The Integrity Mindset: An Obligation to Ourselves and Others

C. K. Gunsalus
Director, National Center for Professional and Research Ethics,
University of Illinois, Urbana-Champaign, IL 61801

Membership in the community of scholars confers privileges and carries responsibilities. One of the primary obligations is to cultivate and maintain what could be called an integrity mindset, to fulfill our obligations to our students, to our colleagues, to the larger scientific community that is built and depends upon trust, and to the public that both funds and uses the results of our research. In so doing, we safeguard our own personal honor and the honor of the scientific community more broadly.

That aspiration is fundamental, and yet is often undermined by forces within the larger systems within which we carry out our obligations. These forces have been most starkly identified in the domain of biomedical research, where our current educational and funding systems evince elements identified as highly dysfunctional, including a hyper competitive environment with a profound mismatch between supply and demand in the workforce and pervasive and counterproductive incentives (1). The “hidden curriculum” our early career students experience is one in which some of their on-the-ground experiences contradict what we teach (6).

For many young professionals, rather than supporting and encouraging open and trustworthy collaboration, these dysfunctional systemic elements “put pressure on authors to rush into print, cut corners, exaggerate their findings and overstate the significance of their work” (6). In the management literature, this is known as “the folly of rewarding A while hoping for B” (9). That is, while we claim to value research practiced at the highest standards of integrity, what all too often seems necessary for success are questionable and selfish practices that undermine achievement of quality work. Importantly, biomedical research may be a harbinger of things to come for other areas of academic research, where many of the same problematic elements can be seen in early stages.

We operate within multiple, interacting, complex systems whose environments demonstrably influence our actions (2, 7). At the same time, our own conduct and choices individually and collectively shape the character and operation of these systems in ways that create their own feedback loops, affecting those around us. This makes it all the more important that we identify and consciously resist the more negative elements in these systems to maintain the integrity of our own choices. A serious underlying challenge is that some of these issues, as they present, might not appear on first glance to be issues of integrity at all.

No matter what role(s) we occupy, consciously choosing a mindset or frame for thinking about our responsibilities is critical. While we should advocate for systemic change and reform, our daily habits and practices can help us maintain our integrity and support that of those around us. This never applies more critically than when interacting with those we teach—who likely observe what we do much more acutely than what we say.

PRACTICAL APPLICATIONS

An integrity mindset is particularly helpful at several key junctures. These include: framing questions in designing experiments; critiquing students; sharing results with collaborators; writing up work for publication; pursuing disagreements with others; and assessing allegations of improper practice or misconduct, whether as a mentor or as a member of an investigatory committee. We must also consciously choose the mindset from which we teach and talk about the responsible conduct of research, including discussing straightforwardly the places the formal and hidden curricula deviate from each other.

There are two practices that, if adopted and incorporated into daily practice, can assist in developing and maintaining an integrity mindset. They are: making sure you “don’t fool yourself” and, to help you do that, learning to “ask the right questions.”

1) Don’t fool yourself

Richard Feynman articulated this concept in the plainest possible terms in 1974: “the first principle is that you must not fool yourself—and you are the easiest person to fool.” He expands by saying:

I’m talking about a specific, extra type of integrity that is not lying, but bending over backwards to...
show how you’re maybe wrong, that you ought to have when acting as a scientist. And this is our responsibility as scientists, certainly to other scientists, and I think to laymen. (5)

Of course, he was not the first to articulate the concept; as early as the third century BC, Demosthenes wrote: “Nothing is easier than self-deceit. For what each man wishes, that he also believes to be true” (4). As with so much timeless wisdom, avoiding fooling ourselves is easier said than done.

For example, while a certain amount of self-confidence and commitment to ideas is healthy and can sustain a researcher through the hard slog of achieving meaningful results, social psychology reveals that an overabundance of commitment to our own ideas can lead to serious trouble, even catastrophe (8).

There is also a theory of narcissism which holds that many successful people are constructive narcissists (10). This trait bestows the self-confidence to keep pursuing an idea even in the face of obstacles, as characterized by the (perhaps apocryphal) quote attributed to Thomas Edison “I have not failed. I’ve just found 10,000 ways that won’t work.” The danger is that a belief in one’s own ideas can tip into overcommitment and even destructive narcissism, fed by both internal drives and those around us. What mechanisms do you use to hear advice or information contradicting what you want to believe?

Another important component of not fooling ourselves is to develop an awareness of what happens as we advance in our careers, as attaining status and power can lead to what Bob Sutton has characterized as “power poisoning.” He writes, “There is strong evidence that power turns people into insensitive jerks who are oblivious to subordinates’ needs and actions. There is also convincing evidence that subordinates are hypervigilant about superiors’ motives and often assume the worst about their intentions” (12). The darker side of narcissism can lead to excessive self-aggrandizement, exploitation of others, and the pursuit of “success” at any cost. What habits can you cultivate to check whether your perceptions or actions are turning you into someone you didn’t want to be when you started out?

As advancing research deepens our understanding of human decision making, it provides insight into the systemic cognitive biases that can lead to lapses from best practices, as well as ways to design around and seek to prevent them. (c) No matter how hard we try to avoid self-deceit, overcoming known and predictable cognitive biases requires adoption of practices and safeguards rooted in empirical evidence. A much larger topic than can be tackled here, understanding the blind spots and errors that undermine human decision making and knowing what can be done to counteract them is essential for responsible researchers.d

2) Ask the right questions

A key practice in maintaining an integrity mindset and avoid fooling yourself is to ground yourself by confronting some deeply personal issues: Who am I? What do I stand for? What kind of legacy do I want to leave? Why am I doing this work? Being clear on the “big questions” can help frame more situation-specific questions, including Feynman’s elegant expressions of the questions to ask about one’s own hypotheses and consciously adopting specific practices to counteract human cognitive biases. From there, formulating questions to support those aims for the other professional roles we play will buttress creating and maintaining an integrity mindset. Many of these questions are rooted in an awareness of the effects of power poisoning.

An example central to research ethics: mentoring/overseeing student development

When critiquing students, it’s easy to conclude that the student is careless, lazy, or stupid when not securing results or “the right” data. That may be the correct conclusion—and it should be the last possibility explored, not the first. Framing for integrity in working with the less powerful means to ask yourself:

“How clear was my guidance/direction?”
“Did I permit questions and provide sufficient resources?”
“Did I provide feedback to permit learning and correction along the way?”
“Have I heard and considered the student/employee’s perspective/explanations?”
“Are there factors I haven’t considered?”
“How can I make this a growth experience that leads to a better outcome?”
“Am I taking out my frustrations on someone with less power because I can?”
“Am I providing an incentive to produce results by whatever means or stimulating work with integrity?”

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a In short, people tend to endow greater value in things which they have than things they stand to gain. In Kahneman and Tversky’s theory, this tendency makes people loss averse. So we have a naturally occurring tendency to value our own ideas over competing ideas, and we fear “losing” our own ideas, leading to an over-valuation and over-identification with our own ideas.

b Maccoby uses the terms “productive” and “unproductive” narcissists.


Another example: when allegations of misconduct arise

An oft-discussed element of our system of “oversight” of research integrity are the conflicts of interest a university has in investigating its own when allegations of misconduct arise. Publicity surrounding big institutional failures—up to and including efforts to cover problems up—undermine confidence that universities are capable of conducting credible internal investigations. The cynical view of this, eloquently expressed by Upton Sinclair, is that “It is difficult to get a man to understand something when his salary depends on his not understanding it” (11). Max Bazerman refers to this as motivated blindness: “the systemic failure to notice others’ unethical behavior when it is not in our best interest to do so” (3).

Another way to view the egregious examples of institutional oversight, though, is to consider that fooling ourselves and not asking the right questions can lead to misunderstanding situations through the wrong frame—which is the same as misunderstanding the situation. Mischaracterizing a situation—or the desired result—can lead those participating in the investigatory process to ask the wrong questions, which usually results in coming to the wrong conclusions.

When allegations of misconduct arise, the initial framing of the problem can shape—or misshape—the outcome. The wrong question to ask is “How will this affect our reputation if it becomes known?” Any questions rooted in the conviction that Professor X, a powerful and important person, would never do such a thing are likewise starting off in the wrong direction. Fooling ourselves can be rooted in any combination of over-identification with or vilification of the accused, assigning the responsibility for overseeing the investigatory process to low-status people without sufficient resources or authority, letting procedures drag on, or ceding control to players with institutional self-protection as an overriding goal. Short-term thinking in these categories undermines a process that should fundamentally be a search for verifiable facts and as much truth as can be established in the face of complexity and ambiguity.

In contrast, an integrity mindset starts with the central question: “Do we want our names and reputations associated with an institution where dishonest work is countenanced?” This question should be asked by every participant in the process, from the assigned university official responsible for the application of procedures to—most especially—the faculty members of review committees charged with assessing evidence and coming to conclusions. An integrity mindset recalls the folk wisdom that the first rule of being in a hole is to stop digging, or as our more contemporary mindset recalls the folk wisdom that the first rule of being starting off in the wrong direction. Fooling ourselves can never affect our reputation if it becomes known?” Any questions rooted in the conviction that Professor X, a powerful and important person, would never do such a thing are likewise starting off in the wrong direction. Fooling ourselves can be rooted in any combination of over-identification with or vilification of the accused, assigning the responsibility for overseeing the investigatory process to low-status people without sufficient resources or authority, letting procedures drag on, or ceding control to players with institutional self-protection as an overriding goal. Short-term thinking in these categories undermines a process that should fundamentally be a search for verifiable facts and as much truth as can be established in the face of complexity and ambiguity.

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An institution that conducts its research misconduct inquiries and investigations professionally maintains a continually reviewed standard of care based on the experience and advice of experts and seeks objective assessment of its process and findings. A common and problematic outcome, for example, is for a committee of academics to document a series of actions taken by an individual (resulting, say, in fabricated data) and then say something like “since we cannot read minds, we cannot decide whether the result of these actions was intended, so we cannot find misconduct.”

An institution focusing on integrity assembles appropriate personnel—internal or external or a combination—for a process founded in the scientific method for scientific questions, combined with a commitment to fair play employing expertise from people experienced in assembling evidence, conducting credible interviews, and compiling sustainable findings. That includes understanding approaches commonly used every day in our country in official proceedings for imputing intention from a series of choices that result in a particular outcome.

If you are the scientist accused, an integrity mindset demands an impartial and complete review so there are documented facts supporting your integrity that your institution can stand behind, not taking umbrage that questions are being asked.

All members of the community of scholars—and especially those with leadership responsibilities—have personal responsibilities to assume integrity mindsets. They must work to recognize and, where possible, counteract the mixed messages that can come from the way science is funded and organized, whether that is considering the number of students admitted to graduate programs or providing them integrated professional skills training that encompasses not just the substance of disciplines, but also how to succeed as a professional in today’s economy.

WHAT, ME WORRY?*

Rushing to a conclusion that serves our immediate needs may seem like a healthy kind of optimism and a means to quick success. More often, this is self-deception. When scientists fail to recognize when being uncertain might be warranted, fail to try reframing the question, or fail to honestly examine the relevant facts from an outside perspective, they risk bringing untold harm to themselves, their students, their colleagues, science, and society at large. In the long run, the integrity mindset best serves our personal needs for self-respect as well as the requirements of science.

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