Psychologists are problem solvers. Solving problems is fundamental to psychology, so much so that we have included this general activity in most of our accepted definitions of the field. For example, in one definition, psychology is described as the scientific study of the mind and behavior, as well as the application of knowledge accumulated from this science toward solving practical problems (Weiten, 2007). The American Psychological Association (APA), the largest professional association in psychology, includes problem-solving in its mission statement, indicating that a central goal of the APA is to apply psychological science and knowledge toward benefiting society and improving lives. Indeed, Psi Chi has dedicated a large amount of its resources toward supporting problem solving by, for example, funding psychological research that examines several key issues currently facing society (e.g., group inequality, discrimination). In short, the application of psychological knowledge and expertise toward addressing the major problems facing humanity is not a small part of our enterprise, but rather a definitive aspect of the field in general.

Notably, psychology has been remarkably successful at addressing many real-world problems in many different domains. Our work has produced positive outcomes in a diversity of areas including those related to the treatment of mental illness, education, the legal system, work environments, and health care, among others. The broad applicability of psychology to many different areas is a result of the nature of our field. We are able to address many different problems because our field is itself diverse, with numerous areas of emphasis. This diversity is increased when considering the subfields of psychology that have emerged as a result of integration with other disciplines (e.g., health psychology, engineering psychology, sport psychology). Given the multiple domains within which psychology has played a role, our field, through its focus on problem solving, has made significant contributions to the betterment of society.

Despite this positive track record, our work is conspicuously absent in one key area, and it is perhaps time for us to turn in earnest to solving one of the (if not “the”) most significant challenges facing humanity at this point in history: the environmental crisis. At first glance, it may seem odd to suggest that psychology can make significant contributions toward addressing the environmental crisis, and one might assume that this should be left
to policy makers and the scientific disciplines most closely associated with studying environmental and climate change (e.g., climatologists, meteorologists, biologists). However, as detailed below, I argue that psychology is well-suited and uniquely positioned to address this particular problem. In fact, we psychologists might be some of the best people for the job.

**Hard Problems**

There are a lot of hard problems. Optimizing the U.S. health care system, reducing juvenile drug use, selecting appropriate immigration policies, and effectively treating degenerative diseases (e.g., Alzheimer’s disease) are all examples of hard problems. Hard problems, or what have at times been called “grand challenges” (Kazdin, 2009) or “wicked problems” (Horn & Weber, 2007), do not have easy solutions because these problems are often the result of multiple interdependent events or trends; frequently include numerous secondary embedded problems; impact many stakeholders who may have different perspectives on the problem; are defined differently depending on cultural, political, and value orientations; and are characterized by incomplete information regarding the causes, characteristics, and consequences of the problem. To make matters worse, the conditions that characterize hard problems are dynamic and ever-changing, making potentially effective strategies aimed at addressing these conditions time- and context-dependent. Because of the above, ultimate and complete solutions to hard problems are unlikely.

Addressing the environmental crisis is a hard problem. The events and conditions that led us to this point are multiple and interdependent (e.g., population growth, industrialization). There are a multitude of subproblems associated with the environmental crisis, some of which are themselves hard (e.g., rising sea levels, drought, habitat loss). The environmental crisis impacts all people (in the world...), but these impacts and our understanding of these impacts vary depending on location, nationality, socioeconomic status, and so on. And, the environmental crisis is not a static state of affairs but instead a constantly changing global phenomenon. Consider a key characteristic of the environmental crisis: climate change...it’s right there in the name...change. Finally, we are unlikely to fully “solve” the environmental crisis because many the crisis-related events that have transpired cannot be reversed or undone, and many of the outcomes of the environmental crisis have yet to emerge and cannot be anticipated. Effective strategies for addressing the environmental crisis will thus need to be numerous, diverse, broadly applicable at times but specific at others, subject to evaluation and amenable to change, and focused on mitigation (i.e., damage control) as well as adaptation.

**Psychology: Hard Problem Solver**

Psychology is well-suited and uniquely positioned to address hard problems such as the environmental crisis. Although, as noted above, a complete solution to the environmental crisis is not possible, we as psychologists have much to contribute toward improving both current and future states of affairs. To illustrate this point, let’s focus narrowly on the embedded issue of climate change. The vast majority of experts agree that human activity, particularly over the last 100 years, has contributed substantially to the warming of the planet (see Intergovernmental Panel on Climate Change, 2018). In other words, climate change was/is caused, at least in part, by human behavior. Given this, we can and perhaps should reframe our understanding of climate change. Climate change does not reflect a problem of the environment but rather a problem of behavior. More specifically, climate change is the result of a long-term and maladaptive pattern of human behavior. Importantly, psychology is the central discipline tasked with describing, understanding, predicting, and addressing maladaptive patterns of behavior. When thought of this way, psychology is not only one of the disciplines that should contribute to addressing climate change, we should take the lead.

But, climate change is itself a hard problem, and the complexity of addressing this problem goes beyond just individual behavior. Within the sticky issue of climate change, one has to take into account the many domains in which climate change operates and levels of analysis at which climate change is to be understood. The issue has to be addressed at multiple levels and from multiple perspectives. Here too is reason for psychology to be a key figure in solving the problem. As noted above, psychology is diverse, interdisciplinary, and applicable in many domains. We study multiple aspects of human behavior (e.g., decision-making, problem-solving, intergroup relations) in multiple contexts (e.g., home, work, school), in multiple domains (e.g., health, education), and at several levels of analysis (e.g., intrapersonal, individual, group, population). Who can address how to encourage
environmentally responsible decision-making? What field has the expertise to assess the effectiveness of environmental education on middle-school students’ knowledge of climate change? Who can figure out which incentives are most effective at encouraging sustainability-oriented behavior? Which discipline is well-positioned to investigate how differences in values, beliefs, and goals might impact understanding of environmental issues? Is there someone out there who can tell me how prejudices, discrimination, and intergroup dynamics might impact (and be impacted by) group-level responses to the inequities that will emerge as a result of climate change-related resource scarcity? Yes, there is. That person is a psychologist.

The Roles and Responsibilities of Psychology

Critically, psychology is not the only field that can contribute effective solutions toward addressing the environmental crisis. Many other, if not all, disciplines can play a role. But, given the nature of psychology, its strengths, its applicability, the ease with which we integrate with other disciplines, and the nature of the problem itself, our absence among those leading the charge to address what is perhaps the hardest problem facing humanity right now is an oversight at best and, if we continue in this fashion, an abdication of responsibility at worst.

There have been numerous calls for psychology to take on a more central role in addressing the environmental crisis and combatting climate change (e.g., Clayton et al., 2016; Kazdin, 2009; Oskamp, 2000), and we have made great strides. There now exists several subfields within psychology that directly address environmental issues (e.g., conservation psychology, ecopsychology, environmental psychology), several environmentally oriented professional organizations within psychology (e.g., the Society for Environmental, Population, and Conservation Psychology), and publications dedicated to the communication of research in this area (e.g., Ecopsychology). But, given the significance of this particular problem, psychology can and should continue to develop in this area. And, there is much opportunity for those interested in developing it.

Many relevant research topics are unexplored, and many questions are yet to be answered. Many opportunities for collaboration both within and outside of psychology are possible. It should also be noted that federal research dollars are currently being focused toward projects that have real-world significance, and environmental research has clear practical applications.

Through rigorous scientific research and dedicated application, the field of psychology is capable of improving human welfare and transforming society for the better. Indeed, to this end, much progress has been made. But, many challenges still exist, many hard problems are yet to be solved, and much work is still to be done. Collectively, psychologists and our colleagues in related disciplines are powerful enough to guide the direction of humanity, but with this power comes responsibility. We need to fully accept this responsibility and tackle the most significant problems. By doing so, our work can benefit not only individual people and society, but also the larger world to which we belong.

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