curve* (Herrnstein & Murray, 1994), that:

> Our society, our polity, our elites, according to Herrnstein and Murray, live with an untruth: that there is no good reason for this [racial] inequality, and therefore society is at fault and we must try harder. I ask myself whether the untruth is not better for American society than the truth .... For this kind of truth, ... what good will come of it?

Perhaps more common than editors explicitly rejecting manuscripts on solely unscientific grounds is their (and their reviewers') enforcing much stiffer scientific standards for politically incorrect intelligence research. When acknowledging their double standards, they usually justify the practice as ethically required to prevent the research in question from causing harm, although what that harm might be is never clear. Jensen's files are full of such reviews.

Consider, for example, the reason that Charles Kiesler, then editor of the *American Psychologist* (and APA's chief executive officer for many years), gave Jensen for rejecting a paper he had submitted to that journal. After acknowledging that the manuscript had "taken an inappropriate length of time to make it through the review process," Kiesler stated that "My own feeling as Editor is that since this area is so controversial and important to our society, I should not accept any manuscript that is less than absolutely impeccable." One problem, he suggested, was that "In this paper there is a hanging implication that any differences that are demonstrated to exist are genetic" (January 17, 1980, letter from Kiesler to Jensen). The paper had tested "Spearman's Hypothesis," that mean black–white differences in mental test scores are larger on more *g*-loaded tests, suggesting that the racial difference lies principally in *g*, the general intelligence factor.

The claim of protecting the nation and its citizens from harm is sometimes merely a self-serving pretext, but it might often be sincere. The media and strident critics of intelligence research have for decades demonized researchers like Jensen and have forecast the most despicable crimes against humanity should their conclusions prevail. The implication of ABC's November 22, 1994, national newscast was surely not lost on viewers when, while exposing the supposedly unsavory history of intelligence research behind *The Bell Curve*, news anchor Peter Jennings followed photographs of Jensen and other supposed race scientists with footage of Nazi soldiers and what appeared to be death camp doctors and prisoners. His broadcast illustrates how taboos exercise control by triggering revulsion, not thought. To question the accuracy of the reportage or argue the merits of academic freedom would be tantamount to indicting oneself for sheltering the evil that others would have us crush by any means possible.

Indeed, many people have treated Jensen as vile and dangerous. For a long time Jensen received death threats, needed bodyguards while on his campus or others, had his home and office phones routed through the police station, received his mail only after a bomb squad examined it, was physically threatened or assaulted dozens of times by protesters

who disrupted his talks in the United States and abroad, regularly found messages like "Jensen Must Perish" and "Kill Jensen" scrawled across his office door, and much more (Jensen, 1972, 1983, 1998). Psychologists Richard Herrnstein and Hans Eysenck also had such experiences during the 1970s for defying right thinking about intelligence. Eysenck, for example, was physically assaulted by protesters during a public lecture at the London School of Economics (Herrnstein, 1973; Rushton, 1994).

Critics have associated a belief in the hereditary basis of intelligence with evil intent so frequently and for so long that merely mentioning "IQ" is enough to trigger in many minds the words "pseudoscience," "racism," and "genocide." Even recent APA president Robert Sternberg keeps this malicious association alive by regularly ridiculing and belittling empirically minded intelligence researchers—for example, comparing Jensen, in a book meant to honor him, to a child who would not grow up (Sternberg, 2003)—referring to their work as "quasi-science" (Science and pseudoscience, 1999, p. 27) that has "recreated a kind of night of the living dead" (Sternberg, 1997, p. 55). In addition, he sprinkles his descriptions with mentions of racism, slavery, and even Soviet tyranny (e.g., Sternberg, 2003; see also Sternberg, 2000; Sternberg & Wagner, 1993).

Critics have yet to explain why we should assume that a belief in the heritability of many human differences is dangerous and that a belief in man's infinite malleability is not. Why is the former belief always yoked to Hitler, but the latter never to Stalin, who outlawed both intelligence tests and genetic thinking? Stalin killed at least as many as did Hitler in his effort to reshape the Soviet citizenry (Courtois, 1999). Why does it accord humans less dignity to acknowledge and accommodate their biological differences than to deny them or try to stamp them out? Most important, why should we wager our collective future on assuming it safer to deny than to face the implacable empirical realities affecting our lives? Moral panics preclude such reflection.

THREE FICTIONS AND THEIR CASCADING DAMAGE TO PSYCHOLOGY AND SOCIETY

Critics have moved the study of intelligence out of the scientific realm into a moral one where they set the rules (Nyborg, 2003). Scientists who flout their moral strictures are judged scientifically misguided or corrupt and thus stripped simultaneously of both scientific and moral authority. Those who flaunt allegiance to these rules are held up as

good scientists, in both senses of the term. Most social scientists now take for granted the new etiquette on what they must say and seem to believe.

Fiction-Driven Science and Failed Social Policy

Fear thinned the ranks of empirically minded intelligence researchers when Jensen came under attack in 1969. Since then, graduate students and young academics in related fields have been systematically socialized by both mentors and media to avoid "sensitive" issues in intelligence research. The new tacit knowledge, or street smarts, for career advancement in academe includes all forms of self-censorship described earlier. The walls that authors erect to seal off unwanted facts and inferences about intelligence, genes, and race are so prevalent in scholarly publications today that one tends to notice them only by their absence. An author's "connecting the dots" stands out, either as a breath-catching breach of etiquette or as a breath of fresh air, depending on one's perspective.

The unwanted facts are also kept at bay—"discredited"—by fictions about the nature and origins of human differences. Three fictions have been especially important; all are resolutely held (or at least professed) by most social scientists and policy makers; all require them to defy rather than work with empirical realities. One is the "egalitarian dogma" (Rushton, 1994) or "egalitarian fiction" (Gottfredson, 1994a). The other two are "family effects theory" and "passive learning theory" (Rowe, 1997; cf. Scarr, 1997, on socialization theory). All were once plausible hypotheses, but that was long ago. I describe them briefly in order to illustrate later the cascading harm they cause.

Fiction 1: Egalitarian Dogma

The egalitarian fiction is that demographic groups do not differ meaningfully, on average, in important abilities and aptitudes: that is, whatever their current levels of performance, all groups are equipotential, both now and in the future. Critics argue it would be demeaning and demoralizing to claim otherwise. The American black–white IQ difference is this fiction's key target. Data from large national samples shows that the black–white IQ gap is essentially the same at age three as later in life, and at the end of the twentieth century as at the beginning: about 1.1 standard deviations (Gottfredson, 2003b). The gap has been impervious to social change, affirmative action, secular rises in IQ (the so-called Flynn effect), and endless educational interventions (which was one point of Jensen's 1969 article). The lower average black IQ has yet

no definitive explanation, genetic or environmental, but it is clearly exceedingly stubborn. It is not a chimera of test bias (Neisser et al., 1996).

Tightly held and ferociously protected, the presumption of equipotentiality directs all explanation of social inequalities toward mistreatment or inequalities in the social environment. The fiction also guides much social policy. For example, a foundational assumption of much employment discrimination law and policy is that there would be no racial differences in hiring and promotion but for illegal racial discrimination by employers (Sharf, 1988). Unequal outcomes now trigger the presumption of guilt, which employers must then disprove. As we show, this leads to much mischief in personnel psychology by fueling impossible demands. One man's benevolent lie becomes another man's impossible burden.

Fiction 2: Family Effects Theory This false theory holds that differences in cognitive competence and educational performance can be traced to differences in family advantage. Most efforts to equalize educational achievement, therefore, attempt to provide all students with resources comparable to those of middle-class families, ranging from type of instruction, advanced placement courses, and educational funding to meals, role models, and aspirations. Like the egalitarian fiction, family effects theory locks our attention onto external influences, apparently presuming that most people are just passive, hapless lumps of clay to be molded by circumstance. This is key in propping up the egalitarian fiction, because it "explains" the group differences in test scores.

Differences in cognitive ability can, in fact, be traced partly to differences in environments, but not to those in family effects theory. Behavior geneticists distinguish between two types of environmental influence: shared and nonshared (also called *between*-family and *within*-family effects). Shared influences are those that make siblings more alike. Possible shared influences include parental income, education, childrearing style, and the like, because they impinge on all siblings in a household. Nonshared influences are those that affect individuals and therefore make siblings less alike. Little is yet known about them, but they might include illness, accidents, nongenetic influences on fetal development, and the concatenation of unique experiences.

To the great surprise of even behavior geneticists, shared environmental effects on intelligence (within the broad range of typical environments) wash away by late adolescence. IQ differences can be traced to both

genes (40 percent) and shared environments (25 percent) in early childhood, but genetic effects increase in importance with age (to 80 percent in adulthood) whereas shared effects dissipate (Plomin, DeFries, McClearn, & McGuffin, 2001). For example, adoptive siblings end up no more alike in IQ or personality by adolescence than do random strangers, and instead become similar to the biological relatives they have never met.

Scholastic achievement depends primarily on cognitive ability so it, too, is moderately highly heritable, with its heritability overlapping that for IQ. Like IQ, academic performance increases in heritability with age, but unlike IQ it continues to be shaped somewhat by shared influences (Plomin et al., 2001, pp. 199–201). Equalizing shared environments may be a legitimate goal in and of itself, but given the importance of intelligence to learning it can do little to narrow differences in educational achievement or any of education's downstream correlates such as occupation and income level.

In fact, despite reform, race and class differences in educational achievement remain large and not much different today than they were decades ago. Still guided by its fictions, however, right thinking continues to accuse schools of failing their disadvantaged students and to demand that they eradicate the achievement gaps forthwith. Under the new No Child Left Behind Act, schools will be punished if they do not.

Currently one of the biggest puzzles for family effects theory is that academic achievement gaps do not narrow even in settings where all the supposedly important environmental resources are present (Banchero & Little, 2002). For example, its adherents are now arguing among themselves (Lee, 2002) about the proper cultural explanation for the large black–white achievement gaps that persist in the most socioeconomically advantaged, integrated, liberal, suburban school districts in the United States such as Shaker Heights, Ohio (Ogbu, 2003) and Berkeley, California (Noguera, 2001). Moreover, black–white test score gaps (IQ, SAT, etc.) tend to be larger at higher socioeconomic levels. This finding contradicts the predictions of family effects theory. It is consistent with *g*-based theory, however, because the latter predicts that black and white children of high-IQ parents will regress part way from their parents' mean toward different population means: IQ 100 for whites and IQ 85 for blacks.

Fiction 3: Passive Learning Theory This false presumption is that intellectual ability is the sum total of exposures to opportunities to learn: that is, the greater one's exposure to relevant information and good

instruction, the more one will know and the smarter one will be. It is a species of environmental determinism and required, in turn, to prop up the other fictions. This theory purports that equalizing students' opportunities to learn will equalize their learning.

The passive learning theory is false because some people "pick up ideas" or "catch on" much quicker than others (they extract more from each opportunity), and "fast" or "slow" learners usually remain so throughout their educational careers and adult lives. When students are free to learn at their own pace, the brightest students often learn at least five times faster than the slowest. To a large extent, that is what higher intelligence means. The theory is also false because people are not merely passive learners, but seek out information and select different opportunities to learn when given a choice.

The great spread of intelligence levels among high school students predicts—and we actually observe—that many students perform at least two to four grade levels above or below their grade in any given core subject, whatever the instructional regime. The National Assessment of Educational Progress (NAEP) vividly illustrates the very different learning curves among students. For example, the ninetieth percentile of nine-year-olds (~IQ 120) performs in reading, math, and science at the level of the twenty-fifth percentile of seventeen-year-olds (~IQ 90) (National Center for Education Statistics, 2000). Between-race differences are not as large as within-race differences, of course, but they are still substantial. For instance, black twelfth graders average four to five grade levels behind whites on NAEP tests of reading, math, and science (Gottfredson, 2003b).

It is educational malpractice to assume that all students benefit equally from the same instruction. One-size-fits-all instruction impedes learning among those for whom the cognitive fit is poor. The instructional style that most helps slow students (highly structured, concrete, step-by-step instruction that leaves no gaps for students to fill in) impedes the learning of bright students, who profit most from more abstract, incomplete instruction that allows them to restructure information in unique ways (Snow, 1996). Targeting instruction to students' individual cognitive needs would likely improve achievement among all, but it would not cause the slow learners to catch up with the fast. The fast learners would improve more than the slow ones, further widening the learning gap between them and seeming to make the "rich richer." This is currently politically unacceptable.

Fiction-driven policies have fallen far short of expectation in all arenas of life where intelligence affects performance. They will continue to do so. Rather than question the fictions, however, social scientists have been revising their theories and reallocating blame among external forces for stifling talent in some demographic groups. For example, at the time Jensen wrote his 1969 article, policy analysts still presumed that equalizing educational access and resources would equalize learning and life chances for the disadvantaged. When that policy and subsequent ones failed, theories of inequality evolved from shifting the presumed material causes of social inequality to its psychic ones. Thus, the proffered cures now include providing equal regard as well as equal funding. Neither public policy nor public science may yet consider the well-documented role of intelligence. Clinging to its fictions, ideologically correct social science increasingly resembles the decaying Ptolemaic theory of the heavens (Gottfredson, 2003d).

Psychology's Ptolemaists seize every new straw of hope for explaining group differences in success without recourse to ability differences, no matter how improbable in light of the relevant evidence (e.g., stereotype threat; Gottfredson, 2002b). So, too, do they lunge for every new environmental nostrum for those presumably nonexistent ability differences, no matter how elusive or contrary to established evidence the purported cure may be (e.g., the still-mysterious cause of the secular increases in IQ, or "Flynn effect").

At the same time they devoutly keep intelligence a "neglected aspect" in their work (Lubinski & Humphreys, 1997). *A Common Destiny* (Jaynes & Williams, 1989) provides a highly visible example. It was the work of a National Research Council (NRC) panel charged with cataloguing the nature and sources of black–white differences in success and well-being. As Humphreys (1991) describes, however, it failed even to mention IQ or ability differences or refer to work that did. Other high-profile task force reports have mentioned intelligence research only to summarily dismiss it as noxious (College Board, 1999).

The fictions about intelligence essentially deny that it exists, which virtually no one believes. Many people just want a more "democratic" view of it. Not surprising, psychology's supply rose to meet public demand, and the new egalitarian perspectives on human intelligence were instantly blessed by opinion makers. Chief among them are the "multiple intelligence" theories by psychologists Howard Gardner (1983, 1998) and Robert Sternberg (1997). The eager acceptance of their theories by educators, psychologists, and others occurred despite

the lack of credible evidence that their proposed intelligences actually exist, that is, as independent abilities of comparable generality and practical importance to *g*. Gardner has rejected even measuring his eight intelligences, let alone demonstrating that they predict anything (Hunt, 2001; Lubinski & Benbow, 1995). Study-by-study dissections of Sternberg's multiple-intelligence research program reveal no such evidence (Brody, 2003a,b; Gottfredson, 2003a,c). If anything, they confirm that all three of his proposed intelligences are just different flavors of *g* itself, as probably are most of Gardner's (Carroll, 1993, p. 641).

Their empirically vacuous (Kline, 1991; Messick, 1992) "modern understandings" of intelligence are now widely cited, however, as additional scientific proof that the empirically minded scientists of intelligence are hopelessly, stubbornly mistaken, especially if they pay scant attention to the new theories. Like the media, both Gardner and Sternberg frequently ridicule the 100-year-old tradition of intelligence research and pepper their discussions with allusions to its supposedly unsavory adherents and undemocratic values (e.g., Gardner, 1998, p. 23; Sternberg, 2003). The new theories thus advance on their political appeal, not on any scientific merits. The popularity of the multiple-intelligence theories among psychology's consumers may enhance institutional psychology's political standing in the short term, but its pursuit of political acceptability cultivates wish over wisdom and cheap moralizing over hard work. It handicaps honest, intensive, exhaustive, fair-minded, temperate, and courageous science while giving an advantage to academic opportunism.

POLITICIZED SCIENCE, USURPED RIGHTS

In claiming to protect the public from dangerous questions and answers, journal editors and reviewers imply that their fellow citizens are apt to misuse the information (become oppressors) or be psychologically crippled by it (be victimized). They imply that democracy is best served by keeping its citizenry ignorant of matters that they deem themselves more fit to decide. Researchers likewise usurp the rights belonging to others when they skew their own work to fit political pressures or predilections. Such usurpation may involve acts of omission, as with self-censorship, or acts of commission, as when empiricists misuse science to actively promote a particular political view. Wolf (1972) describes how common the latter was during the 1960s on matters of race.

Two fairly recent examples from selection psychology show how even the most senior leaders in psychology have sometimes practiced politics in the guise of science. Both reflect the pressure that the egalitarian fiction puts on employment practice. The presumption in employment law today is that employment inequality results from illegal discrimination until employers prove otherwise. This puts enormous pressure on employers to do whatever it takes to achieve racial balance in selection despite the typically large average racial differences among applicants in requisite skills, abilities, and, eventually, job performance.

Race Norming Test Scores

The first example of politics in scientific garb is a National Research Council's recommendation (Hartigan & Wigdor, 1989) that the U.S. Department of Labor (DOL) race norm its employment tests. Race norming guarantees racial balance—quota hiring—because it involves ranking all applicants separately by race and then selecting the same percentage of top scorers within each race. The NRC panel confirmed that the DOL's test battery was unbiased and valid for predicting job performance; however, it provided a convoluted statistical argument that race norming was nonetheless justified on scientific grounds. It is not, and psychologists on the panel later admitted that. Specifically, it represents a particular definition of fairness (not bias), and thus is a "values" call, not a technical matter (Sackett & Wilk, 1994, pp. 931–936).

One might want for political reasons to grant bonus points for race on tests that are psychometrically sound, as was the DOL's aptitude test battery, but race norming cannot be justified on technical grounds because it always introduces racial bias (favoring the lower-scoring races) and reduces predictive validity (Blits & Gottfredson, 1990a; Gottfredson, 1994b). Psychometrician Lloyd Humphreys (1989, p. 14), always a straight talker, wrote in a letter to *Science* that the NRC's high-profile recommendation was a value judgment "camouflaged by rhetoric [and] statistical legerdemain."

In this case, the attempted usurpation of rights was foiled when it was exposed as a covert move for quota hiring (Blits & Gottfredson, 1990a,b; Gottfredson, 1990). In 1991, the U.S. Congress voted overwhelmingly to outlaw race norming in employment after it learned that the Labor Department had been race norming its employment tests for a decade and that the U.S. Equal Employment Opportunity

Commission (EEOC) had started threatening private employers if they did not adopt the "scientifically justified" practice.

The racial preferences that race norming entails are hardly trivial. What the NRC report did not say was that blacks scoring at the fifteenth percentile in skill level on DOL's test would have been judged equal to whites and Asians scoring at the fiftieth percentile, and blacks at the fiftieth percentile would be rated comparably skilled as whites and Asians at the eighty-fourth percentile (Blits and Gottfredson, 1990a). Seldom apprised of such facts, most people greatly underestimate how discrepant the pools of qualified applicants are from which racial balance is supposed to emerge.

Another illustration, pertinent to the next example, is that approximately seventy-five percent of whites versus only twenty-eight percent of blacks exceed the minimum IQ level (~IQ 91)—a ratio of three to one—usually required for minimally satisfactory performance in the skilled trades, fire and police work, and mid-level clerical jobs such as bank teller (Gottfredson, 1986, pp. 400–401). The potential pools become increasingly racially lopsided for more cognitively demanding jobs. Workers in professional jobs such as engineer, lawyer, and physician typically need an IQ of at least 114 to perform satisfactorily. About twenty-three percent of whites but only one percent of blacks exceeds this minimum.

Racially Gerrymandering Test Content

Employers can hardly ignore differences in mental competence because the general mental ability factor *g* is the best single predictor of performance in jobs and school, especially in the higher ranks of both (Schmidt & Hunter, 1998). When used in a race-blind manner, valid and unbiased selection procedures, therefore, virtually guarantee substantial disparate impact in most circumstances, with the imbalance becoming more extreme in the higher levels of education and work (Gottfredson, 1986; Sackett, Schmitt, Ellingson, & Kabin, 2001; Schmidt & Hunter, 1998). Developing tests that measure cognitive skills more effectively tends only to worsen the proscribed disparate impact. Adding relevant noncognitive predictors to the mix does little to reduce the racial imbalance (Schmitt, Rogers, Chan, Sheppard, & Jennings, 1997).

The egalitarian fiction requires psychologists to defy this reality in order to perform the impossible ("psychomagic"), or at least seem to. Many selection professionals preferred race norming because it harms productivity less than other methods of filling racial quotas.

After the practice was banned, a movement developed among selection psychologists to "improve" selection procedures by, in effect, making them less reliable and less valid (Gottfredson, 1994b, 2002b). Proponents of the new techniques (e.g., test score banding) created the aura of improvement with adventitious labeling, for example, modern, innovative, sophisticated, nontraditional, broader, and more equitable; not giving undue weight to small differences; assessing the whole person; and having higher authenticity or "fidelity" (face validity).

The police selection test developed in 1994 for Nassau County, New York, represents one such "technical advance." The ten members of a joint Nassau County–U.S. Department of Justice (DOJ) team set out to develop a police selection test with less disparate impact (more racially balanced results). Since 1977, the county had been unable to satisfy the DOJ's employment discrimination unit under its various consent decrees. (Recall the three to one ratio given above for the proportion of whites vs. blacks exceeding the ability level below which performance in police work tends to be unsatisfactory.) Seven of the team's eight psychologists constituted a Who's Who of APA's large Division 14 (Industrial and Organizational Psychology), four of whom had previously served as its president.

Several years and millions of dollars later, this high-powered team claimed to have succeeded in developing a test that virtually eliminated disparate impact while simultaneously improving selection validity. Water could run uphill, after all. Once again, leading psychologists found a seemingly scientific solution to an intractable political–legal dilemma. DOJ immediately began pressing other police jurisdictions nationwide to replace their more "discriminatory" tests with the new selection battery.

A close look at the several-volume technical report for the Nassau test battery revealed that the team had succeeded in reducing disparate impact by gerrymandering the test to assess only traits on which the races differed little or not at all (Gottfredson, 1996a,b). The joint Nassau–DOJ team had administered its nearly day-long, 25-part experimental battery to all 25,000 applicants, but settled on the battery's final composition only after examining the scores it yielded for different races. The experimental battery was then apparently stripped of virtually all parts demanding cognitive ability. The only parts actually used to rank applicants were eight noncognitive personality scales (all commercial products owned by members of the team) and the ability to read above the first percentile of currently employed police officers (near illiteracy). Selection for cognitive competence had been reduced

to little more than the toss of a coin, despite the team's own careful job analysis showing that "reasoning, judgment, and inferential thinking" were the most critical skills for good police work.

The new police test was made to appear more valid than the county's previous ones by, among other things, omitting key results required by legal and professional guidelines, transforming the data in ways that artificially reduced the apparent validity of the cognitive subtests relative to the noncognitive ones, and making a series of statistical errors that more than doubled the final battery's apparent predictive validity (from .14 to .35). When exposed, the test created a scandal in Division 14 ("The Great Debate of 1997" in Hakel, 1997, p. 116), partly because other leading selection psychologists expected its use would produce less effective policing and degrade public safety (Schmidt, 1996).

Nassau County was stuck with the cognitively denuded test, and its training academy soon felt the predictable effects. Although the Justice Department eventually stopped promoting the test after the scandal became public, other test developers were already sitting on DOJ's doorstep ready to provide it with others of the same type. It can be very lucrative for a test developer to please the nation's enforcer of "nondiscriminatory" employment testing, which for decades has brooked no opposition among test developers and users to its aggressive enforcement of the politically correct view on ability differences.

CAUSTIC SCIENCE: CONSTRUCTING AND CURING THE INCORRIGIBLY RACIST SOCIETY

The would-be censors of "sensitive" intelligence research assert that the nation will be healthier by remaining ignorant of selected realities. They suggest that the truth, especially on racial differences in cognitive ability (genetic or not), can only do harm and that their untruths only good. Again, why should we think so? Intelligence researchers are willing to agree that disseminating information more widely may hold some risks, which is why they discuss how to minimize them (Loehlin, 1992). In contrast, the censors have yet to consider whether the collective fraud they nurture might also do harm. We have just seen one example where it could threaten public safety. And it may wreak more insidious, self-perpetuating damage to the body politic.

All populations exhibit a wide and enduring dispersion in general intelligence. All develop social institutions that adjust to this dispersion in some manner. The ways a society organizes and reorganizes itself to accommodate its substrate of human talents are among the "third-order"

effects of *g* that Gordon (1997) enumerates and the "cascading effects" that Lubinski and Humphreys (1997) describe. Fictions about intelligence likewise have societal-level effects when they require us to deny and defy empirical realities that persistently intrude themselves into a nation's life.

The dogma of equipotentiality dictates that explanations of racial inequalities lie in mistreatment and disadvantage. No explanation may "blame the victim" or challenge the fictions currently undergirding ideologically correct thinking. But failure begets blame, and blame seeks a target. Because overt discrimination is rare today, the persistent, pervasive, and seemingly inexplicable failure of fiction-driven policies for achieving racial parity in all life outcomes is taken to reflect the presence of an even worse culprit, one that not only creates inequality everywhere, despite all countermeasures, but also remains invisible. The evil on which right thinkers have settled is covert racism. Psychologists and others now tell us that racial animus is unconscious and has become "institutionalized" throughout American life. That we cannot directly see the racism and may even deny it only shows how deeply woven it is into the fabric of our minds and institutions. No self-defense, no exoneration is possible in the face of social inequality. Only group parity, we are told, can tell us when the hidden evil has been exorcised.

We have already seen one of the earliest policies for rooting out invisible racism: making racial imbalance in employment prima facie evidence of illegal discrimination. However, curative enthusiasms have moved far beyond that. Even the most objective, most carefully vetted procedures for identifying talent are instantly pronounced guilty of bias or "exclusion" when they yield disparate impact in hiring, college admissions, placement in gifted education, and the like. Indeed, the very notions of objectivity and merit are now under attack by influential intellectual elites (Farber & Sherry, 1997).

When faithful and fair application of the law yields disparate impact in arrest or incarceration rates, American jurisprudence must be considered inherently racist (see arguments in Crenshaw, Gotanda, Peller, & Thomas, 1995). When earnest, socially liberal teachers fail to narrow the stubborn achievement gaps between races and classes, they must be unconsciously discriminatory and require diversity training. Because American institutions still routinely fail to yield the desired racial balance, those who created and supposedly control those institutions—majority Americans—must be deeply, unconsciously, inveterately racist and creators of a society where appearances to the contrary are

just a smokescreen to hide their built-in privileges. Under the equipotentiality fiction, there can be no other legitimate explanation, and any attempt at one serves only to evade responsibility.

The major culprit is actually the *g*-loadedness of modern life. Intelligence is not just an academic ability; virtually all of life's arenas require continual learning, reasoning, and problem solving of some sort. The advantages of higher *g* sometimes differ greatly from one arena to another, but they increase whenever situations and tasks are unfamiliar, ambiguous, unpredictable, changing, unscripted, unsupervised, untutored, multifaceted, or otherwise complex, that is, when they call for learning and judgment. Moreover, the practical advantages of higher *g*, both large and small, are pervasive and compound over time and life spheres (see reviews in Gottfredson, 1997b, 2002a).

The current war against social and economic inequality is therefore substantially a futile and fratricidal war against the manifestations of *g* itself. If such signs are interpreted as evidence of the oppression of some by others, then we shall never lack for fresh evidence. Moreover, the seeming oppression will be greater wherever *g* has greater functional value, such as in the higher levels of education and work. Groups that succeed at higher levels will, by virtue of that success, be presumed guilty of practicing, condoning, or benefiting from oppression. The guilty will be all the more contemptible should they refuse to confess and atone for their transgressions. In order to protect lower-scoring minorities and less able individuals from being victimized by the truth, we now must convict all others of grievous sins. The nation must cure itself by turning its institutions inside out, and its principles upside down.

Harming the Less Intelligent: Living Daily with Reality

Fewer, but still many, social scientists hold to a fourth false credo, that intelligence has little or no functional utility, at least outside schools. Moreover, they often add that the advantages and disadvantages of high or low IQ are mostly "socially constructed" to serve the interests of the privileged. This view was articulated in an influential article published soon after Jensen's 1969 article by economists Samuel Bowles and Herbert Gintis (1972/1973). They argued that higher IQ does not have any functional utility, even within schools, and that IQ tests are simply a tool created by the upper classes to maintain and justify their privileges. They dismissed talk of "objectivity" and "merit" as just smoke blown to obscure this fact. Psychologist Robert Sternberg implies much the same when he suggests that the *g* factor dimension of intellectual differences is an artifact of Western schooling (Sternberg

et al., 2000, p. 9) and that using cognitive tests such as the SAT to sort people is akin to the way slavery and religious prejudice were once used to keep disfavored groups down (Sternberg, 2003).

However, when critics argue that IQ differences have little or no functional meaning beyond that which cultures or their elites arbitrarily attach to them for selfish purposes, they simultaneously turn attention away from the very real problems that lower intelligence creates for less able persons. As Herrnstein and Murray (1994) note, the critics generally have little contact with the downtrodden they would protect. These bright opinion makers may be living comfortably with their fictions and benevolent lies, but lower IQ individuals must live daily with the consequences of their weaker learning and reasoning skills. Their distant protectors would seem to be the limousine liberals of intelligence. They do not realize that everyday tasks that higher IQ individuals consider so simple might create obstacles to the well-being of others less cognitively blessed.

Functional Literacy and Daily Self-Maintenance

Citizens of literate societies take for granted that they are routinely called upon to read instructions, fill out forms, determine best buys, decipher bus schedules, and otherwise read and write to cope with the myriad details of everyday life. But such tasks are difficult for many people. The problem is seldom that they cannot read or write the words, but usually that they are unable to carry out the mental operations the task calls for to compare two items, grasp an abstract concept, provide comprehensible and accurate information about themselves, follow a set of instructions, and so on. This is what it means to have poor "functional literacy."

Functional literacy has been a major public policy concern, as illustrated by the U.S. Department of Education's various efforts to gauge its level in different segments of the American population. Tests of functional literacy essentially mimic individually administered intelligence tests, except that all their items come from everyday life, such as calculating a tip (see extended discussion in Gottfredson, 1997b). As on intelligence tests, differences in difficulty rest on the items' cognitive complexity (their abstractness, amount of distracting irrelevant information, and degree of inference required), not on their readability per se or the level of education test takers have completed. Literacy researchers have concluded, with some surprise, that functional literacy represents a general capacity to learn, reason, and solve problems, a veritable description of *g*.

The National Adult Literacy Survey (Kirsch, Jungeblut, Jenkins, & Kolstad, 1993) groups literacy scores into five levels. Individuals scoring on Level 1 have an eight percent chance of successfully performing tasks similar in difficulty to locating an expiration date on a driver's license and totaling a bank deposit slip. They are not routinely able to perform Level 2 tasks, such as determining the price difference between two show tickets or filling in background information on an application for a social security card. Level 3 difficulty includes writing a brief letter explaining an error in a credit card bill and using a flight schedule to plan travel. Among Level 4 tasks are restating an argument made in a lengthy news article and calculating the money needed to raise a child, based on information in a news article. Only at Level 5 are individuals routinely able to perform mental tasks as complex as summarizing two ways that lawyers challenge prospective jurors (based on a passage discussing such practices) and, with a calculator, determining the total cost of carpet to cover a room.

Although these tasks might seem to represent only the inconsequential minutiae of everyday life, they sample the large universe of mostly untutored tasks that modern life demands of adults. Consistently failing them is not just a daily inconvenience, but a compounding problem. Likening functional literacy to money—it always helps to have more—literacy researchers point out that rates of socioeconomic distress and pathology (unemployment, adult poverty, etc.) rise steadily at successively lower levels of functional literacy, which mirrors the pattern for IQ (Gottfredson, 2002a).

Weaker learning, reasoning, and problem-solving ability translates into poorer life chances. The cumulative disadvantage can be large, because individuals at literacy Levels 1 or 2 "are not likely to be able to perform the range of complex literacy tasks that the National Education Goals Panel considers important for competing successfully in a global economy and exercising fully the rights and responsibilities of citizenship" (Baldwin, Kirsch, Rock, & Yamamoto, 1995, p. 16). Such disadvantage is common, because forty percent of the adult white population and eighty percent of the adult black population cannot routinely perform above Level 2. Fully fourteen percent and forty percent, respectively, cannot routinely perform even above Level 1 (Kirsch et al., 1993, pp. 119–121). To claim that lower ability citizens will only be victimized by the public knowing that differences in intelligence are real, stubborn, and important is to ignore the practical hurdles they face.

Health Literacy, IQ, and Health Self-Care

The challenges in self-care for lower-IQ individuals are especially striking in health matters, where the consequences of poor performance are tallied in excess morbidity and mortality. Health psychologists have ignored the role of competence in health behavior, focusing instead on volition. Patient "noncompliance" is indeed a huge problem in medicine, but health literacy researchers, unlike health psychologists, have concluded that it is more a matter of patients not understanding what is required of them than being unwilling to implement these requirements (reviews in Gottfredson, 2002a; 2004).

Health literacy is functional literacy in health-related tasks, such as determining from a prescription label how many pills to take. Health scientists have concluded that it, too, represents a general ability to learn, reason, and solve problems (for extended discussion and citations see Gottfredson, 2002a; 2004). Accordingly, as in other domains of literacy, comprehension is not improved by providing health information in oral rather than written form. Also comparable is that distressing proportions of the population are unable to perform the simple health-related tasks that usually require little or no instruction.

For example, twenty-six percent of outpatients in several large urban hospitals could not determine from an appointment slip when the next visit was scheduled, and forty-two percent could not understand instructions for taking medicine on an empty stomach. Among those with "inadequate" literacy, the failure rates on these two tasks were forty percent and sixty-five percent, respectively. Substantial percentages of this low-literacy group were unable to report, when given prescription labels containing the necessary information, how to take the medication (twenty-four percent), how many times the prescription could be refilled (forty-two percent), or how many pills of the prescription should be taken (seventy percent). Taking medications improperly can be as harmful as not taking them at all, and the pharmacy profession has estimated that about half of all prescriptions are taken incorrectly.

As in other performance domains, training and motivation do not erase the disadvantages of lower comprehension abilities. For instance, many patients who are under treatment for insulin-dependent diabetes do not understand the most elemental facts for maintaining daily control of their disease. In one study, about half of those with "inadequate" literacy did not know the signs of very low or very high blood sugar, both of which require expeditious correction, and sixty percent did not know the corrective actions to take. Like hypertension and many other

chronic illnesses, diabetes requires continual self-monitoring and frequent judgments by patients to keep their physiological processes within safe limits during the day. Persistently high blood sugar levels can lead to blindness, heart disease, limb amputation, and much more. Low functional literacy has been linked to the number and severity of illnesses, worse self-rated health, far higher medical costs, and (prospectively) more frequent hospitalization. These relations are not eliminated by controlling for education, socioeconomic resources, access to healthcare, demographic characteristics, and other such variables.

Because health literacy is a rough surrogate for *g*, it produces results consistent with research on IQ and health. To take several examples, intelligence at time of diagnosis correlates .36 with diabetes knowledge measured one year later (Taylor, Frier, Gold, & Deary, 2004). IQ measured at age eleven predicts longevity, incidence of cancer, and functional independence in old age, and these relations remain robust after controlling for deprived living conditions (Deary, Whitemann, Starr, Whalley, & Fox, 2004). Another prospective epidemiological study found that the motor vehicle death rate for men of IQ 80 to 85 was triple and for men of IQ 85 to 100 it was double the rate for men of IQ 100 to 115 (O'Toole, 1990). Youthful IQ was the best predictor of all-cause mortality by age forty in this large national sample of Australian Army veterans. Furthermore, IQ's predictive value remained significant after controlling for all fifty-six demographic, health, and other attributes measured (O'Toole & Stankov, 1992).

As in education, equal resources do not produce equal outcomes in health. Like educational inequalities, health inequalities increase when health resources become equally available to all, such as happened to the British government's dismay after it instituted free national healthcare. Although health improves overall, it improves least for less-educated and lower-income persons. They seek more, but not necessarily appropriate care when cost is no barrier; adhere less often to treatment regimens; learn and understand less about how to protect their health; seek less preventive care, even when free; and less often practice the healthy behaviors so important for preventing or slowing the progression of chronic diseases, the major killers and disablers in developed nations.

Good health depends as much today on preventing as on ameliorating illness, injury, and disability. Preventing chronic disease is arguably no less cognitive a process than preventing accidents, the fourth leading cause of death in the United States behind cancer, heart disease, and stroke. As described elsewhere (Gottfredson, 2004), preventing

both illness and accidents requires anticipating the unexpected and "driving defensively," in a well-informed way, through life.

> Their cognitive demands are comparable—remain vigilant for hazards and recognize them when present; remove or evade them in a timely manner; contain incidents to prevent damage or limit it if begun; and modify behavior and environments to prevent reoccurrence. Health workers can diagnose and treat incubating problems, such as high blood pressure or diabetes, but only when people seek preventive screening and follow treatment regimens. Many do not. Perhaps a third of all prescriptions are taken in a manner that jeopardizes the patient's health. Non-adherence to prescribed treatment regimens doubles the relative risk of death among heart patients. For better or worse, we are largely our own primary healthcare providers.
>
> *Gottfredson & Deary (2004)*

Family effects theory and passive learning theory work no better in health matters than in education. Just as equal access to healthcare tends to increase class differences in health, greater access to health information results in larger knowledge gaps between groups. Infusing more knowledge into the public sphere about health risks (smoking) and new diagnostic options (Pap smears) results in already informed persons learning the most and more often acting on the new information. This may explain why an SES-mortality gradient favoring educated women was developed for cervical cancer after Pap smears became available.

Lower-IQ individuals extract less benefit from the same resources than do brighter individuals. Providing them with equal resources does not change that. Hospitals are now making an effort to render information more cognitively accessible to patients, if only to avoid lawsuits from aggrieved patients who did not understand that to which they were consenting. Both curative and preventive care might be more effective if healthcare providers recognized and more effectively accommodated the great diversity in cognitive competence among patients. There is much of practical value they could learn from the vast nomological network of knowledge about *g*.

Unfortunately, the health sciences and medicine are also in the grip of right thinking about human diversity. After it became clear that health inequalities could not be explained by inequalities in material resources and access to healthcare, it became fashionable in health

epidemiology to blame class and race differences in health on the psychic damage done by social inequality. We are now to believe that social inequality per se is literally a killer (Wilkinson, 1996). Physicians, like teachers, are increasingly being accused of racism and given sensitivity training when they fail to produce racial parity in outcomes (Satel, 2000). Mindful of ideologically correct thought, health literacy researchers who mention intelligence do so only to reject out of hand the notion that literacy might reflect intelligence, because any such notion would be racist and demeaning.

In the meantime, inadequate learning and reasoning abilities put many people at risk for taking medications in health-damaging ways, failing to grasp the merits of preventive precautions against chronic disease and accidents, and failing to properly implement potentially more effective but complex new treatment regimens for heart disease, hypertension, and other killers. To intentionally ignore differences in mental competence is unconscionable. It is social science malpractice against the very people whom the "untruth" is supposedly meant to protect.

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