

COMMENTARY

Open systems, closed interventions? A way forward requires systems thinking

Shanique G. Brown^{1*} and Julaine M. Fowlin²

¹Wayne State University and ²Vanderbilt University

*Corresponding author. Email: shanique.brown@wayne.edu

“Business and human endeavors are systems . . . we tend to focus on snapshots of isolated parts of the system, and wonder why our deepest problems never seem to get solved.”

—Peter Senge

Watts et al. (2021) underscore the need to attend to the side effects of organizational interventions and offer several strategies to change how we think, study, and monitor side effects. Notably, the authors also remark that their invitation for attention to the unintended consequences of organizational interventions is nearly a century old. So, what seems to be the issue? We argue that organizational interventions have predominantly been studied, designed, and implemented using a myopic view. Academics and practitioners acknowledge that organizations are open systems with ongoing inputs, throughputs, and output; complex cycles of events; and self-regulating mechanisms to achieve equilibrium (Katz & Kahn, 1966). Yet, our approach to interventions often ignores this reality. To effectively reduce side effects and other unintended consequences, industrial-organizational (I-O) psychologists need to be more intentional about applying a balanced and holistic approach to research and applied work. We acknowledge that this may call for expertise outside the scope of I-O psychology, but designing interventions with an awareness of related systems can make a difference. Below, we offer a few suggestions that will support a more holistic design and implementation of organizational interventions with the system in mind.

Recommendation 1: Acknowledge and give equal weight to our criteria of interest

For I-O psychologists, the stated mission involves two overarching criteria of interest: (a) well-being and (b) performance. Yet, we would argue that improving performance receives significantly more attention than well-being in both our research and applied intervention work. Our scientific-practitioner model, the framework on which our efforts are based, remains deficient—giving less attention to the interests of individuals and the greater good—and contaminated by being consumed with economic business goals (Lefkowitz, 2008). What if scientific management had equally prioritized efforts to improve both efficiency and well-being? The chances are that the noted side effects would have been nonexistent or significantly less frequent. A more balanced approach that prioritizes both criteria of interest (i.e., improvements in performance *and* well-being) is likely to circumvent many unwanted side effects while supporting more humanistic and high-performing organizations.

Adopting a humanistic value orientation in the existing scientist-practitioner model of I-O psychology is one approach to supporting more equal weighting of our criteria of interest. A scientific-practitioner–humanist model to I-O psychology would advance research and applied

work that create and use knowledge to improve effectiveness while simultaneously assuring that organizations are safe, just, and healthy places for people to work (Lefkowitz, 2013). Therefore, any anticipated side effects that interfere with performance or well-being would be proactively addressed.

Recommendation 2: Pay closer attention to the entire system

Open systems have an interconnected relationship with both their internal and external environments. Input is received from and output is transferred to the external environment. The internal environment works to convert the input from the external environment to output and regulate to maintain homeostasis, among other functions (Katz & Kahn, 1966). Consequently, it is imperative to attend to the characteristics of both the external and internal environment when designing, implementing, and evaluating organizational interventions. Such attention could support both the understanding of side effects and guide proactive strategies to prevent or limit the occurrence of side effects. The call to attend to context in organizational research is certainly not new (see Johns, 2006). Researchers have often tended to control the effect of context when trying to understand organizational phenomena. A similar mindset is bound to result in unwanted side effects for practitioners. Practitioners are encouraged to integrate context into the design of organizational interventions to address the local environment more thoughtfully and holistically.

Models integrating context into the design of organizational interventions can be adapted from researchers and practitioners across disciplines (e.g., Bell et al., 2018; Sedlacko et al., 2014). For example, participatory systems mapping (PSM) is one tool that can be used to provide more holistic insights and enable knowledge exchange about problematic issues to inform the design of organizational interventions. PSM involves the identification of causal and outcome variables, guiding questions to inform the direction and define boundaries, and the production of comprehensive system maps, and it has been successfully used in several domains including sustainable development (Sedlacko et al., 2014).

Recommendation 3: Engage in more interdisciplinary and transdisciplinary collaborative work

There is no doubt that I-O psychologists are exceptionally skilled in an array of domains that are relevant to organizations. However, the truth is that the work of organizational interventions can be further enhanced by the talents of professionals in other disciplines. Our colleagues from other disciplines are well equipped to advance our intervention efforts, including colleagues in other subspecialty of psychology, organizational communication, instructional design and technology, marketing, engineering, or information technology—the possibilities are endless. Moreover, organizational challenges are often complex, as are all open systems, and require diverse expertise for effective interventions. The most effective interventions will call for systematic integration of data, concepts, and methods from multiple disciplines, producing solutions that are not specific to a single discipline or that create an overarching synthesis (Klein, 2010). This builds on the fact that by paying attention to the whole system, I-O psychologists will see how others can partner to achieve optimized outcomes and minimize unintended consequences. Organizational interventions should be cocreated by diverse stakeholders by integrating conceptual, relational, and action-driven knowledge (Senge et al., 2007). The value of interdisciplinary or transdisciplinary synthesis, when designing or implementing organizational interventions, will be even more apparent when recommendations 1 and 2 are applied—when we intervene to cater to the needs of both the organization and its employees and consider the features of the internal and external context or environment. There are many established and emerging tools available to support cross-disciplinary work.

Examples of tools to support interdisciplinary and transdisciplinary collaborative work include the toolbox dialogue approach, emancipatory boundary critique, and the Delphi method. These and other tools, as well as community support for integrative work, are available through several professional communities, including Intereach and International Network for the Science of Team Science.

Recommendation 4: Promote learning organizations

Finally, and perhaps most importantly, organizational interventions should be built on the premise of promoting a learning approach within target organizations. A learning organization is one that promotes the continuous expansion of employees' capacity to create desirable results and expansive patterns of thinking and where people are continuously learning together. A learning organization is most suitable for organizational development as knowledge constantly flows from individuals to the collective good of all. As Senge puts it "Organizations learn only through individuals who learn" (Senge, 1990, p. 139). Unintended consequences, including unwanted side effects, can be ameliorated or prevented in organizations that are committed to continuous learning. Central to these learning organizations are systematic problem solving, experimentation, learning from past experiences and the experience of others, and efficient knowledge transfer (Garvin, 1993). Consequently, side effects will be adequately addressed in learning organizations. It is vital for I-O psychologists to discuss the sustainability of interventions with key organizational stakeholders. Having conversations about creating a culture of organizational learning can help organizations think about the policies, climate, and systems that facilitate knowledge creation, sharing, and preservation.

Conclusion

Our intention in this commentary is not to imply that systems thinking can be achieved easily. In fact, taking a systems approach to organizational interventions will require deep work and go well beyond the recommendations offered above. However, we believe it is critical that we keep in mind that the problems we seek to address do not exist in isolation. A test of intelligence for personnel selection, or any other organizational intervention, designed and implemented without consideration given to the mission of I-O psychology (the full range of it), the realities of the entire system (including the social and political environments), lessons from other disciplines, and a focus on learning will continue to result in unwanted side effects. Chances are we will never be able to completely erase the possibility of side effects, but we should do all we can to reduce their likelihood—and that involves, first, acknowledging that organizations do not exist in a vacuum.

References

- Bell, S. T., Fisher, D. M., Brown, S. G., & Mann, K. E. (2018). An approach for conducting actionable research with extreme teams. *Journal of Management*, *44*(7), 2740–2765.
- Garvin, D. (1993). Building a learning organization. *Harvard Business Review*, July/August. <https://hbr.org/1993/07/building-a-learning-organization>
- Johns, G. (2006). The essential impact of context on organizational behavior. *Academy of Management Review*, *31*(2), 386–408.
- Katz, D., & R. L. Kahn (1966). *The social psychology of organizations*. Wiley.
- Klein, J. T. (2010). The taxonomy of interdisciplinarity. In R. Frodeman, J. T. Klein, & C. Mitcham (Eds.), *Oxford handbook of interdisciplinarity* (pp. 15–30). Oxford University Press.
- Lefkowitz, J. (2008). To prosper, organizational psychology should expand the values of organizational psychology to match the quality of its ethics. *Journal of Organizational Behavior*, *29*(4), 439–453.
- Lefkowitz, J. (2013). Values and ethics of a changing I-O psychology: A call to (further) action. In J. Olson-Buchanan, L. K. Bryan, & L. F. Thompson (Eds.), *Using industrial-organizational psychology for the greater good: Helping those who help others* (pp. 13–42). Routledge.

- Sedlacko, M., Martinuzzi, A., Röpke, I., Videira, N., & Antunes, P.** (2014). Participatory systems mapping for sustainable consumption: Discussion of a method promoting systemic insights. *Ecological Economics*, **106**, 33–43.
- Senge, P.** (1990). *The fifth discipline*. CenturyBusiness.
- Senge, P. M., Lichtenstein, B. B., Kaeufer, K., Bradbury, H., & Carroll, J. S.** (2007). Collaborating for systemic change. *MIT Sloan Management Review*, **48**(2), 44–53.
- Watts, L., Gray, B., & Medeiros, K.** (2021). Side effects associated with organizational interventions: A perspective. *Industrial and Organizational Psychology: Perspectives on Science and Practice*, **15**(1), 76–94.