

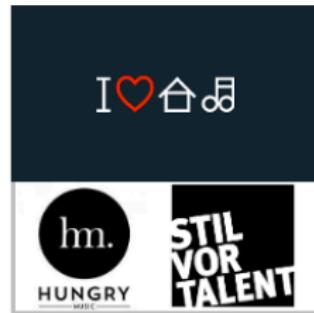
## Class 1 - Research I: Principles

# Agenda

- Introductions (45 minutes)
  - Getting to know each other
  - Syllabus and materials overview
  - Typical class flow
- Break (5 minutes)
- Readings for today (70 minutes)

# Introductions

# A little about me



# A little about me



## A little about me



## A little about you

Please remember to fill out your introductory Qualtrics survey so that I can learn a bit about you and your goals for the class!

Today, let's level set on your familiarity with some key ideas:  
[Pollev.com/drfox](https://pollev.com/drfox)

# Syllabus and materials overview

- Syllabus
- Brightspace
- Dropbox

# Typical class flow

- *Part I:* Conceptual grounding and agenda setting (10 minutes)
- *Part II:* Core paper discussion (50 minutes):
  - We will discuss the 2-3 papers that all students have been assigned to read in detail
  - These papers typically will provide a mix of conceptual background and how-to guides
- *Break* (5 minutes)

# Typical class flow

- *Part III: Activity period (35 minutes):*
  - (Weeks 2 – 7) Compare / contrast: One group tasked with reviewing two additional papers to explain their points of intersection, divergence, and ties to core papers
  - (Weeks 8 – 14) Replication: One group tasked with using data from one of my current or published papers to replicate analyses and show the class the process

## Typical class flow

- *Part IV:* Summative lecture on concepts (15 minutes):
  - I will make a brief presentation to tie together and highlight key concepts
  - Elements missed in the general discussion will be given greater focus
- *Part V:* Open discussion (5 minutes)

## Readings for Today

## Preamble

I have provided some discussion questions for us to consider in case we need to get the ball rolling.

We may or may not discuss those questions depending on the flow of the class.

In general, I would rather talk about your ideas and questions rather than these “canned” items.

# Readings

- 1 Popper, K. R. (2002). *The Logic of Scientific Discovery*. Routledge. [Ch .1]
- 2 Mantere, S., & Ketokivi, M. 2013. Reasoning in Organization Science. *Academy of Management Review*, 38(1), 70-89.
- 3 Nosek, B. A. & Errington, T. M. 2020. What is replication? *PLOS Biology*: 1-8.
- 4 Rynes, S. L., & Bartunek, J. M. (2017). Evidence-Based Management: Foundations, Development, Controversies and Future. *Annual Review of Organizational Psychology and Organizational Behavior*, 4(1), 235-261.

# Popper (2002)

## The Logic of Scientific Discovery. [Ch .1]

*According to the view that will be put forward here, the method of critically testing theories, and selecting them according to the results of tests, always proceeds on the following lines. From a new idea, put up tentatively, and not yet justified in any way — an anticipation, a hypothesis, a theoretical system, or what you will—conclusions are drawn by means of logical deduction [...]*

*[Then,] there is the testing of the theory by way of empirical applications of the conclusions which can be derived from it. [p. 9]*

# Popper (2002)

## Discussion Questions

- In your view, what is the main point?
- Do this worldview currently inform your work? How might it?

Karl  
**Popper**

The Logic of Scientific  
Discovery



London and New York

# Mantere and Ketokivi (2013)

Reasoning in Organization Science. Academy of Management Review, 38(1), 70-89.

*Labels aside, a closer look at research practice reveals that researchers across research traditions use all three forms of reasoning. It is hardly surprising to observe that we all make inferences to a case (use deduction), inferences to generalizations (use induction), and inferences to explanations (use abduction). Thus, using reasoning types as labels to describe entire research designs is misleading. Instead, differences between research approaches, whatever they may be, are found not in the types of reasoning used but, rather, in how the three reasoning types are used in conjunction with one another. (p. 76)*

Mantere and Ketokivi (2013)

## Discussion Questions

- What mode(s) of reasoning do you tend to rely on in your current work?
  - What concrete practices did you draw from this paper, if any?

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2015, Vol. 39 No. 1, 70-88

REASONING IN ORGANIZATION SCIENCE

**SACU MAINTAINS**

ANSWER SECTION

如要訂閱  
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Rescripting requires organizing scientific methodology as logically bounded by the researcher's ability to approach particular scientificity. In a critical assessment of the use of extant theories rescripting (deconstruction, induction, abstraction) in epistemology research, we seek to replace this hermeneutic model with an alternative that incorporates a more metatheoretical view of the cognitive capacity of the researcher. So this article will construct a typology of descriptive, prescriptive, and normative criteria for the evaluation of organizational scientific reasoning practices. This typology addresses the epistemological validity of scientific reasoning practices. This typology also provides a framework to study the diversity of scientific reasoning practices. We conclude by suggesting how this typology can be used to evaluate the epistemological validity of scientific reasoning practices. We conclude by suggesting how this typology can be used to evaluate the epistemological validity of scientific reasoning practices.

The objective of scholarly reasoning is to tidy new knowledge in a scientific field or creation of expansionistic scientific knowledge more generally, has been approached through the lens of the hermeneutics of the discipline (McMahon & Styan, 2002) and the theoretical paradigm (Postlethwait, 1993) or construction of knowledge (Arieti, 1976; and see also, Kuhn, 1970; and see also, Chodory, 1999). Conspiratorial reasoning is an extant literature in a methodological approach to rhetorical, paradigmatic, or argumentative approaches to the problem of science. This piece is crucial because the general understanding of how scientists reason and form epistemological arguments is surprisingly limited (Lindström, 2003). The following section details deductive criteria for methodological rigour that encompasses the problem in that part one concerns typically do not incorporate deductive criteria for methodological rigour, whereas the rest of the paper seems to do so (see also, Shanks, 1999).

We thank three anonymous AMR reviewers for their helpful, critical, and constructive evaluations of the manuscript. We also are grateful to former editor Amy Herzer for her support and encouragement of our manuscript. We thank the anonymous article reviewers, whose thoughtful and helpful comments on our work on memory over the years have played a crucial role in the revision of the article.

# Nosek and Errington (2020)

What is replication? PLOS Biology: 1-8.

*To be a replication, 2 things must be true: outcomes consistent with a prior claim would increase confidence in the claim, and outcomes inconsistent with a prior claim would decrease confidence in the claim. The symmetry promotes replication as a mechanism for confronting prior claims with new evidence. Therefore, declaring that a study is a replication is a theoretical commitment. Replication provides the opportunity to test whether existing theories, hypotheses, or models are able to predict outcomes that have not yet been observed. (p. 2)*

# Nosek and Errington (2020)

## Discussion Questions

- Do you agree with their definition of replication?
- How does this fit in with the replication crisis?

PLOS BIOLOGY

### PERSPECTIVE What is replication?

Brian A. Nosek<sup>1,2,\*</sup>, Jennifer M. Errington<sup>2,3</sup>  
<sup>1</sup> Center for Open Science, Charlottesville, Virginia, United States of America, <sup>2</sup> University of Virginia,  
Charlottesville, Virginia, United States of America, <sup>3</sup> University of Virginia

\* [brian@osf.io](mailto:brian@osf.io)

† <https://doi.org/10.1371/journal.pbio.3000001>

**Abstract**  
Credibility of scientific claims is established with evidence for their replicability using new data. According to common understanding, replication is repeating a study's products and observing whether the same findings are obtained. This definition is intuitive, easy to apply, and consistent with the process of science. However, it is not always clear how to apply this definition to studies that do not report an exact replication of a prior study. This definition reduces emphasis on operational transparency and reproducibility, which are important for scientific validity and generalizability across contexts. The purpose of replication is to advance theory by confirming existing understanding while also identifying potential sources of error or bias. Replication is not just about confirming a finding; it is about improving our understanding of the underlying mechanism(s) that produce the finding. Successful replication provides evidence of generalizability across the conditions of the original study. Unsuccessful replication can provide evidence of the limits of the validity of the finding. In this Perspective, we argue that the concept of replication is best understood as a combination of current theoretical expectations (theory is important, needling operation is a confirmation of current theoretical expectations) and its importance, needling operation, and generalizability in scientific progress.



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Editor's Note: Brian A. Nosek and Jennifer M. Errington declare that the lead author is available for the media. No conflict exists for drugs or devices used in a study if they are not being evaluated as part of investigation. For a detailed description of the ICMJE conflict of interest guidelines, or for information about epidemiological studies and clinical trials, please see the Author Guidelines.

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**Findings:** We argue we currently lack a clear definition of what constitutes a successful replication.

**Introduction** Credibility of scientific claims is established with evidence for their replicability using new data. According to common understanding, replication is repeating a study's products and observing whether the same findings are obtained. This definition is intuitive, easy to apply, and consistent with the process of science.

**Results** We argue we currently lack a clear definition of what constitutes a successful replication.

**Conclusion** In this Perspective, we argue that the concept of replication is best understood as a combination of current theoretical expectations (theory is important, needling operation is a confirmation of current theoretical expectations) and its importance, needling operation, and generalizability in scientific progress.

PLOS Biology | <https://doi.org/10.1371/journal.pbio.3000001> November 12, 2019

1/8

# Rynes and Bartunek (2017)

## Evidence-Based Management: Foundations, Development, Controversies and Future.

*Management academics have long noted a large gap between academic research and managerial practice. [...] Some have viewed the causes of the gap as lying primarily with academic researchers, who are characterized (perhaps caricatured) as having become overspecialized, self-referential, obsessed with theory, excessively mathematical, jargonladen, unconcerned about practical problems, and dismissive of practitioners [...] Others have focused on practitioners, who are sometimes characterized or caricatured as research phobic, anti-intellectual, susceptible to unproven fads and fashions... (p. 236)*

# Rynes and Bartunek (2017)

## Discussion Questions

- Are you familiar with evidence-based practice from your current work?
- Where might you fit in helping to advance evidence-based management? How might you go about doing it?



Evidence-Based Management:  
Foundations, Development,  
Controversies and Future

Sara L. Rynes<sup>a</sup> and Jean M. Bartunek<sup>b</sup>  
<sup>a</sup>Darden College of Business, University of Texas, Austin, TX, USA;  
and <sup>b</sup>Harvard Business School, Harvard University, Boston College, Chestnut Hill, Massachusetts USA; and HarvardBusinessSchool.org

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### Keywords

evidence-based management, evidence-based practice, research-practice gap, academic-practitioner relationships, spousal issues

We review the recent development of evidence-based management (EBM), tracing its origins to longstanding gaps between research and practice, and the need to move beyond theory to practice. We introduce the term evidence-based management (EBM). We provide a definition of EBM and review four historical periods relevant to its use. We then review categories of article types associated with EBM, including empirical studies, conceptual frameworks, reading-related, empirical, normative, and critique and responses. Critiques related to EBM are also discussed. Finally, we review the future directions for EBM as well as broader concerns about the scholarly research base in management. We conclude by discussing the implications for the field, first and foremost, increasing the production of high-quality empirical studies in EBM. Topics of particular interest include research collaboration by scholars and practitioners, the use of EBM in teaching, the application of EBM, and practitioners' use of evidence in their working environments. We also highlight the need for more research on EBM that has generally been conducted in the organization sciences.

## Preparation for Next Class

## Next class

### Research II: Positions

- 1 Huff, A. S. (1999). Writing for Scholarly Publication. [Chs. 1, 3]
- 2 McGrath, Joseph E. (1981) Dilemmatics: The Study of Research Choices and Dilemmas, American Behavioral Scientist, 25, 2, 179-210.
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