

Is Psychology Moving in the Right Direction? An Analysis of the Evidentiary Value Movement

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Abstract

The following article considers whether psychology is moving in the right direction by exploring the evidentiary value movement. Although the author considers the movement to be a net positive, she discusses concerns regarding the scope and tone of the discussions to date. She encourages the movement to consider heretofore underrepresented subfields and to reduce the use of negative tone.

Keywords

methodology, scope, tone

Evaluating the Direction of Psychological Science

A piece intended to evaluate the direction of psychological science could take many forms. I could have written about advancements in my particular subject areas—developmental social and moral cognition—or about my feelings on the cost of subscription-based access to scholarly journals and the accessibility of scientific findings. That said, I believe that to focus on these or other topics would be to ignore the most significant matter facing psychological science today: the so-called “replication crisis” and resulting “evidentiary value movement.” It is these that I will focus on here.

By the replication crisis, I refer to the high-profile failed replication of a number of classic psychological findings in recent years (Hagger et al., 2016; Klein et al., 2014; Open Science Collaboration, 2015; Wagenmakers et al., 2016). These replication efforts were initially spurred by increased awareness of the dangers inherent to various methodological and statistical practices that were (and in many cases still are) common in psychological science (e.g., John, Loewenstein, & Prelec, 2012; Simmons, Nelson, & Simonsohn, 2011). In response to this crisis, many have pointed out the positive opportunity to increase the evidentiary value of our science (e.g., Asendorpf et al., 2013; Ledgerwood, 2014; Spellman, 2015; Vazire, 2015), and various solutions have been implemented to date. These solutions include, but are

not limited to, systems and policies supporting increased openness, direct replication, unbiased publication, and pre-registration (e.g., Collins & Tabak, 2014; Eich, 2014; Jonas & Cesario, 2015; McNutt, 2014; Nosek & Lakens, 2014; Simons, Holcombe, & Spellman, 2014; and many others). Together these discussions and solutions have been referred to as the evidentiary value movement (Finkel, Eastwick, & Reis, 2015).

A lot has changed in the past half decade in psychological science, which begs the question: Is all of this pushing psychology in the right direction? My first and strongest answer is yes, it is. Even if one does not agree that psychology’s problems had reached apocalyptic levels, how could increased attention to our weaknesses and concrete suggestions for how to improve things *not* move us in the right direction? My students and I, and my colleagues and their students, have made real changes in response to the evidentiary value movement thus far, and as a result I firmly believe that our science is and will continue to be better than it was before. More and more journals are making policy changes to support the production of high-quality science; this is heartening and will likely encourage more psychologists to improve their practices than have already done so. Indeed, though

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there is probably a long way to go until we can say that all of psychology's problems are fixed, it seems undeniable that work being published today will be, on average, more reliable than work that came before. As the ultimate goal is to discover scientific truths, I firmly believe that psychology is headed in the right direction.

But I must qualify this belief somewhat. By asserting my view that psychology is heading in the right direction, I do not mean that I believe that the *manner* by which psychology is approaching the right direction is or has been optimal. I, for one, am somewhat less excited to be in our field than I once was, for reasons I will explain below. Critically, my reduced enthusiasm is not because I wish we could all keep engaging in questionable research practices, nor because I am sad that some of my favorite psychological findings have failed to replicate (although it would perhaps be impossible not to be occasionally sad about that). Indeed, I view identifying and improving on weaknesses in past research—possibly overturning long-held “truths” in the process—as among the most challenging and exciting aspects of psychological research, and this is just what the evidentiary value movement is pushing psychologists to do. What I do see as in need of improvement, however, are both the scope and the tone of the discussions that have characterized the evidentiary value movement to date.

The Issue of Scope

First: the scope. From my perspective as a developmental psychologist, to date the scope of the evidentiary value movement has been too narrow (see Finkel et al., 2015, for a similar argument). Specifically, the vast majority of discussions and published journal articles about replication and improved research practices to date have been made about, by, and for social (and some cognitive) psychologists, particularly those who research easily accessed typical populations like undergraduates or MTurk workers. The methodologies considered by the movement have also been relatively limited, consisting mainly of one-shot laboratory experiments and online surveys. Perhaps as a result of this restricted focus, common suggestions for how to improve practices seem overly tailored to research in social and cognitive psychology, in as much as they fail to consider the unique methodological challenges inherent to other subfields. As just one example, suggestions for minimum sample sizes per cell (e.g., Simmons et al., 2011) are presumably better suited to some research contexts than others. For instance, researchers studying adults on MTurk are able to recruit additional subjects much more efficiently than researchers studying, say, infants of depressed mothers, given that recruitment of special populations is often very difficult. As a result, infant researchers might be better off pursuing alternative ways of reducing error, such as determining which methodologies maximize signal-to-noise ratio,

examining whether the same mother-infant pairs can be studied multiple times, etc.

I believe that the narrow scope of the evidentiary value movement to date has had (or has the potential to have) several unintended consequences; I will outline two here (see also Finkel, Eastwick, & Reis, in press, for discussion of how replicability is but one of many features of high-quality science). First, psychologists from underrepresented subfields may feel excluded from the evidentiary value movement, both in terms of its discussions and its proposed solutions. They may feel that the movement is not interested in their point of view, that they will be seen as lazy or unethical for expressing that a particular methodological solution will not work for them, or that their work will be viewed as “less than” to the extent that they cannot effectively implement the solutions that have been proposed to date. Although I firmly believe that no one in the movement intends to imply that a one-size-fits all approach is appropriate, those involved could perhaps do a better job of expressing this sentiment to researchers in other subfields, particularly via “official” formats (e.g., not just in blog posts or Facebook threads, where they can easily be missed). Expressing inclusivity might do a lot to encourage more researchers in heretofore underrepresented subfields to participate and to improve their practices. As a basic illustration of what I am referring to, though I have found the series of special issues on methodology from *Perspectives on Psychological Science* over the past few years to be incredibly useful, I have yet to see an article devoted to the issue of methodological diversity in best practice. Of course, one could respond to my concern by asserting that it should be the responsibility of those in underrepresented subfields to come forward and demand to be a part of the conversation, which they have by and large not done. There is probably truth to this assertion. That said, it can be difficult to insert oneself into a conversation whose members appear—accurately or not—to consider one's participation unnecessary.

A second consequence of the narrow scope of the evidentiary value movement to date is missed opportunities to look to other subfields for methodological guidance and inspiration when considering how to improve psychological science. Indeed, given the unique challenges inherent to different subfields, there are likely aspects of research methods that certain subfields already do extremely well; these could be utilized to help improve methodology in other subfields. For instance, in my experience infant cognition researchers are extremely attentive to issues of methodological control and confounding variables, given the assumption that, whereas adults are at least somewhat predictable, just about anything could influence an infants' responding in a given situation. Furthermore, because infant participants are relatively scarce, researchers must be able to rule out potential confounds without massively adding to their sample sizes. Thus, techniques infant cognition researchers regularly utilize to generate

and rule out alternative explanations (as just a small example, videotaping everything so that alternative hypotheses can be explored after the fact without requiring additional testing) might help researchers in other subfields maximize the evidentiary value of their own data.

The Issue of Tone

In addition to scope, I see a second problematic aspect of psychology's current trajectory to be the tone of the discussions to date. In my opinion, and although this is very clearly not the case for the majority of psychologists and others wishing to improve psychological science, the frequency with which psychologists are accused of having negative intent (e.g., to be famous, secure book deals, retain cushy tenured positions) is entirely unhelpful to the overall goals of the evidentiary value movement. Not only do I view these character considerations as tangential to the real issues at hand, I also believe that they have had the consequence of marginalizing many individuals who simply cannot "stand the heat," and so have chosen to leave the "kitchen" of the movement more generally. Indeed, in blog posts and online forums it is all too often the case that a suggestion that someone has confused data integrity with personal integrity is met with scorn and ridicule; some individuals go so far as to argue that character considerations are *required* if we wish to improve psychological science. Particularly as a member of a subfield (and gender) that is not well represented in these discussions, I will be the first to admit that I am one of the ones who cannot stand the heat—and so my usual behavior is simply to lurk in the online forums, following the discussions and wanting to speak up but rarely doing so for fear of negative backlash. As I consider myself to be a pretty outspoken person, I assume there are other lurkers like me out there, as well as those who have chosen not to follow the discussions at all; individuals who are turned off by these discussions may be afraid of being targeted themselves, or maybe they simply do not enjoy all the negativity and so choose to do other things with their limited time. All of this results in a further narrowing of the voices of the evidentiary value movement to those who are happy with the tone of the discussions, and means that many will miss the opportunity to participate in the movement's various positive aspects.

My intention in raising the issue of tone is certainly not to assert that I do not support the changes that members of the evidentiary value movement have spearheaded—far from it. I was excited to attend the first meeting of the Society for Improving Psychological Science last June, I am glad that postpublication peer review is becoming increasingly common, and I am glad there are online communities where methodological issues can be discussed in real time. The journal publication process is frustratingly

slow, and mistakes happen that are sometimes not caught by peer review: I would like to be called out for mine. In my opinion, the leaders of the evidentiary value movement have done our field an incredible service, and they generally do not receive enough credit for their considerable efforts to improve psychology. I can even understand the desire to raise one's voice: I have heard plenty of horror stories about people's unsuccessful attempts to publish high-quality failed replications and about errors in published work that have been brought to authors' attention but not addressed in a timely manner. This must be incredibly frustrating. But I have also heard horror stories from the other "side"—situations in which poorly designed failed replications are published easily and then treated as the new truth, or where accusations of misconduct are accepted at face value without skepticism or considerations of their source. Given this, it is not clear to me that anyone has earned a monopoly on injustice, and of course we must be equally critical about the value of each piece of evidence whether it supports our side or not. Furthermore, even if one side *had* earned such a monopoly, I contend there is more to be lost by excluding large numbers of the field who are made uncomfortable by the tone of the discussions to date than would be lost by figuring out a way to make the same points about data and methodology, in the same forums, in a cordial and respectful manner. Indeed, even if one is justified in feeling that certain individuals (be they original authors, those who have mishandled a replication, etc.) no longer deserve respect, presumably their students, their colleagues, and anyone else who wishes to have an accurate sense of the current state of the literature do.

Of course, I am not the first to express concern with the tone of discussions to date (see the petition for "Promoting Open, Civil, and Inclusive Scientific Discourse in Psychology" [BlogEditor, 2016]; guidelines for the PsychMAP, n.d., Facebook group; Cogtales, 2016; Fiske, 2016). Although I disagree with certain aspects of how these concerns have previously been raised, in my view pleas for civility in scientific discourse cannot be made frequently enough; as we all know the loudest voices tend to win out over quieter ones. That said, this is only one person's opinion, and I encourage the young people in psychology to fight for whatever version of our field they want to be a part of. This might mean opening yourself up to criticism, but in the end the more of us who do that, the more the field will represent the true diversity of opinions out there.

Conclusion

In sum, I firmly believe that the evidentiary value movement is pushing psychology in the right direction, and I sincerely hope that improvements continue to be made in the months and years to come. That said, I also hope

that the movement becomes increasingly inclusive of heretofore underrepresented subfields so that it can be a movement that serves and is supported by psychologists in all areas. One way to increase inclusivity may be to commit to engaging in cordial and respectful discussions even about controversial issues, so that individuals who have previously been reluctant to participate in the movement feel comfortable making their voices heard.

Biographical Narrative

I completed my undergraduate degree in Psychology in 2005 at the University of Chicago, advised by Professor Amanda Woodward. In 2010 I received my PhD from Yale University, with advisors Professors Karen Wynn and Paul Bloom, with lots of support from Professor Laurie Santos. I started as an assistant professor in the Department of Psychology at the University of British Columbia in the summer of 2010, where I am currently an associate professor and Tier II Canada Research Chair in Developmental Psychology. I hope that my greatest accomplishment toward steering the field in the right direction will come from the ground up, by mentoring students who are vigilant against bias and ultimately concerned with discovering what is true about the human mind.

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