

Sobre a necessidade de mais equilíbrio entre validade interna e ecológica na pesquisa em psicologia aplicada.

On the need for more balance between internal and ecological validity in applied psychology research.

sobre la necesidad de más equilibrio entre validez interna y ecológica en la investigación en psicología aplicada.

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Resumo

Pesquisadores em psicologia jurídica conduziram uma abundância de estudos de laboratório rigidamente controlados e artificiais para maximizar a validade interna. No entanto, dada a compensação entre validade interna e validade ecológica, frequentemente a pesquisa apresenta baixa validade ecológica, desencorajando os profissionais de adotarem as descobertas científicas. Sugerimos que os pesquisadores abordem o desequilíbrio na pesquisa publicada conduzindo estudos futuros com maior validade ecológica. Um maior equilíbrio entre validade interna e ecológica permitiria que os tomadores de decisão tirassem conclusões a partir de uma combinação de estudos que, juntos, tenham alta validade interna e alta validade ecológica. Oferecemos três recomendações metodológicas para aumentar a validade ecológica: utilizar medidas dependentes mais úteis para tarefas do mundo real, incorporar mais pessoal do uso do mundo real (por exemplo, policiais) em tarefas experimentais e conduzir mais pesquisas de campo. Também sugerimos incluir mais profissionais dentro das equipes de pesquisa para projetar estudos e transmitir as descobertas aos profissionais do mundo real.

Palavras-chave: Psicologia Forense; Psicologia Aplicada; Metodologia.

Abstract

Researchers in legal psychology have conducted an abundance of tightly controlled, artificial laboratory studies in order to maximize internal validity. However, given the tradeoff between internal validity and ecological validity, the research often has low ecological validity, which discourages practitioners from adopting the scientific findings. We suggest that researchers address the imbalance in the published research by conducting future studies that have greater ecological validity. A greater balance between internal and ecological validity would allow decision makers to draw conclusions from an amalgamation of studies that, combined, have high internal validity and high ecological validity. We offer three methodological recommendations to increase ecological validity: Using dependent measures that have more utility for real-world tasks, incorporating more personnel from real-world usage (e.g., police) in experimental tasks, and conducting more field research. We also suggest including more practitioners within research teams to design studies and to convey the findings to real-world practitioners.

Keywords: Forensic Psychology; Applied Psychology; Methodology.

Resumen

Los investigadores en psicología legal han llevado a cabo una abundancia de estudios de laboratorio artificialmente controlados para maximizar la validez interna. Sin embargo, dada la compensación entre la validez interna y la validez ecológica, la investigación a menudo tiene baja validez ecológica, lo que desalienta a los profesionales de adoptar los hallazgos científicos. Sugerimos que los investigadores aborden el desequilibrio en la investigación publicada realizando futuros estudios con mayor validez ecológica. Un mayor equilibrio entre la validez interna y la ecológica permitiría a los tomadores de decisiones obtener conclusiones a partir de una amalgama de estudios que, en conjunto, tengan alta validez interna y alta validez ecológica. Ofrecemos tres recomendaciones metodológicas para aumentar la validez ecológica: utilizar medidas dependientes más útiles para tareas del mundo real, incorporar más personal del uso del mundo real (por ejemplo, policías) en tareas experimentales y llevar a cabo más investigaciones de campo. También sugerimos incluir a más profesionales dentro de los equipos de investigación para diseñar estudios y transmitir los hallazgos a los profesionales del mundo real.

Palabras clave: Psicología Forense; Psicología Aplicada; Metodología.

The field of legal psychology has been dominated by researchers conducting simulation studies in the laboratory so as to exert proper experimental control in order to maximize internal validity, the ability to isolate the causal factors of a phenomenon and to rule out other possible contributing factors (Campbell & Stanley, 1963). Conducting such controlled studies, however, often comes at the expense of reduced ecological validity, the ability to extend the research findings to real-world contexts. As a consequence of the low ecological validity, several research findings are not adopted by practitioners, who are, not surprising, attentive to the real-world application of the research.

An alternative approach, often taken by practitioners, is to rely on real-world observations and to generalize the findings from one situation to another. That approach is limited by the difficulty to isolate the causal factors of a phenomenon, given that real-world situations often contain many uncontrolled factors several of which are correlated with one another, i.e., low internal validity (Campbell & Stanley, 1963).

Although there is no logical necessity for internal and ecological validity to be related, there is usually a trade-off between the two, so that an increase in one entails a decrease in the other (Campbell, 1957; Markman, 2018; Shadish et al., 2002). For instance, the need to establish tight experimental control to avoid confounding across variables (high internal validity) often requires creating artificial conditions in the laboratory that never occur in the real world. However, it is precisely that difference between experimental artifice and reality that militates against generalizing experimental results to real-world settings (low ecological validity).

Each of the two approaches, controlled, artificial laboratory studies and naturalistic observation, has its own built-in limitations: Low ecological validity in artificial laboratory studies and low internal validity in naturalistic observation. As a result, it is unlikely that any one study will attain the goal of having both high ecological validity and high internal validity. The more likely outcome is that the desired combination of high internal validity and high ecological validity will emerge from a large and

balanced collection of studies, some designed to maximize internal validity and some designed to maximize ecological validity (Garner, Hake, & Eriksen, 1956). Were such a pattern of studies to exist, and the results converged on a common solution, theoretical researchers would be more confident that their findings will generalize to the field, and practitioners would be more likely to adopt the findings for real-world settings.

Our reading of the major journals that apply psychology to the law (e.g., *Journal of Applied Research in Memory and Cognition*; *Applied Cognitive Psychology*, *Law & Human Behavior*, *Journal of Experimental Psychology: Applied*) shows an imbalance in research goals, with many more studies designed to maximize internal validity—at the expense of low ecological validity—than to maximize ecological validity—at the expense of low internal validity. We suggest a rebalancing of the research by conducting and publishing more research that gives greater weight to increasing ecological validity.

Increasing Ecological Validity

We describe three methods to increase ecological validity in psychology research. Because of space limitations, we describe only three methods. We encourage the reader to think of other methods that might be employed to increase ecological validity.

Utility as a dependent measure

Traditionally, researchers count responses, e.g., the number of details recalled by an experimental eyewitness. However, not all witness-reported details are equally useful for police to solve a crime. For example, learning the name of the perpetrator is generally more useful than learning that the perpetrator wore a blue shirt. Rather than measuring only the number of details an experimental participant reports, the most commonly reported dependent variable, researchers should also assess the utility of the eyewitness's report, as evaluated by an expert (see, e.g., Ashkenazi & Fisher, 2022). Such a utility measure better assesses the ultimate goal of the investigation.

Incorporating ultimate users within the research.

Many laboratory experiments are conducted with graduate or undergraduate students as the key personnel, either as the decision-makers (e.g., deception studies, eyewitness studies, jury decision-making studies) or as the implementers of a technique (e.g., interviewing witnesses). The obvious concern is whether the results found with students will apply to “real-world” personnel, who may differ from students on many properties: age, socioeconomic status, verbal skills, etc. Conducting research on people who more closely resemble the “ultimate users” would reduce the often-heard practitioners’ complaint: “But how do we know the results will hold for non-students, the people we see all the time?”

Relying on field research.

We can overcome the artificial nature of much laboratory research by relying more heavily on field research, which includes, among others, conducting field experiments, and analyzing archival data from real-world events (e.g., criminal or national security investigations, e.g., Ashkenazi & Fisher, 2023). Field experiments, where people (or legal cases, or other elements) are assigned randomly to the various experimental conditions, have the advantage over analyzing archival data in that random assignment controls for individual differences. But it does not control for other naturally occurring variables that may be confounded with the variables of interest. By extension, analyzing archival data suffers from even more threats to internal validity, because of the many uncontrolled variables, but it gains in ecological validity.

Incorporating practitioners in the research.

An alternative approach to increasing ecological validity—and the likelihood that the research will be used in real-world settings—is to include more practitioners in the research teams. Currently, research teams are populated almost exclusively by theoreticians. Including real-world practitioners (e.g., police, attorneys, judges) in the research team would, of necessity,

provide greater insights into the ecological shortcomings of the proposed research. Practitioners might suggest that the proposed research would certainly increase efficiency, however, it cannot be implemented because it is legally unacceptable, or it requires more resources than the real-world system possesses. Rather than conduct the study as originally proposed, it would be more acceptable if various modifications were made that take into account real-world constraints. Practitioners might also suggest real-world problems that are amenable to implementation, but which theoretical researchers would not think about on their own.

Including practitioners should also make more available to the research teams the resources of real-world systems that researchers currently have limited access to, e.g., the courts; local, state, and federal police; national security, financial systems, the military, etc. Working within these institutions will also increase access to events that are restricted because of ethical constraints, e.g., horrific crimes, or logistic constraints (e.g., long-duration events that transpire over many years).

As a final note, including practitioners on the research team as co-architects of the research will also increase the likelihood that real-world decision makers—institutional leaders who influence policy—will incorporate the scientific research into practice. Research-team members who are practitioners will have easier and more direct access to real-world decision makers, and hence more opportunities to convey the research message. Furthermore, they will be better able to communicate the research findings, because they “speak the language” of real-world practitioners. Finally, real-world decision makers will have more trust in the research studies if they were conducted by a team that contained “one of their own” than by only academic researchers. All of these factors will make the research more likely to be implemented by real-world institutions, which, after all, is one of the goals of conducting applied research. For an excellent example of research teams made up of theorists and practitioners, see Oleszkiewicz et al. (2023).

In sum, there are many opportunities to increase the ecological validity of applied psychological research to increase the likelihood that practitioners will incorporate the scientific research into real-world practice. None of the suggested techniques is a panacea, as each suggestion brings with it some counter-arguments. Hence, we recommend a multi-pronged approach of (a) conducting many different forms of research and to look for converging patterns of results across research forms, and (b) to increase communication between theoretical researchers and real-world practitioners.

Conclusion

In sum, there are many opportunities to increase the ecological validity of applied psychological research to increase the likelihood that practitioners will incorporate the scientific research into real-world practice. None of the suggested techniques is a panacea, as each suggestion brings with it some counter-arguments. Hence, we recommend a multi-pronged approach of (a) conducting many different forms of research and to look for converging patterns of results across research forms, and (b) to increase communication between theoretical researchers and real-world practitioners.

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