Industrial and Organizational Psychology
PERSPECTIVES ON SCIENCE AND PRACTICE

Including Science Advocacy in Industrial–Organizational Curriculum

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The focal article by Byrne et al. (2014) carries the important message for industrial–organizational (I–O) psychologists to broaden their consideration of the competencies that can and should be gained through I–O education. A particularly

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poignant observation is that, ''I–O psychologists are usually not taught how to sell their value added, market their knowledge and skills, and in general, convey the value of what they bring to the table in business terms'' (p. 8). This resonates with the efforts of SIOP Presidents Adrienne Colella, Doug Reynolds, and Tammy Allen to clarify and extend the impact and influence of our discipline. Building on these ideas, we—the Scientific Affairs Committee of SIOP—assert that training in science advocacy will substantially enhance the value and ultimate impact of an I–O degree.

What Is Science Advocacy?

Science advocacy is broadly defined as activities designed to increase a given discipline's recognition and reputation among those external stakeholders who are most likely to support it, use it, and benefit from it. Science advocacy requires active engagement with the public, decision makers, and policymakers; explaining what we do, what we know, and why it has value. Science advocacy includes (but is not limited to) (a) influencing public policy through lobbying and outreach, (b) serving as an expert witness, (c) testifying in front of Congress, (d) influencing organizational practice by advocating within organizations for evidence-based solutions, (e) translating scientific findings into trade publications or similar outlets, (f) interacting with the media, (g) obtaining or reviewing grants, (h) educating lay audiences about what I–O is and how it can be used to inform potential solutions to contemporary issues, and (i) educating students, many of whom will work in nonacademic positions and can influence organizations about science advocacy issues.

Why Does I–O Psychology Need Science Advocacy?

Those who have training in I–O psychology understand the value of the scientific method. However, many key decision makers in organizations have motivations that conflict with sound scientific practices. For example, despite trends toward the use of ''big data,'' many organizations fail to manage human resources data in a way that can be used to readily conduct rigorous research. Some organizations gather extremely limited data on employees, such as current salary and EEOC-required information. Others collect an abundance of data but cannot link data from different sources to specific employees or work units, preventing any attempt at rigorous scientific research. This latter phenomenon may be a catch-22: Organizations may not have reaped the value of a scientific approach to data that would motivate them to manage organizational data more appropriately, and yet managing such data appropriately is exactly what allows for scientific study. Certainly, creating and managing the types of datasets that lend to scientific research can require large amounts of time and resources. In addition, organizational decision makers might be concerned that linking employees' survey responses to other data sources may make employees uncomfortable, if not unresponsive to surveys. Given these barriers, science advocacy is needed to convince organizations that the benefits of rigorous scientific methods outweigh the potential costs associated with intensive data management.

In addition to barriers that may prevent organizations from gathering and managing their data, there are also a number of barriers that may prevent organizations from using the scientific literature to inform their practices. The business world operates at a faster pace than the academic world, and organizations may thus feel pressure to implement new practices quickly. Moreover, there can be pressure to jump on the bandwagon by implementing trendy practices to keep up with competitors, without doing due diligence regarding their effectiveness. Thus, advocacy is needed to educate organizational decision makers regarding the value of taking the time to understand the scientific literature before implementing new policies and practices.

Science advocacy targeting government agencies and policymakers is also important in influencing funding opportunities and I–O-related policies. In terms of funding, effectively communicating the rigor and value of our research is essential to securing external resources. Broader advocacy-related activities may allow I–Os to play a role in shaping decisions regarding investments in funding and agency research agendas rather than simply reacting to them. This could help ensure continued visibility and funding of important I–O-relevant issues.

Science advocacy relevant to public policy issues is crucial to educating decision makers on the value and implications of I–O research for government initiatives. These activities ensure I–Os have a voice in relevant policy issues. For example, the Department of Defense's Veteran's Workforce Investment Program provided $11.53 million in grants to help veterans with job skills training and development (http://www.defense.gov/News/NewsArticle.aspx?ID=117582), and I–O psychology should have been at the table of these discussions. Given the need for science advocacy within both organizations and government, it is critical to ensure that the next generation of I–O psychologists—our students—are equipped with the skills necessary to be strong advocates for science.

Why Should We Teach Our Students Advocacy for I–O Psychology?

Teaching graduate students about science advocacy is not only beneficial to organizational science and practice as a whole; it also provides valuable knowledge and skills that our students can take with them after they receive their degree. To communicate research to business clients, apply for grants, and connect with researchers and managers in other fields who may need our expertise, I–O psychologists need to communicate the value of their work and of the discipline more generally. Even when these audiences are highly educated professionals, they may find the technical language of our discipline inaccessible and off putting. Communicating technical ideas without using technical jargon is an important skill to teach in graduate school.

Table 1 lists some of the knowledge, skills, and abilities (KSAs) that students might gain through increased training in science advocacy. Thematically, training in science advocacy teaches students to communicate research findings more effectively to a broad range of potential stakeholders. Further, training in science advocacy helps students appreciate the value of leveraging media outlets to disseminate research findings to these consumers, and in turn, to identify and evaluate relevant news events that might be informed by our science.

Table 1. *KSAs Affected by Training in Science Advocacy*

• Ability to communicate complex information to a broad audience.	• Ability to leverage media agencies to raise awareness of research findings.
• Ability to identify and evaluate scientific findings with meaningful policy or practical implications.	• Ability to identify I–O relevant events in the news that could be informed by our current science or present potential research opportunities.
• Knowledge of the grant-writing process for securing funding from professional and government organizations.	• Ability to demonstrate the value of I–O practices to clients, employers, university administrators, other researchers, and practitioners.
• Effectiveness in informing legislators and agencies about current policy and legal issues relevant to I–O psychology.	• Effectiveness in teaching students to value the application of I–O practices in business and other careers.

The proficiencies available through training in science advocacy illustrated in Table 1 demonstrate the value of—and competitive advantage afforded by—advocacy training in our graduate programs.

How Can We Teach Our Students Advocacy?

There are many strategies that I–O psychologists can use to increase student awareness about the importance of science advocacy and teach specific science advocacy skills. Much of our potential influence on students occurs through role modeling science advocacy. It's not enough for us to engage in science advocacy activities ourselves; it is essential that we share our experiences with students, provide them opportunities to engage in science advocacy, and encourage them to get involved themselves. Classroom projects that enable students to connect with others in the community are one tool available for building science advocacy skills. I–O psychology content naturally lends itself to such a pedagogical strategy, and service-learning projects readily can be included in both undergraduate and graduate courses. Service learning can also be incorporated outside of the classroom. For example, doctoral students at the University of Georgia developed a job search and coaching program aimed toward helping at-risk youth develop resumé-building and job-interviewing skills. As another example, several of the authors are involved in the Voluntary Assessment Program (VPA) founded at the University of North Carolina, Charlotte (http://vpa.uncc.edu). VPA provides free consulting services to nonprofit organizations intended to promote nonprofit organizational effectiveness through a validated volunteer attitudes and engagement survey. Programs and activities such as these serve the dual purpose of developing science-based consulting skills advocated by Byrne et al. while also raising awareness within the community of the kinds of services I–Os can provide.

Students may also develop the skills needed to communicate research and science-based practice by working with faculty on consulting projects, giving talks at local meetings such as the Society for Human Resource Management (SHRM) and leveraging internships as an opportunity to share with the business community the evidence-based foundation of applied I–O work. In addition, I–O seminars can and should include discussions of policy-related implications when applicable and include assignments such as writing one-page policy briefs.

Working with faculty on extramurally funded grants can also develop students' science advocacy skills. Exposing students to grant writing and the operation of small to large scale funded projects is an excellent way to help them hone skills associated with communicating to diverse audiences, collaborating on interdisciplinary teams, and thinking about societal problems that I–O psychologists can have a hand in solving. Grant-funded research often requires a dissemination plan, which is an excellent way for students to gain exposure to, and experience with, presenting research findings to practitioner and policy-related audiences. Many universities also offer grant-writing workshops that students can be encouraged to attend. Likewise, faculty who have extramural grants can offer brown bags to discuss the grant funding process and offer tips on preparing successful applications. Encouraging students to apply for funding through venues such as the American Psychological Association or the National Institute of Health is yet another strategy to teach science advocacy. SIOP maintains a link to grant resources (http://www.siop.org/grants.aspx) that can be used to identify potential funding agencies.

In terms of connecting students more broadly with those outside the I–O community, we can involve students in discussions with the media regarding collaborative research. A more proactive strategy is for faculty to contact their university media relations office and alert staff writers to relevant, timely student research. Finally, students can make a difference at the state

and national level by forwarding legislative alerts to their peers and encouraging others to get involved in local and state political activities that support science advocacy.

We are suggesting that advocacy be incorporated routinely into students' (and their mentors') work roles. This does not necessarily require macrolevel shifts in curriculum but may instead require more microlevel behavioral changes. These changes result in tradeoffs for individuals to consider; the time I–O professionals spend lobbying or interacting with the media yields less time for their core job productivity requirements (e.g., published articles, billable hours). Similarly, the time graduate students devote to service learning, grant writing, or consulting is time that they are not spending on scholarly research. Time allocation decisions might be made strategically—for example, it may be senior students and professionals who engage in the time-intensive advocacy activities while junior colleagues are encouraged to engage in opportunities that require less of a time investment. Ultimately, we believe that most tradeoffs will be outweighed by the benefits (albeit long-term) of science advocacy.

Conclusion

I–O psychologists have an opportunity to engage with the public, policy architects, and decision makers about our science. To do so effectively, however, we must be equipped with critical competencies that are not explicitly part of either I–O curriculum or the enhancements described by Byrne and colleagues. The degree that we as individuals can influence the world around us, the impact of our field as a whole, and perhaps even the survival of our discipline depends ever more on our effectiveness in advocacy.

Reference

Byrne, Z. S., Hayes, T. L., McPhail, S. M., Hakel, M. D., Cortina, J. M., & McHenry, J. J. (2014). Educating industrial–organizational psychologists for science and practice: Where do we go from here? *Industrial and Organizational Psychology: Perspectives of Science and Practice, 7*(1), 2–14.