

Is Psychology Headed in the Right Direction?

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Abstract

Is psychology headed in the right direction? In this essay, I share my views on the answer to this question. I begin by describing how recent advances in technology, heightened levels of interdisciplinary collaboration, a renewed emphasis on considering the broader implications of basic psychological research, and field-wide efforts to encourage optimal research practices have combined to tilt psychology's trajectory upward. I then offer three suggestions for how to maintain the field's upward slanting course: (a) collaborate more to build cumulative knowledge, (b) improve the way we communicate contextual factors in psychological research, and (c) examine the psychological effects of technology. I conclude by offering a single piece of advice for new researchers and a few closing comments.

Keywords

psychology, opinion, methods, policy

In many ways, psychology has changed quite a bit since I entered the field in 2001.¹ Yes, we had cell phones back then, but we didn't use them to email, text, or collect data. Computer tablets weren't in vogue, photocopy machines were required to produce article reprints, and paper-and-pencil measures dominated the landscape. And although many psychologists had already established productive collaborations with scientists in other areas, interdisciplinary work had yet to emerge as a mainstay in the field.

Fast-forward 16 years—advances in technology have transformed how many psychologists perform research. Most people now navigate the world with powerful data collection devices (e.g., smartphones) at their fingertips. Improvements in connectivity have made international collaboration increasingly possible. Crowdsourcing platforms have enhanced our ability to run large studies on diverse samples of participants quickly and at minimal cost. Social media, fMRI, genome-wide analyses and other new technologies have generated “big data” the likes of which we've never encountered, providing new glimpses into age-old questions while also raising new issues to explore.

Collaborations between scientists working in different areas of psychology and beyond—fields like economics, biology, sociology, engineering, education, philosophy, and computer science—have also begun to flourish,

generating several discoveries. We've seen how, for example, stress impacts biomarkers of cellular aging (e.g., Epel et al., 2004), how early environmental experiences influence gene expression (e.g., Zhang & Meany, 2010), and how the grades of disadvantaged children can be enhanced through subtle theory-guided interventions (e.g., Yeager et al., 2016). But beyond these breakthroughs, these collaborations have also had another effect—they have helped usher in new domains of inquiry that our field has rapidly embraced: cultural, social, developmental, and affective neuroscience; data science; moral psychology; and epigenetics to name just a few.

Our work is also having impact. Major funding organizations (e.g., National Institutes of Health [NIH], National Science Foundation) and professional societies (e.g., American Psychological Association, Association for Psychological Science) have increasingly begun to encourage psychological scientists to consider the broader implications of their work, and the field has responded in kind. The psychology sections of bookstores, once overrun

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with anecdotal self-help, are now filled with titles written by our peers that engagingly describe mature programs of research for broader audiences to consume.² New journals have been launched to provide psychological scientists with platforms to discuss the translational and policy implications of their work (e.g., *Social Issues and Policy Review*, *Policy Insights From the Behavioral and Brain Sciences*, *Translational Issues in Psychological Science*). And perhaps most significantly, governments have begun to rely on psychological research to inform the policies they use to govern (Halpern & Service, 2016; Holdren, 2016).

None of this is to say that progress in the field has been completely linear. To the contrary, we've encountered significant stumbling blocks along the way, most notably in the form of cogent critiques of common research practices in psychology and their potential to undermine the robustness of our research (e.g., an over-reliance on small samples, *p* hacking, hypothesizing after the results are known, the "file-drawer"). Although important discussions surrounding many of these issues continue and are important for enhancing the future trajectory of the field, several reforms have been implemented: Ethics procedures have been revised; conference symposia, journal volumes, and invited addresses have been devoted to discussing ways of improving research practices; and many journals and funding agencies have begun to impose policies designed to do precisely that (e.g., norms regarding sample sizes have shifted, supplemental materials containing additional measures and analyses are now routinely reported, authors are increasingly asked to distinguish between confirmatory and exploratory predictions). And in my experience as an Editor, authors and reviewers have been receptive to many of these changes, demonstrating an admirable level of openness given rapidly changing standards in the field.

So, do I think psychology is heading in the right direction? In case it's not obvious already, my answer to this question is "yes." I continue to think of psychology as a place where people ask tremendously interesting questions about human nature, the answers to which have the potential to enrich our understanding of how the mind works while also having important implications for how people live their lives. And while it's true that I've always felt this way about the field, the tools that we now have at our disposal for exploring the questions that drive us are increasingly allowing us to do so with breathtaking depth and precision. Add to this the fact that technology is rapidly changing the way we human beings interact and coordinated field-wide efforts designed to enhance the robustness of our research that continue, and the future of the field seems bright.

Recommendations for the Future

Of course, just because I think we're headed in the right direction doesn't mean that I don't think there are ways we can improve. In the following sections, I outline three suggestions toward this end. My intention in doing so is not to provide concrete recommendations for future action. Rather, my goal is to highlight issues to reflect on as we consider how to steer our trajectory moving forward.

Collaborate more to build cumulative knowledge

A few years ago, I had the opportunity to participate on a federal grant review panel. Reading through proposal after proposal, I was struck by the number of smart and creative applications that focused on remarkably similar questions (in some cases the exact same ones) but made few connections to one another. This experience reflects what I think is a broader trend in the field. The tendency for many of us to "go it alone" in our pursuit of the questions that drive us, working in small groups guided by specific theoretical orientations that don't connect to one another or to work done in the past—factors that work against the creation of cumulative knowledge.

Although there are many ways to address this issue, one potential solution involves encouraging diverse groups of scientists who are interested in the same phenomena but differ in their background orientations and skill sets to work together to answer the questions that drive them. I've had several occasions to participate in such collaborations over the years, and the results have been consistently positive. Although I haven't always agreed with my collaborators, much like the campers in Sherif's classic Robbers Cave Experiment (Sherif & Harvey, 1954/1961), I've found that it was not only possible to tolerate dissenting ideas when we shared a common broader goal but that the science benefitted as well. The diverse perspectives we brought to the group led us to design better studies, write more integrative papers, and ultimately make more progress than we would have alone. Collaborating also allowed us to realize that many of the disagreements we initially had—points of conflict that would have likely festered for years—were often easily reconciled after a few conversations.

To be clear, I'm not proposing a drastic change to research as usual. To the contrary, I think there is value associated with working independently. But I do think that there are cases in which bringing diverse groups of investigators together to solve important questions can have value, especially when those questions have the potential to have transformative implications for science

and society.³ Although some funding mechanisms exist to support such work (e.g., McArthur Research Networks, NIH Center Grants), they represent a small minority of the available opportunities. But even more problematic than a dearth of funding is the incentive structure that governs our field, which in many ways works against motivating collaborative research—there are few prized positions on authorship lines and the majority of funding mechanisms that exist are vertically structured (i.e., one or two Principal Investigators lead the charge, followed by Co-Investigators, and Consultants). Given this incentive structure, it is not surprising that we continue to chip away at problems in the small fiefdoms that we call our own (for similar observations, see Kitayama, 2017; Mischel, 2008). But given the potential upshot of the alternative path I'm describing, I think it's worth considering whether this incentive structure needs revising to identify ways of encouraging diverse groups of scientists to work together more in horizontally organized groups. Doing so has the potential to advance the cumulative nature of our work.

Recognize (and report) contextual factors in research

One of the first things I learned in graduate school was the importance of context. I can vividly recall the multiple meetings in which my advisor, lab mates, and I spent discussing the details of the experiments we were planning. How should we deliver our instruction to maximize their impact? Where should we perform the study? Were our confederates well trained? Once we finished answering these questions, we'd run dress rehearsals, doing our best to imagine the study we had concocted through the eyes of our participants. Then, when we were done, we'd discuss our experiences and repeat the process again (and again) until we thought we had set the situation up just right.

Since leaving graduate school, I've discovered that the lab I was trained in wasn't unique in this regard; many psychologists devote an enormous amount of time to addressing precisely the same *contextual factors*—features of the testing environment that on the surface aren't centrally relevant to the task at hand, but that may nonetheless influence the outcomes of research. Developmental psychologists train research assistants how to communicate with children in ways that put them at ease in a laboratory context. Animal researchers carefully attend to peripheral features of the testing environment (e.g., the room temperature). fMRI researchers go to great lengths to ensure that participants feel comfortable performing protocols while lying prone in cold and noisy testing environments. And I suspect the same is true for psychologists working

in other areas, as well as scientists more generally (e.g., Hylander & Repasky, 2016).

Despite the common conviction that attending to such contextual factors is an important feature of good science, one rarely sees accounts of these steps reported in the methods sections of our journals. And although there have recently been several calls for researchers to upload study protocols, experimenter scripts, and videos of procedures, I suspect that many investigators don't consider the initial steps they take to set up their studies as falling under the purview of such requests. But if we think that these factors are important, then it strikes me that enhancing our efforts to communicate them is essential for accurately describing the steps we take in our research, enhancing its replicability, and training the next generation of psychological scientists.

Examine the effects of technology

Online social networks, smartphones, mobile activity trackers, Wi-Fi connected spaces, virtual reality—we're living through a time of enormous innovation. These advances aren't simply providing us with new tools to study the questions that drive us. They are, in many cases, transforming the way we interact. Consider, for example, the vast number of people who now navigate life closely tethered to their colleagues, family, and friends through their smartphones or the billion-plus individuals who log in daily to their online social networks to communicate with others, keep abreast of news (both real and fake), exchange opinions, and engage in a host of other technologically mediated behaviors.

These changes in the way technology is affecting us present psychologists with an important opportunity—the chance to examine whether and how the theories and methods that we've developed to explain various types of “offline” human behavior and information processing generalize to these novel digital contexts. Although articles addressing these issues are beginning to appear in mainstream psychology journals, they represent a very small fraction of the work we do; on the whole, psychologists have been much slower to examine these issues compared to scientists in other areas such as communications and information technology. Yet given how rapidly (and seemingly consequentially) technology has influenced the way people live their lives, understanding how these changes are impacting us psychologically represents an important challenge for the field to address.⁴

A Single Piece of Advice

If I had one piece of advice that I could offer my younger colleagues about how to prepare for the field of

psychological science as it will exist in the future (and one piece of advice is all that I'm allowed to give as per the terms of this contribution), it would be to focus first and foremost on identifying the question that drives you. What question do you wake up with each morning bursting with excitement, eager to answer? Once you think you've found that question, do your due diligence to make sure it's worth pursuing—consult the literature to learn about what has been done in the past (to avoid reinventing the wheel) and solicit feedback from other people whose opinion you value both inside and outside of the field.

Once you settle on a question, do your best to relentlessly answer it. Don't be afraid to be wrong (we all are at times). Be rigorous and methodical. Know that you may make mistakes and have the humility to correct and learn from them. Be resilient in the face of rejection (I know no academic who doesn't experience it), and be open to embracing new methods and ideas that fall outside of your comfort zone if they offer you the possibility of advancing your understanding of the question you're hoping to answer.

Several early readers of this essay asked what qualities characterize a "good question"? I don't have a simple answer to this question. For some, a good research question is one that opens up new lines of inquiry. For others, a good research question is one that makes lives better. For yet others, a good research question is one that gets us to see the familiar in new ways. Different people are motivated to perform psychological research for different reasons, and I think that's a good thing for the field—it contributes to the diversity of topics we study and to the range of approaches we use to investigate them.

Who Am I?

I received my B.A. from the University of Pennsylvania and my Ph.D. from Columbia University. I am currently a Professor in the Psychology Department at the University of Michigan where I direct the University of Michigan Emotion and Self-Control Laboratory. I am also a Faculty Associate at the University of Michigan's Research Center for Group Dynamics, Center for Cultural Neuroscience, and Depression Research Center. My research explores how people can control their emotions to improve our understanding of how self-control works and to discover ways of enhancing self-control in daily life. To address these issues, I use an integrative approach that draws on multiple sub-disciplines within psychology including social-personality, cognitive neuroscience, clinical, and developmental. My students and I integrate across these areas in terms of the types of questions we ask, the methods we use to address them, and the populations that we focus on.

Steering the Field Forward

I was asked to end this article by commenting on what I hope will be my greatest accomplishment in steering the field in the right direction. The way I see it, we're already on the right path. So, the challenge doesn't involve shifting course, but rather identifying ways of maintaining our trajectory while enhancing our ability to navigate the stumbling blocks that await us—obstacles that I think are endemic to many fields (e.g., Nussbaum, 2017) and that can be profitably viewed as opportunities for growth and improvement. I hope to do this by modeling the above ideas in my own research while remaining open to alternative views on these issues that are bound to arise in the future.

Acknowledgments

I thank Ozlem Ayduk, Ariana Orvell, Shinobu Kitayama, John Jonides, Susan Gelman, Oscar Ybarra, Angela Duckworth, and David Hauser for commenting on drafts of this article.

Declaration of Conflicting Interests

The author declared no conflicts of interest with respect to the authorship or the publication of this article.

Notes

1. I use the term *psychology* broadly throughout this article to describe my perspective on the field as a whole, as well as its many different areas of research.
2. An informal count of the number of books written over the past 15 years by psychological scientists from multiple areas reveals several dozens of such texts. Thus, I do not cite specific authors here.
3. These questions are likely to vary across different areas of psychology. Candidate questions from areas of research that I am familiar with include how to enhance self-control, reduce bias, narrow the achievement gap, and shed light on the etiology and neurobiological bases of mood disorders.
4. Given the range of technologically mediated behaviors that people frequently engage in, a vast number of questions are relevant for psychological scientists from different areas to explore, including (but not limited to) the effects of technology on social relationship quality and interactions, physical health and emotion well-being, social support provision and receipt, emotional contagion, coping, persuasion, memory, peer pressure, social-cognitive-emotional development, cyberbullying, aggression, deception, attention, executive functions, and social learning.

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