

Op-Ed/Editorials - Stay the Course or Throw in the Towel: Is There Something In-between Value-guided Science and Valueless Science?

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The BASIS is supported, in part, by funding from individuals and companies associated with the gaming industry. Occasionally, we receive letters questioning our acceptance of this support and our ability to remain scientifically objective. Some of those letters argue that the gaming industry is inherently harmful to society and any financial support that we receive from anyone associated with the gaming industry is tainted. Though we create and follow procedures to maintain impartiality, some observers assert that impartiality is insufficient and science ought not to be neutral; rather, these pundits suggest that science should be value-driven for the good of the public health. We agree that working towards the betterment of the public's health is an important goal; however, we disagree that scientific methodology must change to fulfill predetermined notions of what is best for a population. Science is in the business of generating knowledge. Using values to intentionally set up canals that will direct the flow of knowledge in a predetermined direction, rather than attempting to build methodology that allows science to flow where it will, stymies productivity, minimizes predictive accuracy, and can do harm if it leads to false conclusions.

Arguing for the integration of values into science rests on the idea that value-free science is impossible to achieve. This argument holds that, if science is necessarily value-laden through its approach to the questions asked and not asked, it makes sense to determine in advance the nature of those guiding values. In the case of anti-gambling advocates, this might include designing studies to

demonstrate the harmful effects of casino expansion. Pro-gambling advocates likely would focus on showing the economic benefits of gambling expansion. Unfortunately, both approaches are harmful to the advancement of science for a number of reasons. One reason is that common ideas on which values rest can be wrong. In a memorial to the physicist Ernst Mach, Einstein said:

Concepts that have proven useful in ordering things easily achieve such an authority over us that we forget their earthly origins and accept them as unalterable givens. Thus they come to be stamped as "necessities of thought," "a priori givens," etc. The path of scientific advance is often made impassable for a long time through such errors. (Einstein 1916, 102)

*From: <http://plato.stanford.edu/entries/einstein-philscience/>
1916 memorial note for Ernst Mach (1)*

The inevitable influence of values on science does not necessitate throwing in the towel and giving up trying to be objective. A better strategy would be to seek to improve our tools - our means of integrating objectivity and neutrality into research methodology. This task might be more difficult than doing science itself — the difficulty of improving methods is probably one source of unwillingness to support a drive for scientific impartiality — however, this difficulty should not dissuade us from our attempts.

In addition to improving our methodological tools, when defining their research agenda, scientists should utilize multiple models of science. Examining issues from a public health perspective, for example, employs one of the best strategic models for pursuing objective research. Taking a public health approach means being open to both the benefits and the burdens associated with a particular phenomenon. Working to prove only the harms of a particular object of addiction necessarily closes the door to investigations of any benefits - just as attempts to show only the benefits of a phenomenon limits important opportunities to study harms. This is inconsistent with examining issues from a balanced perspective. Without such an evenhanded and perhaps even disinterested approach, identifying hormetic effects,² such as those associated with radiation, alcohol, chocolate, and arguably even water, is impossible.

A public health perspective also allows for seemingly inconsistent findings to co-exist harmoniously. Consequently, researchers who operate within this framework

might be more open to paths that modify or even negate some of their previous work. Our research illustrates this clearly. For example, our studies have identified that gambling can be both a public health toxin (Shaffer, LaBrie, & LaPlante, 2004) and beneficial to the elderly (Vander Bilt, Dodge, Pandav, Shaffer, & Ganguli, 2004). Our meta-analytic work reported some of the highest disordered gambling prevalence rates for youths (Shaffer & Hall, 2001; Shaffer, Hall, & Vander Bilt, 1999) and, through different research methods, we have reported that the literature likely overestimates the extent of college student gambling in the United States (LaBrie, Shaffer, LaPlante, & Wechsler, 2003). Finally, though our prevalence estimates highlight the stability of disordered gambling across various sites and nations (Shaffer & Hall, 2001; Shaffer et al., 1999; Shaffer, LaBrie, LaPlante, Nelson, & Stanton, 2004), we also illustrate that PG is not nearly as stable as once thought (Shaffer & Hall, 2002). Examining only half of our research portfolio easily could lead a careless observer to presume that our work has an anti-gambling research agenda and the other half a pro-gambling research agenda. There is no reason to fear these seemingly divergent findings; rather, we need to understand that all of these findings are successively closer approximations to an accurate and complete understanding of disordered gambling and related events.

The burden of values, appropriate or misplaced, should not cause scientists to throw in the towel and compromise their impartiality. A solid scientific program will recognize the potential impact of values and scientists should hang on to their neutrality in spite of methodological challenges and criticism. The information that scientists and science generate will be better for strength in these faces of adversity. So, what's in between? It's not the money. It's integrity. As Senator Alan Simpson once said, "If you have integrity, nothing else matters. If you don't have integrity, nothing else matters."

What do you think? Comments on this article can be addressed to Debi LaPlante.

Notes

1. http://en.thinkexist.com/quotation/if_you_have_integrity-nothing_else_matters-if_you/343397.html
2. Hormesis occurs when a low dose exposure to object or chemical has a beneficial effect, which is quite the opposite of higher toxic doses.

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