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# NSF Project Report

## RR: Workshop on Promoting Robust and Reliable Research Practice in Science of Organizations

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2018-2019

# Accomplishments

## What are the major goals of the project?

The research community of Science of Organizations and other social, behavioral, and economic sciences face a number of challenges related to promoting robustness and reliability in our research. The workshop aims to address these challenges and offer an opportunity to discuss best practices regarding how to improve (1) reproducibility; (2) replicability; (3) generalizability; and (4) the rigor of peer review with an explicit focus on robustness and reliability. Each of the four aims for improvement has intellectual merits in theory development, methodology, as well as publishing and reviewing. The workshop will promote the awareness about and the standards of robust and reliable science. It serves educational purposes globally by allowing researchers at all locations to access the online video library that will be generated by this workshop. Participants will gain a deeper understanding about the best research practice and transmit the learning to their network. Results from this workshop can help develop insights into and awareness about issues related to robust and reliable research, and improve researcher abilities to conduct and publish robust and reliable science.

The major goals of the project is to promote and develop robust and reliable research practice in Science of Organizations and other social, behavioral, and economic sciences by focusing on three aspects of research activities. First, in theory development, the discussion aims to focus on good practices for achieving rigor, transparency and exactness; adding replication to the research trajectory; good practices for testing existing theories in new contexts; as well as examining the cause, practice, and consequence of irresponsible research practices. Second, in methodology, the discussion aims to address transparency concerning the data gathered, the design, the analysis methods, and the results; the collection of new data for a fair test of the original study; useful methodologies to uncover the conditions under which a theory may not be applicable; as well as registered trials. Finally, in publishing and reviewing, the discussion aims to address the debates about requiring data availability as a part of the peer review process; debunking studies and theories that failed to survive attempted refutations; as well as evaluating studies that demonstrate a lack of statistical support. The workshop will include participants sampled from thought leaders and major journal editors from a variety of disciplines, and scholars at different career stages to participate in the discussion. Results of the workshop will be archived and disseminated to reach a wide audience.

## What was accomplished under these goals?

Major Activities:

## Promoting Robust and Reliable Research Practice in the Science of Organizations

The major activities promote robust and reliable research practice in the Science of Organizations and other social, behavioral and economic science by focusing on the following three aspects of research activities.

### Theory Development

This aspect focuses on good practices for achieving rigor, transparency and exactness; adding replication to the research trajectory; good practices for testing existing theories in new contexts; as well as examining the cause, practice, and consequence of irresponsible research practices.

### Methodology

This aspect addresses transparency concerning the data gathered, the design, the analysis methods, and the results; the collection of new data for a fair test of the original study; useful methodologies to uncover the conditions under which a theory may not be applicable; as well as registered trials.

### Publishing and Reviewing

This aspect addresses the debates about requiring data availability as a part of the peer review process; debunking studies and theories that failed to survive attempted refutations; as well as evaluating studies that demonstrate a lack of statistical support. The initiative includes participants sampled from thought leaders and major journal editors from a variety of disciplines, and scholars at different career stages as part of the discussion.

#### Specific Objectives:

### **REPRODUCIBILITY**

How to duplicate the results of a prior study using the same materials and procedures used by the original investigator

- Theory Development: Good Practices for Achieving Rigor, Transparency and Exactness
- Methodology: Transparency Concerning the Data Gathered, the Design, the Analysis Methods, and the Results
- Publishing and Reviewing: The Current State of Data Sharing and Debates about Requiring Raw Data, Whether Quantitative or Qualitative, Be Made Available as a Part of the Peer Review Process

### **REPLICABILITY**

How to duplicate the results of a prior study if the same procedures are followed but new data are collected

- Theory Development: Adding Replication to the Research Trajectory

- Methodology: How the Collection of New Data Would Constitute a Fair Test of the Original Study
- Publishing and Reviewing: What to Do with Studies and Theories That Failed to Survive Attempted Refutations

### **GENERALIZABILITY**

How to verify whether the finding of a study applies in other contexts or populations that differ from the originals

- Theory Development: Good Practices for Testing Existing Theories in New Contexts
- Methodology: Useful Methodologies to Uncover the Conditions Under Which a Theory May be Wrong
- Publishing and Reviewing: Testing U.S.-based Theories outside the U.S.

### **TRAINING & DEVELOPMENTAL GUIDANCE**

How to encourage more rigorous and useful research, in terms of theorizing, study design, testing, and reporting.

- Theory Development: The Cause, Practice, and Consequence of HARKing
- Methodology: The Merits of Registered Trials
- Publishing and Reviewing: How to Evaluate Studies that Demonstrate a Lack of Statistical Support in a Particular Sample for Specific Hypotheses or Research Propositions

#### Significant Results:

This project has created a collection of educational materials on best practices for scientific research regarding possible solutions in research reproducibility, replicability, generalizability and peer review. The educational materials including speaker presentations and digital readers can be accessed by the public free of charge. A website developed to host the educational materials is located at:

<https://warrington.ufl.edu/reliable-research-in-business/>

#### Key outcomes or other achievements:

Video recordings of twenty speaker presentations are hosted at the project's website: <https://warrington.ufl.edu/reliable-research-in-business/best-practices-for-reliable-research/>

See the appendix for speaker bio, abstract, keywords, and resources of each presentation.

A video recording with a focus on retraction has been produced. Professor Jeff Furman gave a lecture at the University of Florida on *Veracity & Knowledge Accumulation: Evidence from Biomedical Retractions*. The recording of the lecture has been produced for editing. The file will be posted in August 2019.

In 2018-2019, the project's principal investigator serves as the track chair for the conference theme of *Fostering Robust and Reliable Research in Strategic Management*, hosted by the Strategic Management Society (SMS). All the planning has been completed, and the conference will take place in Minneapolis, October 19-22, 2019.

Call for Papers: We invite submissions that will aid understanding the robustness and reliability of strategic management research. For example, to what extent does our research generalize and under what conditions? To what extent are we subject to fads and fashions in management research and management discourse? How do we balance issues of novelty, recency, and rigor in building a cumulative body of strategy research?

As a part of the planning process, the project's principal investigator collaborates with the SMS community track on Research Methods that shares a similar interest in promoting robust and reliable research.

Call for Papers: Researchers face a variety of methodological challenges when investigating strategic behavior and its outcomes. Recent concerns about the replicability of published findings have called established methodological practices into question and have triggered efforts to improve these practices. Beyond a reassessment of existing approaches, this year's conference theme encourages us to also consider the value of methodologies and tools that, thus far, have rarely been applied in strategy research. Both advanced, traditional, and emerging methodological approaches have the potential to shift not only how we answer questions, but also what questions we can ask. The Research Methods Community seeks to introduce and engage conference participants in related discussions and debates. We are interested in proposals focused on both qualitative and quantitative methodologies applying deductive, abductive, or exploratory approaches. While we seek proposals pertaining to the conference's theme, we also welcome proposals that promise to advance strategy research practices in other ways.

As a result of the principal investigator's role as the theme track chair and collaboration with other tracks, there will be two Plenary Sessions and three Paper Sessions that are developed to further advance the project's goals at the SMS conference.



- Plenary Session on *Fostering Robust and Reliable Research in Strategic Management*
  - (1) The most pressing problem that could impede/derail our progress toward robust and reliable research in strategic management;
  - (2) Potential solutions to the problem.
- Plenary Session on *Organizational Field Research – Lessons Learned and Recommendations*

How to conduct impactful field research in collaboration with executives and other practitioners:

  - (1) How to select a research site,
  - (2) How to identify interested and qualified champions at the research site,
  - (3) How to make contact, pitch research projects, and create win-wins without “selling out” (i.e., balancing practical interest/relevance and academic rigor),
  - (4) How novel techniques and IT-enabled opportunities could be leveraged to conduct field research,
  - (5) How to prepare research reports for the research site, and
  - (6) How to frame findings for publication in academic outlets.
- Paper Session on *How Theory Building Can Foster Robust and Reliable Research*
- Paper Session on *How Methods Can Foster Robust and Reliable Research*
- Paper Session on *Advancing the Rigor of Strategic Management Research*

### **What opportunities for training and professional development has the project provided?**

In March 2018, the project’s principal investigator brought together academic journal editors, university faculty members, academic researchers and students for a workshop hosted by Department of Management at the University of Florida.

In August 2018, the project’s principal investigator presented the educational materials at the All-Academy New Doctoral Student Consortium, Academy of Management Annual Conference, Chicago, IL.

In August 2018, the project’s principal investigator made a bilingual presentation of the educational materials to the Chinese Management Scholars Community so as to promote the initiative globally.

In 2019, the project’s principal investigator provided training and professional development on robust and reliable research by co-organizing a Doctoral Workshop at

an international conference.

- Strategy Science Conference Doctoral Workshop (May 9, 2019) co-organizer

The project's principal investigator provided training and professional development on robust and reliable research at the following research seminars at the University of Florida College of Business Administration, serving a diverse community of program participants.

- Doctoral of Business Administration Program
- PhD Program
- Post-Doctoral Bridge Program

### **How have the results been disseminated to communities of interest?**

In August 2018, a web launch and social media campaign publicized and promoted this project and the educational materials it has created

As these issues are central to the Academy of Management community, Professor Peter Bamberger, Editor-in-Chief of the *Academy of Management Discoveries*, is making the educational materials created by this project available on the journal's website.

The project's principal investigator has disseminated the results during her visits that were invited by the following universities. Every visit provided an opportunity to give a talk at the speaker's research seminar, meet with PhD students, and discuss research with faculty members.

- Purdue University, Krannert Graduate School of Management
- University of Colorado-Boulders, Leeds School of Business
- University of North Carolina-Chapel Hill, Kenan-Flagler Business School

### **What do you plan to do during the next reporting period to accomplish the goals?**

In 2019, the project's principal investigator will promote robust and reliable research at the following Professional Development Workshops by serving as a faculty mentor for these International Conferences:

- Academy of Management STR Division Dissertation Workshop (August 9, 2019) distinguished speaker
- Academy of Management STR Division Junior Faculty Consortium (August 10, 2019) distinguished speaker
- Strategic Management Society Strategy Research Fund (SRF) Dissertation Scholars Workshop (October 19, 2019)
- Strategic Management Society Doctoral Workshop (October 20, 2019)

In 2020, the project's principal investigator will continue to provide training and professional development on robust and reliable research by co-organizing the Strategy Science Conference Doctoral Workshop (scheduled for May, 2020).

More video recordings are scheduled for 2019-2020:

The SMS Plenary on Fostering Robust and Reliable Research in Strategic Management will feature the following panel of speakers:

**Don Bergh**, University of Denver

(<https://warrington.ufl.edu/reliable-research-in-business/best-practices-for-reliable-research/reproducibility-of-empirical-management-research/>)

**Rich Bettis**, University of North Carolina-Chapel Hill

(<https://warrington.ufl.edu/reliable-research-in-business/best-practices-for-reliable-research/the-crucial-role-of-replication-in-robust-and-reliable-research/>)

**Brent Goldfarb**, University of Maryland

(<https://warrington.ufl.edu/reliable-research-in-business/best-practices-for-reliable-research/inference-and-replication-in-strategy-science/>)

**Connie Helfat**, Dartmouth College

(<https://www.strategicmanagement.net/bio/4014>)

Moderator: Gwen Lee, University of Florida

(<https://warrington.ufl.edu/reliable-research-in-business/>)

Professor Deborah Mayo will give a lecture at the University of Florida on the Philosophy of Statistics in fall 2019.

## Impacts

**What is the impact on the development of the principal discipline(s) of the project?**

The impact on the development of the principal discipline of the project is the four areas of improvements that help researchers make contributions to important stages of scientific research—theory development, methodology, and the process of quality control. The science of organizations increases its credibility when it embraces research with an explicit focus on robustness and reliability. The impact covers how to improve (1) *reproducibility* by enhancing researchers' ability to generate the same results from





the data of the initial study under the conditions initially specified; (2) *replicability* by enhancing researchers' ability to repeat the initial study but with new data and other potential departures from the initial study (e.g., new sample, new measures); (3) *generalizability* by enhancing researchers' ability to verify whether the finding of a subsequent study applies in other contexts or populations that differ from the initial study; and (4) *falsifiability* by enhancing researchers' ability to detect the extent to which a hypothesis has survived attempts of refutation.

### **What is the impact on the development of human resources?**

The impact on the development of human resources is two-fold:

- Improving methodological approaches through rigorous training in statistics and research practices.
- Training our next-generation scholars and publication gatekeepers on fraud detection.

### **What is the impact on information resources that form infrastructure?**

All educational materials produced from this project are available in the public domain for equal access.

#### **Reliable Research in Business**

<https://warrington.ufl.edu/reliable-research-in-business/>

#### **NSF @ UF**

<https://warrington.ufl.edu/reliable-research-in-business/about/>

#### **Best Practices**

<https://warrington.ufl.edu/reliable-research-in-business/best-practices-for-reliable-research/>

## APPENDIX

### The NSF Workshop @ UF Promoting Robust and Reliable Research Practice in the Science of Organizations

#### Keynote Address

#### PRESENTATION OVERVIEW

**Joseph Simmons**, Associate Editor, Management Science—Judgment and Decision Making

- **Life After P-hacking**

Keywords: false-positives, p-hacking, meta-analysis, reproducibility

Abstract: P-hacking is the practice of conducting many analyses on the same dataset until one achieves a reportable, statistically significant result ( $p < .05$ ). P-hacking can lead researchers to believe in, and publish, findings that are false (i.e., not replicable), and it is likely the major reason why, in many fields (e.g., psychology, medicine), too many published findings do not replicate. Not surprisingly, the recognition that too many published findings do not replicate has led many different researchers to advocate for making many different changes to the way we report and conduct our research. In this talk, I discuss which of these proposed changes will effectively improve the way we do science and which will be ineffective or harmful. For example, I will conclude that pre-registration will do a lot of good, and that meta-analytic thinking will do a lot of harm.

#### SPEAKER BIO SKETCH

**Joseph Simmons**

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Joe Simmons is an Associate Professor at the Wharton School of the University of Pennsylvania, where he teaches a course on Managerial Decision Making. He has two primary areas of research. The first explores the psychology of judgment and decision-making, with an emphasis on understanding and fixing the errors and biases that plague people's judgments, predictions, and choices. The second area focuses on identifying and promoting easy-to-adopt research practices that improve the integrity of published findings. Joe is also an author of Data Colada, an online resource that attempts to improve our understanding of scientific methods, evidence,

and human behavior, and a co-founder of AsPredicted.org, a website that makes it easy for researchers to properly pre-register their studies.

### **DIGITAL READER: RESOURCES RECOMMENDED BY THE SPEAKER**

Nelson LD, Simmons J, Simonsohn U. 2018. Psychology's Renaissance. Annual Review of Psychology, 69:511-534.

### **PRESENTATION OVERVIEW**

**Rich Bettis**, former Co-Editor, Strategic Management Journal

- **The Crucial Role of Replication in Robust and Reliable Research**

Abstract: I discuss the importance of replication in view of Popper's falsifiability criterion and compelling evidence that a considerable amount of empirical research does not replicate. Dysfunctional practices and professional norms that increase the necessity for replication are discussed. A replication typology is developed and detailed. Two emerging replication issues are discussed.

### **SPEAKER BIO SKETCH**

**Richard A. Bettis (Rich)**

Ellison Distinguished Professor

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Rich Bettis is the Ellison Distinguished Professor in the Strategy and Entrepreneurship Department of the University of North Carolina. His current research interests revolve around behavioral strategy, heuristics, organizationally intractable decisions, complexity, improper use of statistics, and limits on the data generating processes that linear statistical models can handle within acceptable error bounds.

He and C.K. Prahalad won the first SMJ Dan and Mary Lou Schendel Best Paper Prize in 1993. He served as an associate editor of SMJ for 11 years and as co-editor for 9 years. He also held associate editor positions at Management Science and Academy of Management Review. He

served on the SMS Board, including one term as President. He won the SMS Distinguished Service Award on 2016. He also served on the AOM Board.

### **DIGITAL READER: RESOURCES RECOMMENDED BY THE SPEAKER**

Bettis, RA, CE Helfat, and JM Shaver. 2016. "The necessity, logic, and forms of replication," *Strategic Management Journal*, 37: 2193–2203

Bettis, RA, S Ethiraj, A Gambardella CE Helfat, and W Mitchell. 2016. *Strategic Management Journal*, 37: 257-261.

### **PRESENTATION OVERVIEW**

**Gilad Chen**, Editor-in-Chief, Journal of Applied Psychology

- **Replications and reproducibility in IO-OB-HR research: How are we doing, and can we do better?**

Keywords: Replication; Reproducibility; State of the IO-OB-HR Science

Abstract: In this talk, I'll review some recent debates and evidence regarding the so-called "replication and reproducibility crisis" in I-O-OB-HR research, and related fields. I'll note that evidence suggests that, as a field, we may not be doing as badly as some authors have concluded. However, we can certainly improve scientific rigor in our field, by promoting stronger climate that supports replications and reproducibility of research findings.

### **SPEAKER BIO SKETCH**

**Gilad Chen, Ph.D.**

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Dr. Gilad Chen is the Robert H. Smith Chair in Organizational Behavior, at the University of Maryland's Robert H. Smith School of Business. He received his bachelor degree in Psychology

from the Pennsylvania State University in 1996, and his doctoral degree in Industrial/Organizational Psychology from George Mason University in 2001. Prior to joining the Smith School, Dr. Chen was on the faculty at the Georgia Institute of Technology and Texas A&M University. He has also visited and taught at the Hong Kong University of Science and Technology, Singapore Management University, Technion, and Tel-Aviv University.

Dr. Chen teaches courses on a variety of organizational behavior, human resource management, and methodological topics. His research focuses on work motivation, adaptation, teams and leadership, with particular interest in understanding the complex interface between individuals and the socio-technical organizational context. He has won several research awards, including the 2007 Distinguished Early Career Contributions Award from the Society for Industrial and Organizational Psychology, and the 2008 Cummings Scholar Award from the Organizational Behavior Division of the Academy of Management, and the 2014 Distinguished Scholar-Teacher Award from the University of Maryland. Dr. Chen is also an elected Fellow of the American Psychological Association, Association for Psychological Science, Society of Industrial-Organizational Psychology, and Society of Organizational Behavior.

Dr. Chen's research has appeared in such journals as the Academy of Management Journal, Journal of Applied Psychology, Journal of Organizational Behavior, Personnel Psychology, Organizational Behavior & Human Decision Processes, and Research in Organizational Behavior. He is now serving as the Editor of the Journal of Applied Psychology (2014-2020), after serving as Associate Editor for the journal from 2008 through 2013. He has also been serving as an editorial board member of the Academy of Management Journal and the Academy of Management Review.

#### **DIGITAL READER: RESOURCES RECOMMENDED BY THE SPEAKER**

Anderson, S. F., & Maxwell, S. E. (2016). There's more than one way to conduct a replication study: Beyond statistical significance. *Psychological Methods*, 21, 1-12.

Appelbaum, M., Cooper, H., Kline, R. B., Mayo-Wilson, E., Nezu, A. M., and Rao, S. M. (2018). Journal article reporting standards for quantitative research in psychology: The APA Publications and Communications Board Task Force Report. *American Psychologist*, 73, 3-25.

Chen, G. (2015). Editorial. *Journal of Applied Psychology*, 100, 1-4.

Cortina, J. M., Aguinis, H., & DeShon, R. P. (2017). Twilight of dawn or of evening? A century of research methods in the Journal of Applied Psychology. *Journal of Applied Psychology*, 102, 274-290.

Kozlowski, S. W. J. (2011). Comment policy. *Journal of Applied Psychology*, 96, 231-232.



Gilbert, D. T., King, G., Pettigrew, S., & Wilson, T. D. (2016). Comment on “Estimating the reproducibility of psychological science”. *Science*, 351(6277), 1037-c.

Maxwell, S. E., Lau, M. Y., & Howard, G. S. (2015). Is psychology suffering from a replication crisis? What does “failure to replicate” really mean? *American Psychologist*, 70, 487-498.

Mitchell, G. (2012). Revisiting truth or triviality: The external validity of research in the psychological laboratory. *Perspectives on Psychological Science*, 7, 109-117.

Open Science Collaboration. (2015). Estimating the reproducibility of psychological science. *Science*, 349(6251), 1-8.

## PRESENTATION OVERVIEW

**Steve Kozlowski**, former Editor, Journal of Applied Psychology

- **Robust and Reliable Organizational Science: Problems and Prospects**

Key Words: State of Organizational Science, Scientific Publishing, Academic Reward Systems, Suggestions to Improve Rigor and Reliability

Abstract: My goal in this presentation is to consider the focal problem – promoting robust and reliable organizational science – with the broader context within which it is embedded. In my view, there are three core factors that define the problem context which include the nature of organizational science, scientific publishing, and academic reward systems. I first provide a concise sketch of each of these domains. Next, I delve into contributing issues in more depth within each domain. Finally, I offer some suggestions that may mitigate the issues and help to promote a more rigorous and reliable organizational science.

## SPEAKER BIO SKETCH

**Steve W. J. Kozlowski**

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Steve W. J. Kozlowski, *Ph.D.* is a Professor of Organizational Psychology at Michigan State University. He is a recognized authority in the areas of multilevel theory; team leadership and team effectiveness; and learning, training, and adaptation. The goal of his programmatic research is to generate actionable theory, research-based principles, and deployable tools to develop

adaptive individuals, teams, and organizations. His research is, or has been, supported by the Agency for Health Research and Quality (AHRQ), the Air Force Office of Scientific Research (AFOSR), the Army Research Institute for the Behavioral and Social Sciences (ARI), the National Aeronautics and Space Administration (NASA), the National Science Foundation (NSF), and the Office of Naval Research (ONR), among others. His research has generated over \$10M in funded work. He has produced over 500 articles, books, chapters, reports, and presentations. His work has been cited over 23,000 times (Google Scholar). Dr. Kozlowski is the recipient of the SIOP *Distinguished Scientific Contributions Award* and the INGRoup *McGrath Award for Lifetime Achievement in the Study of Groups*. He is Editor for the *Oxford Series on Organizational Psychology and Behavior* and Editor for the new SIOP/Oxford *Organizational Science, Translation, and Practice Series*. He is the former Editor-in-Chief and a former Associate Editor for the *Journal of Applied Psychology*. He is an Editorial Board Member for the *Academy of Management Review*, the *Journal of Management*, and *Leadership Quarterly*, and has served on the Editorial Boards of the *Academy of Management Journal*, *Human Factors*, the *Journal of Applied Psychology*, and *Organizational Behavior and Human Decision Processes*. He is a Fellow of the American Psychological Association, the Association for Psychological Science, the International Association for Applied Psychology, and the Society for Industrial and Organizational Psychology (SIOP). He was President of SIOP (2015-2016) and is the SIOP Research and Science Officer (2017-2020). Dr. Kozlowski received his B.A. in psychology from the University of Rhode Island, and his M.S. and Ph.D. degrees in organizational psychology from The Pennsylvania State University.

#### **DIGITAL READER: RESOURCES RECOMMENDED BY THE SPEAKER**

- Grand, J. A., Braun, M. T., Kuljanin, G., Kozlowski, S. W. J., & Chao, G. T. (2016). The dynamics of team cognition: A process-oriented theory of knowledge emergence in teams [Monograph]. *Journal of Applied Psychology*, 101, 1353-1385.
- Johns, G. (2006). The essential impact of context on organizational behavior. *Academy of Management Review*, 31, 386-408.
- Kerr, S. (1975). On the folly of rewarding A, while hoping for B. *Academy of Management Journal*, 18, 769-783.
- Kozlowski, S. W. J. (2015). Advancing research on team process dynamics: Theoretical, methodological, and measurement considerations. *Organizational Psychology Review*, 5, 270-299.
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- Kozlowski, S. W. J., Chao, G. T., Chang, C.-H., & Fernandez, R. (2015). Team dynamics: Using “big data” to advance the science of team effectiveness. In S. Tonidandel, E. King, & J. Cortina (Eds.), *Big data at work: The data science revolution and organizational psychology* (pp. 272-309). New York, NY: Routledge Academic.
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- Lawler, E. E., & Rhode, J. G. (1976). *Information and control in organizations*. Goodyear Publishing.
- Salas, E., Kozlowski, S. W. J., & Chen, G. (2017). A century of progress in industrial and organizational psychology: Discoveries and the next century. *Journal of Applied Psychology*, 102, 589-598.

## PRESENTATION OVERVIEW

**Paul Bliese**, Editor-in-Chief, Organizational Research Methods

- **Resampling Methods: Resting Robustness and Reliability (but Really Replicability)**

Keywords: Bootstrap, power, replicability

Abstract: A simple modification of the non-parametric bootstrap can be used to count how often a finding is or is not statistically significant. In so doing, a researcher could provide summary information in the form of XX% of the time one would expect an exact replication to find a statistically significant result (percent significant index). Two examples are provided: one using existing data and the other using simulated data from a published study. The percent significant index potentially represents a way to use statistical power in a post-hoc fashion to help readers

draw inferences about the replicability of findings. The idea can be modified to be efficiently implemented without using the bootstrap. This talk is designed to spur discussion of whether such an index would be useful, and to show that there is only about a 50% probability that many published findings will replicate.

### **SPEAKER BIO SKETCH**

**Paul D. Bliese**

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Paul D. Bliese received a Ph.D. from Texas Tech University and a B.A. from Texas Lutheran University. After graduating in 1991, he worked for a year for the Bureau of Labor Statistics. In 1992, he joined the US Army where he spent 22 years as a research psychologist at the Walter Reed Army Institute of Research (WRAIR). In 2009, he formed the Center for Military Psychiatry and Neuroscience at WRAIR, and served as the Director until he retired at the rank of Colonel in 2014. Over his military career, Dr. Bliese directed a large portfolio of research initiatives examining stress, leadership, well-being, and performance. In this capacity, from 2007 to 2014 he oversaw the US Army's Mental Health Advisory Team program assessing the morale and well-being of Soldiers deployed to Iraq and Afghanistan. His applied research was influential in policy decisions within the US Army and the Department of Defense. Throughout his professional career, Dr. Bliese has led efforts to advance statistical methods and apply analytics to complex organizational data. He developed and maintains the multilevel package for the open-source statistical programming language R, and his research has been influential in advancing organizational multilevel theory. Currently, Dr. Bliese is a professor in the Management Department of the Darla Moore School of Business at the University of South Carolina. He has served on numerous editorial boards, was an associate editor for the *Journal of Applied Psychology* from 2010 to 2016 and is the editor *Organizational Research Methods*.

### **PRESENTATION OVERVIEW**

**James Grand**, Assistant Professor, University of Maryland

**Mahka Moeen**, Assistant Professor, University of North Carolina—Chapel Hill

**Betty Zhou**, Assistant Professor, University of Minnesota

- Faculty panel raising “on-the-ground” issues to the speakers in regards to the recommended robust and reliable research practices

### **SPEAKER BIO SKETCH**

#### **James A. Grand**

Assistant Professor  
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Dr. James A. Grand (Ph.D., Michigan State University) is an Assistant Professor in the Social, Decision, and Organizational Sciences program at the University of Maryland. His main research interests focus on the interplay of knowledge-building, decision-making, collaboration, and performance at the individual and team levels. A significant theme of his work lies in exploring and understanding the emergent processes underlying these mechanisms by theoretically, computationally, and experimentally investigating how the behaviors and cognitions of individuals create, change, and/or maintain dynamics at collective levels (i.e., teams, multi-team systems, organizations, etc.) over time. More specific topics in his research stream focus on how planning/project teams gather and share information, develop collective knowledge, and make decisions based on their shared understanding, and how action-oriented teams (i.e., medical teams, military teams, sports teams, etc.) coordinate, regulate, and adapt their behavioral and cognitive resources/efforts to produce team performance outcomes. Additionally, he conducts research on the interaction between information processing and situational factors in relation to personnel training and testing/assessment outcomes. He also has methodological interests in computational modeling, simulation of dynamic processes, and Bayesian statistics.

#### **Mahka Moeen**

Assistant Professor of Strategy and Entrepreneurship  
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Dr. Mahka Moeen is the Assistant Professor of Strategy and Entrepreneurship at the UNC Kenan-Flagler Business School of the University of North Carolina at Chapel Hill. Her research focuses on the co-evolution of entrepreneurial firms and nascent industries. She seeks to understand the entrepreneurial strategies that firms undertake during early industry stages and even prior to the first ever commercialization within an industry context. She has studied these questions within the agricultural biotechnology and bio-pharmaceutical industries. Her research has been published in Organization Science, Strategic Entrepreneurship Journal and Strategic Management Journal.

Dr. Moeen is the recipient of the 2017 Emerging Scholar Award in Innovation and Entrepreneurship from the Industry Studies Association and the the 2016 Kauffman Junior Faculty Fellowship. Her doctoral dissertation was recognized by the Kauffman Foundation dissertation fellowship, the Academy of Management's Technology and Innovation Management division, the Industry Studies Association and the Strategy Research Foundation dissertation scholarship. She serves on the editorial boards of the Strategic Management Journal and Strategic Entrepreneurship Journal.

Dr. Moeen teaches courses in strategic management. She received her PhD in strategy and entrepreneurship from the University of Maryland, her MBA from the Sharif University of Technology's Graduate School of Management and Economics and her bachelor's degree from the University of Tehran.

**Le (Betty) Zhou**

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Le (Betty) is Assistant Professor of Department of Work and Organizations at Carlson School of Management of the University of Minnesota. She received her Ph.D. in Management at the University of Florida's Warrington College of Business Administration. She has an M.S. in Organizational Psychology from the University of Maryland and an undergraduate degree in psychology from Peking University. She has published in the Journal of Applied Psychology, Personnel Psychology, and Organizational Behavior and Human Decision Processes. She teaches the freshman contemporary management course. She has been developing a research program focusing on three areas: (1) leadership, (2) work groups and teams, and (3) self-regulation processes. Her studies focus on how individuals and higher-level organizational units (e.g., work groups, organizations) influence each other as well as how behaviors change over time within the individual. She uses a diverse set of research approaches, including laboratory experiments, field surveys, archival data analysis, and computational modeling.

## PRESENTATION OVERVIEW

**Jason Shaw**, Editor-in-Chief, Academy of Management Journal

- **The advantages of starting with theory: Addressing the issue of HARKing**

Keywords: theory development, theory contribution, HARKing

Abstract: Post-result theorizing or HARKing (hypothesizing after the results are known; Kerr, 1998) seems to remain a popular choice for authors of quantitative papers. Editorials sounding bells of undesirability and unethicity and papers presenting evidence of its biasing influence on the literature do not appear to have stemmed the flow of papers using this approach. To take the issue in a different direction, I have attempted to present a case that the practice often leaves a trail of problematic signals that are uncovered in the review process and frequently lead to rejection. If authors prefer that their hypothesis-driven deductive research receives more favorable reactions in the review process, I encourage them to consider carefully the advantages of starting with theory as an alternative to a results driven retrospective theorizing approach.

## SPEAKER BIO SKETCH

### **Jason Shaw**

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Jason D. Shaw is Yeung Kin Man Professor in Business Administration, Chair Professor of Management, Head of Department of Management and Marketing, and Director of the Centre for Leadership and Innovation in the Faculty of Business at The Hong Kong Polytechnic University. He received his Ph.D. from the University of Arkansas in 1997. He is the Editor of Academy of Management Journal (2016-2019). His research has appeared or been accepted for publication in the Academy of Management Journal, Academy of Management Review, Journal of Applied Psychology, Organization Science, Strategic Management Journal, Organizational Behavior and Human Decision Processes, Personnel Psychology, and Journal of Management, among other scientific outlets. He has served or is serving on the editorial boards of Academy of Management Journal, Academy of Management Review, Journal of Applied Psychology, Personnel Psychology, and Journal of Management, among others. He has been invited for visiting scholar positions and other speaking engagements in China, Finland, Austria, Denmark, Norway, England, Germany, Hong Kong, Spain, Israel, Macau, Taiwan, Singapore, Australia, Canada,

Belgium, Thailand, and the USA. Prior to his appointment at PolyU, he was the Curtis L. Carlson School-wide Professor in the Carlson School of Management at the University of Minnesota, the Clark Material Handling Company Professor at the University of Kentucky, an assistant professor at Drexel University, and an analyst for the Boeing Company.

### **DIGITAL READER: RESOURCES RECOMMENDED BY THE SPEAKER**

Baer, M., & Shaw, J. D. 2017. Falling in Love Again with What We Do: Academic Craftsmanship in the Management Sciences. *Academy of Management Journal*, 60: 1213-1217.

Shaw, J. D. 2017. Advantages of starting with theory. *Academy of Management Journal*, 60: 819-822.

### **PRESENTATION OVERVIEW**

**Peter Bamberger**, Editor-in-Chief, Academy of Management Discoveries

- **How Abductive Reasoning Promotes Robust and Reliable Research Practices**

Keywords: Abduction; Empirical exploration; Pre-theory; Plausibility vs. Confirmation

Abstract: Management and Organizational research is largely grounded on two basic logics or epistemological approaches, namely induction and deduction. These approaches have served our science well, gaining our field respect among the sciences, and resulting in its rapid growth over the past decades. However, increasingly scholars have begun to question whether the grounding of our field in these two logics alone may, in addition to being overly restrictive, generating obtuse and abstract results and limiting our relevance to the broader community which our science seeks to serve (Hambrick, 2007) may promote questionable research practices. In this talk, I will present a complementary scientific logic, one grounded on abductive reasoning (i.e., inference to the best plausible explanation). Building upon Mantere & Ketokivi's (2013: 72) statement that, "we predict, confirm, and disconfirm through deduction, generalize through induction, and theorize through abduction," I will distinguish the latter from these other two, more established scientific logics. After demonstrating how abduction serves as the basis for many other scientific fields, I will argue that it also serves as the under-recognized (and often maligned) basis upon much of what we do as management scholars. Finally, I will discuss the types of situations for which such an approach may be most suitable and how scholars might design and present studies grounded on such a logic in order to maximize theoretical contribution and practical impact, and avoid questionable research practices.

### **SPEAKER BIO SKETCH**

**Peter A. Bamberger**

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Peter A. Bamberger is the Prof. Simon I. Domberger Professor of Management and Organizations at Tel Aviv University's School of Business Administration, Research Director of Cornell University's Smithers Institute, and Editor-In-Chief of *Academy of Management Discoveries (AMD)*. A member of the Society for Organizational Behavior, and a Fellow of the Society of Industrial and Organizational Psychology, he served as an associate editor of *Academy of Management Journal*, a founding associate editor of *AMD*, and on the Board of Governors of the Academy of Management. His research interests include helping and pro-social behavior, occupational health psychology, and compensation strategy. Author of over 100 refereed journal articles and book chapters, publications include *Human Resource Strategy* (with Ilan Meshulam and Michal Biron, Routledge, 2014), and *Retirement & the Hidden Epidemic: The Complex Link Between Aging, Work Disengagement and Substance Misuse...and What to Do About It* (with Samuel Bacharach, Oxford Univ. Press, 2014). He received his Ph.D. in organizational behavior from Cornell University in 1990.

**DIGITAL READER:  
RESOURCES RECOMMENDED BY THE SPEAKER**

Bamberger, P. (2018). From the Editors: AMD – Clarifying What We're About and Where We're Going. *Academy of Management Discoveries*. In Press.  
<http://amd.aom.org/content/early/2018/01/04/amd.2018.0003.full.pdf+html>

Okhuysen, G. & Behfar, K. (2017). On the "Too Much Theory" Problem: Using Data to Surface Phenomenon, Generate Plausible Explanation, and Offer Insight into Anomalies. *Organizational Science*, In Press.

Peirce, C. S. (1992). *Reasoning and the Logic of Things*. Cambridge, Massachusetts, Harvard University Press.

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| <b>PRESENTATION OVERVIEW</b> |
|------------------------------|

**Heng Xu**, thought leader on information sciences and big data

**Nan Zhang**, thought leader on robustness and reliability in web data analytics

- **Open data + robust workflow: Towards reproducible empirical research on organic data**

Keywords: Reproducibility; Generalizability; Organic Data; and Field Experiment

Abstract: Concerns about a “reproducibility crisis” in scientific research have become increasingly prevalent within the academic community and beyond. The field of meta-science — the scientific study of science itself — is thriving and has examined the existence and prevalence of threats to reproducible and robust research in designed surveys or experiments. Largely missing are replication efforts devoted to examining those empirical studies with “organic data” — i.e., the new sources of data that are generated organically without explicit research design (e.g., data generated by ubiquitous sensors or mobile applications, social interactional data from social networking sites, twitter feeds, click streams, etc.). While it is evident that far more existing behavioral studies use data from rigorously designed surveys/experiments than from organic data, we believe it is important for replication studies to anticipate the rising of organic-data-based research - so that the “acceptable practices” for using organic data can be properly established “ahead of the curve”.

Given the growing popularity of using organic data (e.g., Twitter) as the source of research data in today’s business research, the proper care for data handling is essential if organic data as a data source is to be a robust, reliable, and reproducible endeavor well into the future. Unfortunately, there is still a significant gap between the various methods used to analyze organic data and a properly designed data processing standard that can withstand methodological scrutiny and establish confidence for the research results. This is partially caused by the difficulty of publishing or sharing organic data (which is sometimes bound by terms of use), and partially caused by the complex workflow required to collect, clean, or analyze organic data - to the degree that almost every paper has its own (arguably homebrewed) solution. The objective of our research is to establish the confidence - or the lack thereof - in the inconsistent handling practices of organic data among scholarly publications. Specifically, we aim to determine the extent of, causes of, and remedies for empirical research using organic data that are neither reproducible nor generalizable.

### **SPEAKER BIO SKETCH**

#### **Heng Xu**

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Dr. Heng Xu is an associate professor of Information Sciences and Technology at Penn State. She is the co-director of Privacy + Analytics Lab (PAL), an interdisciplinary research group focusing on the interplay between social and technological issues associated with information privacy. Her research group aims to understand privacy dynamics in the real-world population and integrate this understanding into technological design and system development. Her work has been published across different fields such as Business, Law, and Human-Computer Interaction. She was a recipient of the NSF CAREER award (2010) and the endowed PNC Technologies Career Development Professorship (2010-2013).

During 2013-2016, Dr. Xu served as a program director for several interdisciplinary research programs at the National Science Foundation (NSF). Much of her work at NSF focused on bringing the social, behavioral and economic sciences to address major challenges in Cybersecurity & Privacy. She has also served on a broad spectrum of national leadership committees including the National Privacy Research Strategy Forum (2014-2016), the Federal Cybersecurity R&D Strategic Plan (2016), and the National Academies Committee on Open Science (2017).

**Nan Zhang**

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Dr. Nan Zhang is a Professor of Information Sciences and Technology at the Pennsylvania State University. Before joining Penn State, he was a Professor at the George Washington University and a Program Director in the Division of Information and Intelligent Systems (IIS) at the National Science Foundation (NSF). The focus of Dr. Zhang's research is on databases, data analytics, and taking the data-science methodology to examine information security and privacy issues. His research is supported by NSF and the Army Research Office, and has received several awards, including the NSF CAREER award in 2008, Best Paper Awards from IEEE ICC 2013 and IEEE NAS 2010, the Best Student Paper Award from ACM CIKM 2013, and Best Paper Nominations from IEEE ISI 2015 and HICSS 2018. His work on technology transfer was also recognized by the GW Technology Transfer Innovation Prize and the first place finish at the GW Business Plan Competition, both in 2012.

**DIGITAL READER:  
RESOURCES RECOMMENDED BY THE SPEAKER**

Groves, M. R. (2011). Three eras of survey research. *Public Opinions Quarterly*, 75(5), 861-871.

King, G., & Zeng, L. (2005). The dangers of extreme counterfactuals. *Political Analysis*, 14(2), 131-159.

González-Bailón, S., Wang, N., Rivero, A., Borge-Holthoefer, J., & Moreno, Y. (2014). Assessing the bias in samples of large online networks. *Social Networks*, 38, 16-27.

## PRESENTATION OVERVIEW

**Jeff Vancouver**, thought leader on computational models of human-environment interactions

- **How computation models can facilitate robust theory development, testing, and implementation in organization science**

Key words: Computational modeling; theory development and evaluation; methodological rigor; HARKing

## SPEAKER BIO SKETCH

### **Jeffrey B. Vancouver**

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Jeffrey B. Vancouver is Byham Chair for Industrial/Organizational Psychology at Ohio University. He received his degree in 1989 from Michigan State University (Department of Psychology). He studies the dynamics underlying human motivation in work contexts using a self-regulatory perspective, rigorous empirical protocols, and computational models. He has published papers in several journals including *Journal of Applied Psychology*, *Personnel Psychology*, *Journal of Management*, *Organizational Research Methods*, *Organizational Behavior and Human Decision Processes*, *Annual Review of Organizational Psychology*, and *Psychological Bulletin*.

## DIGITAL READER: RESOURCES RECOMMENDED BY THE SPEAKER

- Adner, R., Pólos, L., Ryall, M., & Sorenson, O. (2009). The case for formal theory. *Academy of Management Review*, 34, 201-208.
- Davis, J. P., Eisenhardt, K. M., & Bingham, C. B. (2007). Developing theory through simulation methods. *Academy of Management Review*, 32, 480-499.
- Farrell, S., & Lewandowsky, S. (2010). Computational models as aids to better reasoning in psychology. *Current Directions in Psychological Science*, 19, 329-335.
- Vancouver, J.B., & Weinhardt, J.M., (2012). Modeling the mind and the milieu: Computational modeling for micro-level organizational researchers. *Organizational Research Methods*, 15, 602-623.
- Vancouver, J. B., Weinhardt, J. M., & Schmidt, A. M. (2010). A formal, computational theory of multiple-goal pursuit: Integrating goal-choice and goal-striving processes. *Journal of Applied Psychology*, 95, 985-1008.
- Weinhardt, J. M. & Vancouver, J. B. (2012). Computational models and organizational psychology: Opportunities abound. *Organizational Psychology Review*, 2, 267-292.

## PRESENTATION OVERVIEW

**Felipe Csaszar**, Senior Editor, Organization Science

- **Using formal models to study strategy and organizations**

Keywords: Modeling; Formal models; Computational Models; External validity

Abstract: This presentation discusses the use of formal models in organization theory. Topics covered include: the benefits of using formal models, situations where formal models are more or less appropriate as a research method, and practical considerations regarding how to build models and write about them. Some of the practical considerations discussed include: what makes for a good contribution, how simple the model should be, what is an appropriate structure for a modeling paper, how to ensure the model is well motivated and has external validity, and how to increase the readability and replicability of this type of research.

## SPEAKER BIO SKETCH

**Felipe Csaszar**

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Felipe Csaszar is an Associate Professor of Strategy at the University of Michigan's Ross School of Business. His research focuses on how managers' mental representations and firms' decision-making structures affect firm-level outcomes such as innovation, speed, and profits. More broadly, he is interested in combining formal modeling and empirical approaches to understand how firms can make better strategic decisions. His work has been published in Management Science, Organization Science, and the Strategic Management Journal. He serves as Senior Editor of Organization Science and as an editorial board member of Strategy Science and the Academy of Management Review.

Before joining the Ross School of Business, Professor Csaszar was Assistant Professor of Strategy at INSEAD. He received his PhD in Strategy from The Wharton School, University of Pennsylvania. Prior to pursuing his PhD, he was head of research of an asset management firm and CEO of an Internet startup.

#### **DIGITAL READER: RESOURCES RECOMMENDED BY THE SPEAKER**

Lave, C. A. and J. G. March (1975). An Introduction to Models in the Social Sciences. Harper & Row, New York.

#### **PRESENTATION OVERVIEW**

**Myles Shaver**, Associate Editor, Strategy Science

- **Causal identification through a cumulative body of research in the study of strategy and organizations**

Keywords: Causal identification, cumulative, norms, strategy, organizations

Abstract: I discuss the importance and the difficulties of causal identification in the study of strategy and organizations. In light of the difficulties, I propose that causal identification be considered as a process of cumulative research. I discuss what this entails in terms of guiding research. However, my proposal requires that we change some research norms in the field and I describe what this would have to entail.

#### **SPEAKER BIO SKETCH**

**J. Myles Shaver**

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Myles Shaver is Professor of Strategic Management and Entrepreneurship at the Carlson School of Management, University of Minnesota where he holds the Pond Family Chair in the Teaching and Advancement of Free Enterprise Principles.

Myles' research interests revolve around corporate and international strategies. His research has been published in the *Strategic Management Journal*, *Management Science*, *Administrative Science Quarterly*, *Organization Science*, *Academy of Management Review*, *Journal of Economics and Management Strategy*, *Journal of International Business Studies*, *International Journal of Industrial Organization*, *Global Strategy Journal*, *Strategic Organization*, *Journal of Management*, *Small Business Economics*, *Advances in Strategic Management*, *Asia-Pacific Journal of Management* and various book chapters. His forthcoming book published by Oxford University Press is entitled, *Headquarters Economy: Managers, Mobility, and Migration*.

Myles is a Senior Editor at *Strategy Science*, and has had editorial roles at *Management Science*, the *Strategic Management Journal*, the *Global Strategy Journal*, and the *Journal of International Business Studies*. He currently serves on the board of the Strategic Management Society.

Myles has taught MBA and executive education classes on Corporate Strategy, Multinational Business Management, and Corporate Responsibility; and Ph.D. classes on strategy and international business research. Myles received the Academy of Management Business Policy and Strategy Division's Irwin Outstanding Educator Award, the Ross School of Business (University of Michigan) Distinguished PhD Alumni Award, and *Poets and Quants* profiled Myles in their compilation of the "World's 50 Best Business School Professors."

**DIGITAL READER:  
RESOURCES RECOMMENDED BY THE SPEAKER**

Angrist, JD and J-S Pischke. 2009. *Mostly Harmless Econometrics*. Princeton and Oxford: Princeton University Press.

Bettis, RA, CE Helfat, and JM Shaver. 2016. "The necessity, logic, and forms of replication," *Strategic Management Journal*, 37: 2193–2203



Oxley, J. E., Rivkin, J. W., Ryall, M. D., & Initiative, S. R. 2010. The strategy research initiative: recognizing and encouraging high-quality research in strategy. *Strategic Organization*, 8(4): 377-386.

Simcoe, Tim. Empirical Etiquette. <http://people.bu.edu/tsimcoe/etiquette.html>

## PRESENTATION OVERVIEW

**Fred Oswald**, Senior Associate Editor, Journal of Management

- **Best editorial practices associated with robust and reliable research in the science of organizations**

Keywords: Reporting Standards; Data Sharing; Open Science; Graduate Education

Abstract: Many organizational science journals have been revising their editorial practices in a manner consistent with the current zeitgeist of robust and reliable research. This talk will reflect on a number of key study design and analysis considerations, both within and outside of my personal editorial experiences (e.g., preregistration, inductive vs. deductive research, statistical reporting, supplemental materials). I'll conclude with the obvious: that "best editorial practices" will continue to change quickly; that some seemingly modest improvements will greatly improve the quality and usefulness of our research; and that a serious focus on graduate education in open science is critical to the multidisciplinary value of our journals and our science.

## SPEAKER BIOSKETCH

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Fred Oswald is the Herbert S. Autrey Professor of Social Sciences in the Department of Psychology at Rice University. Oswald's expertise focuses on personnel selection, psychological measurement, and big data within organizational, educational, and military settings. He serves in editorial roles at four journals: Senior Associate Editor at *Journal of Management*, and Associate Editor at *Psychological Methods*, *Advances in Methods and Practice in Psychological Science*,

and *Journal of Research in Personality*. Oswald is the current President of the Society for Industrial and Organizational Psychology (SIOP, [www.siop.org](http://www.siop.org)), a Fellow of the American Psychological Association (Div. 5, 8, 14), and the Association for Psychological Science.

### **DIGITAL READER: RESOURCES RECOMMENDED BY THE SPEAKER**

Campbell, J. P., & Wilmot, M. P. (in press). The functioning of theory in IWOP. In N. Anderson, D.S. Ones, H.K. Sinangil, & C. Viswesvaran (Eds.), *Handbook of industrial, work, and organizational (IWOP) Psychology: Volume 1, Personnel Psychology*, (2nd ed). London, UK: Sage.

Grand, J. A., Rogelberg, S. G., Allen, T. D., Landis, R. S., Reynolds, D. H., Scott, J. C., Tonidandel, S., & Truxillo, D. M. (2017). A systems-based approach to fostering robust science in industrial-organizational psychology. *Industrial and Organizational Psychology: Perspectives on Science and Practice*.  
<http://www.siop.org/journal/11.1/grand.pdf>

Open Science Framework: <https://osf.io/>

R Markdown: <https://rmarkdown.rstudio.com/>

### **PRESENTATION OVERVIEW**

**Don Bergh**, Methods Task Force Chair, Journal of Management

- **The Reproducibility of Empirical Management Research: Tests, Applications, and Recommendations**

Abstract: Reproducibility is obtaining the same results when re-analyzing the same data. It can be used to confirm the findings reported in a focal study and serve as a preliminary step in the replication process. This presentation will discuss why reproducibility has become an important part of the research process, describe how to test it, report on findings from applying those tests to published work, relate their relevance to replication, and offer recommendations for the publication process.

### **SPEAKER BIOSKETCH**

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Donald D. Bergh is the Louis D. Beaumont Chair of Business Administration and Professor of Management at the Daniels College of Business of the University of Denver. He previously served on the faculties of Purdue, Cornell and Penn State, where he was a long-time member.

His research interests lie primarily in corporate strategy and research methodology where his work has appeared the *Academy of Management Journal*, the *Strategic Management Journal*, *Organization Science*, *Journal of Management*, *Organizational Research Methods*, the *Journal of Management Studies*, and the *Academy of Management Learning and Education*.

He has served as an Associate Editor (*AMJ*, 2002-2004; *ORM*, 2008-2010, and *JMS*, 2011-2014), as a member of the editorial review boards of *AMJ*, *SMJ*, *AMR*, *ORM* and *JMS*, and along with David Ketchen, Jr., and co-edited the Emerald series, *Research Methodology in Strategy and Management*, volumes 1 through 10.) He has served the Academy of Management as a member of its inaugural Ethics Education Committee, the Newman Award Committee (Best Dissertation Competition), the Business Policy and Strategy Division's Awards Committee, the Strategic Management Society as the inaugural Program Chair of the Corporate Strategy Interest Group, Chair of the Research Methods Community, and as Co-Chair of the 35th Annual International Conference of the Strategic Management Society. Currently, Don is the inaugural Chair of the Scientific Integrity and Rigor Task Force of the *Journal of Management*, the first of its kind in the management field.

Recently, the Southern Management Association reported that Don is the 2<sup>nd</sup> most prolific author (on an authorship-weighted basis) in the *Journal of Management* during its first 40 years.

## PRESENTATION OVERVIEW

**Brent Goldfarb**, Associate Editor, Management Science—Entrepreneurship and Innovation

- **Inference and Replication in Strategy Science**

Abstract: Replication will not resolve problems of the reliability of research results in strategy science, or in fields which rely heavily on the use of archival data. I explore why replication works theoretically. I then demonstrate that narrow-replications (i.e., precise reproductions of empirical exercises) do not solve epistemological problems associated with selection of particular models and theories. Quasi-replications, in which theoretical implications are explored in new settings and with new measures suffer from Leamer's "using up the data problem" that also plagues initial studies. The combined use of randomization, bounds analysis, and abductive

reasoning can help alleviate inference problems in strategy research. I end with some tips of how to future-proof writing.

### **SPEAKER BIOSKETCH**

#### **Brent Goldfarb**

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Dr. Brent Goldfarb is the academic director for the Dingman Center for Entrepreneurship and Associate Professor of Management and Entrepreneurship at the University of Maryland's Robert H. Smith School of Business. In addition to studying the use of statistical methods for inference, Goldfarb studies entrepreneurship at the intersection between economics, finance, history, and strategy. He has a forthcoming book on when new technologies lead to bubbles. Dr. Goldfarb earned a Ph.D. in Economics at Stanford University.

### **DIGITAL READER: RESOURCES RECOMMENDED BY THE SPEAKER**

- Bettis, Richard A., Constance E. Helfat, and J. Myles Shaver. 2016. "The Necessity, Logic, and Forms of Replication: The Necessity, Logic, and Forms of Replication." *Strategic Management Journal* 37(11): 2193–2203.
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- Goldfarb, Brent, and Andrew A. King. 2016. "Scientific Apophenia in Strategic Management Research: Significance Tests & Mistaken Inference." *Strategic Management Journal* 37(1): 167–176.
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## PRESENTATION OVERVIEW

**Henrich Greve**, Editor-in-Chief, *Administrative Science Quarterly*

- **How evidence presentation can improve robustness and reliability in management research**

## SPEAKER BIOSKETCH

**Henrich R. Greve**

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Henrich R. Greve is a Professor of Entrepreneurship and the John H. Loudon Chaired Professor of International Management at INSEAD. He holds a PhD in Organisational Behaviour and MA in Sociology from the Graduate School of Business, Stanford University.

Henrich's research focuses on the causes and consequences of strategic change in organisations, and he also studies organisational innovations and founding and growth of organisations in young industries. He has published over 70 articles in leading journals including *Administrative Science Quarterly*, *Academy of Management Journal*, *Strategic Management Journal*, *American Journal of Sociology*, and *Management Science*. He has co-authored the book *Network Advantage: How to Unlock Value from Your Alliances and Partnerships* (Jossey-Bass, 2013)

and authored the book *Organizational Learning from Performance Feedback: A Behavioral Perspective on Innovation and Change* (Cambridge University Press, 2003).

Henrich is the editor of *Administrative Science Quarterly* where he has previously been an Associate Editor, and has also served as a Senior Editor of *Organization Science*. He has been a joint guest editor at *Academy of Management Journal*, *Organization Science*, *Advances in Strategic Management*, *Research in the Sociology of Work*, and *Research in the Sociology of Organizations*. He has served as the Program Chair and Division Chair of the Organisation and Management Theory (OMT) Division at the Academy of Management.

His business and policy presentations include the World Knowledge Forum in Seoul, Korea, and the World Economic Forum Annual Meeting of New Champions in Tianjin, China.

## PRESENTATION OVERVIEW

**John Kammeyer-Mueller**, Associate Editor, Personnel Psychology

- **Ethical socialization of management scholars: Perspectives from professional and organizational socialization research**

Keywords: Organizational socialization, ethical culture, social identity

Abstract: In this presentation, I review some principles from the organizational socialization research related to developing cultural norms, and describe how these findings might relate to creating a culture for robust and reliable organizational science. One key concern is how reward structures may pressure researchers to cut corners in producing research. Another key concern is how to offset these pressures with counter-pressures that show the benefits of appropriate research for personal gain, meaning at work, social reinforcement, and identity processes. Special emphasis is placed on moral foundations concepts and the idea that multiple motivational systems can be invoked to facilitate cultural development.

## SPEAKER BIOSKETCH

**John Kammeyer-Mueller**

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John Kammeyer-Mueller is the Curtis L. Carlson Professor of Industrial Relations in the Department of Work and Organizations at the University of Minnesota. Much of Dr. Kammeyer-Mueller's research examines how employees adjust to new jobs, the process of career development, and how attitudes and emotions shape behavior in organizations. He is particularly interested in learning how interpersonal relationships with coworkers and supervisors can affect how new hires see their work environments over time. His work has appeared in publications such as the Academy of Management Journal, Journal of Applied Psychology, Personnel Psychology, Journal of Management, and Organizational Research Methods, among others. He is also co-author of the human resources textbook Staffing Organizations. He has provided human resources consulting with several organizations, including the Minnesota Department of Economic Security, Allegiance Healthcare, 3M, Merck, the Florida Bar Association, Cargill, and General Mills. Professor Kammeyer-Mueller teaches courses related to organizational behavior and human resources in the undergraduate, masters', and doctoral programs at the University of Minnesota.

### **DIGITAL READER: RESOURCES RECOMMENDED BY THE SPEAKER**

American Psychological Association ethics guidelines  
<http://www.apa.org/ethics/code/> (especially Section 8: Research and Publication)

Moral foundations theory:

Haidt, J. (2012). The righteous mind: Why good people are divided by politics and religion. New York: Pantheon Press.

Behavioral ethics:

Treviño, L. K., Weaver, G. R., & Reynolds, S. J. (2006). Behavioral ethics in organizations: A review. Journal of management, 32(6), 951-990.

Organizational socialization and ethics:

Kammeyer-Mueller, J. D., Simon, L. S., & Rich, B. L. (2012). The psychic cost of doing wrong: Ethical conflict, divestiture socialization, and emotional exhaustion. Journal of management, 38(3), 784-808.

### **PRESENTATION OVERVIEW**

**Deepak Somaya**, Associate Professor and Stephen and Christy King Faculty Fellow, Gies College of Business, University of Illinois at Urbana Champaign

- **Robustness and reliability in the analysis of count data**

Keywords: Count data models, Poisson, Negative Binomial, QML Poisson, Panel count models

**Abstract:** Management research often seeks to explain and predict phenomena that are represented by count data (integer non-negative outcomes), which has led to a proliferation of count models in empirical work. Examples of such phenomena include alliances, board directorships, initial public offerings, lawsuits, licenses, start-ups, patents, and product introductions. The appropriate use of count data models entail several critical issues, which we catalog in two broad subsets – those related to the functional specification of the mean and those related to distributional assumptions. We examine alternative empirical approaches towards these critical issues and recommend best practices. By so doing, we hope to facilitate robust and reliable modeling and interpretation of count phenomena in future research.

### **SPEAKER BIO SKETCH**

#### **Deepak Somaya**

Associate Professor and Stephen and Christy King Faculty Fellow  
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Deepak Somaya is an Associate Professor of Strategy and Entrepreneurship and the Stephen and Christy King Faculty Fellow in the College of Business, University of Illinois at Urbana-Champaign. He also holds a courtesy appointment in the University of Illinois College of Law. Deepak received his Ph.D. in Business Administration from the Walter A. Haas School of Business at the University of California at Berkeley, his MBA from the Indian Institute of Management (Calcutta), and his B.Tech. in mechanical engineering from the Indian Institute of Technology (Bombay). In his research, he studies how companies strategize about and derive competitive advantage from their knowledge assets, including the use of inter-organizational relationships to achieve these objectives. Deepak's research has been published in several journal articles, book chapters and conference proceedings, and received several awards including a best dissertation award (Technology and Innovation Division, Academy of Management), conference best paper awards, and the 2012 California Management Review Best Article Award. He teaches courses on Strategic Management, Technology Strategy, and Strategic Human Capital. Deepak currently serves on the editorial boards of the Academy of Management Review, Journal of Management, Strategic Entrepreneurship Journal and Strategic Management Journal.

### **DIGITAL READER: RESOURCES RECOMMENDED BY THE SPEAKER**

Colin Cameron and Pravin Trivedi. 1998. Regression Analysis of Count Data. Cambridge, U.K.: Cambridge University Press.

Rainer Winkelmann. 2013. Econometric Analysis of Count Data. Fourth Edition. New York: Springer.

## PRESENTATION OVERVIEW

**Nan Zhang**, thought leader on information sciences and big data

- **Robustness and reliability in web data analytics**

## SPEAKER BIOSKETCH

### **Nan Zhang**

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Dr. Nan Zhang is a Professor of Information Sciences and Technology at the Pennsylvania State University. Before joining Penn State, he was a Professor at the George Washington University and a Program Director in the Division of Information and Intelligent Systems (IIS) at the National Science Foundation (NSF). The focus of Dr. Zhang's research is on databases, data analytics, and taking the data-science methodology to examine information security and privacy issues. His research is supported by NSF and the Army Research Office, and has received several awards, including the NSF CAREER award in 2008, Best Paper Awards from IEEE ICC 2013 and IEEE NAS 2010, the Best Student Paper Award from ACM CIKM 2013, and Best Paper Nominations from IEEE ISI 2015 and HICSS 2018. His work on technology transfer was also recognized by the GW Technology Transfer Innovation Prize and the first place finish at the GW Business Plan Competition, both in 2012.

## PRESENTATION OVERVIEW

**Zhen Zhang**, Associate Editor, Personnel Psychology

- **Using Meta-Analysis to Evaluate Effect Size Heterogeneity and Inform the Robustness of Research Findings**

Keywords: Meta-analysis, effect size heterogeneity, Meta-analytic structural equation modeling

Abstract: This presentation focuses on examining and interpreting effect size heterogeneity in meta-analysis findings, and methods of incorporating heterogeneity in the two approaches of combining meta-analysis and structural equation modeling. We first review the various measures of effect sizes in organization sciences and how meta-analyses report information about effect size heterogeneity. We then compare and contrast two approaches that test structural models based on meta-analytically derived correlations. Based on recent research (Cheung, in press; Yu et al., 2016), we show how heterogeneity can be considered in these two approaches. Recommendations are provided for researchers to better use the rich information of effect size heterogeneity when they evaluate primary studies and/or conducting meta-analyses.

### **SPEAKER BIOSKETCH**

#### **Zhen Zhang**

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Zhen Zhang is associate professor of management and Dean's Council of 100 Distinguished Scholar in the Department of Management and Entrepreneurship at the W. P. Carey School of Business, Arizona State University. His research focuses on leadership process and leadership development, work teams and groups, biological basis of work behavior, start-ups and entrepreneurship, and advanced research methods. Zhang's work has appeared in leading management journals including Academy of Management Journal, Personnel Psychology, Journal of Applied Psychology, Organization Science, Organizational Behavior and Human Decision Processes, and the Leadership Quarterly, and has been cited in media outlets such as the Wall Street Journal, New York Times, and the Globe and Mail. He currently serves as an associate editor of Personnel Psychology. Zhang has taught graduate and undergraduate courses of Organizational Behavior, Leadership, and Cross-Cultural Management.

### **DIGITAL READER: RESOURCES RECOMMENDED BY THE SPEAKER**

Bergh, D. D., Aguinis, H., Heavey, C., Ketchen, D. J., Boyd, B. K., Su, P., . . . Joo, H. (2016). Using meta-analytic structural equation modeling to advance strategic management research: Guidelines and an empirical illustration via the strategic leadership-performance relationship. *Strategic Management Journal*, 37, 477–497.

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- Cheung, M.W.-L. (2015). *Meta-analysis: A structural equation modeling approach*. West Sussex, United Kingdom: Wiley.
- Cheung, M.W.-L. (in press). Issues in solving the problem of effect size heterogeneity in meta-analytic structural equation modeling: A commentary and simulation study on Yu, Downes, Carter, and O'Boyle (2016). *Journal of Applied Psychology*.
- Cheung, M.W.-L., & Chan, W. (2005). Meta-analytic structural equation modeling: A two-stage approach. *Psychological Methods, 10*, 40-64.
- Cheung, M. W.-L., & Chan, W. (2009). A two-stage approach to synthesizing covariance matrices in meta-analytic structural equation modeling. *Structural Equation Modeling: A Multidisciplinary Journal, 16*, 28-53.
- DeSimone, J. A., Köhler, T., & Schoen, J. L. (in press). If it were only that easy: The use of meta-analytic research by organizational scholars. *Organizational Research Methods*.
- Edwards, J. R., & Christian, M. S. (2014). Using accumulated knowledge to calibrate theoretical propositions. *Organizational Psychology Review, 4*, 279-291.
- Hedges, L. V., & Olkin, I. (1985). *Statistical methods for meta-analysis*. San Diego, CA: Academic Press.
- Landis, R. S. (2013). Successfully combining meta-analysis and structural equation modeling: Recommendations and strategies. *Journal of Business and Psychology, 28*, 251-261.
- Oswald, F. L., & Johnson, J. W. (1998). On the robustness, bias, and stability of statistics from meta-analysis of correlation coefficients: Some initial Monte Carlo findings. *Journal of Applied Psychology, 83*, 164-178.
- Rosopa, P. J., & Kim, B. (2017). Robustness of statistical inferences using linear models with meta-analytic correlation matrices. *Human Resource Management Review, 27*, 216-236.
- Schmidt, F. L., & Hunter, J. E. (2015). *Methods of meta-analysis: Correcting error and bias in research findings (3rd ed.)*. Thousand Oaks, CA: Sage.
- Sheng, Z., Kong, W., Cortina, J. M., & Hou, S. (2016). Analyzing matrices of meta-analytic correlations: Current practices and recommendations. *Research Synthesis Methods, 7*, 187-208.

- Viswesvaran, C., & Ones, D. S. (1995). Theory testing: Combining psychometric meta-analysis and structural equations modeling. *Personnel Psychology*, 48, 865–885.
- Whitener, E. M. (1990). Confusion of confidence intervals and credibility intervals in meta-analysis. *Journal of Applied Psychology*, 75, 315-321.
- Yu, J., Downes, P. E., Carter, K. M., & O'Boyle, E. H. (2016). The problem of effect size heterogeneity in meta-analytic structural equation modeling. *Journal of Applied Psychology*, 101, 1457-1473.

## PRESENTATION OVERVIEW

**John Lynch**, Guest Co-Editor, Special Issue on Question-Focused Innovations in Research Methods, *Strategic Management Journal*; Co-Editor, Replication Corner, *International Journal of Research in Marketing*

- **External Validity and the Replication Crisis: Reflections on the Replication Corner**

Keywords: Conceptual replication; Replication and extension; Direct replication; External validity

Abstract: We contrast the philosophy guiding the Replication Corner at IJRM with replication efforts in psychology. Psychology has promoted “exact” or “direct” replications, reflecting an interest in statistical conclusion validity of the original findings. Implicitly, this philosophy treats non-replication as evidence that the original finding is not “real” — a conclusion that we believe is unwarranted. In contrast, we have encouraged “conceptual replications” (replicating at the construct level but with different operationalization) and “replications with extensions”, reflecting our interest in providing evidence on the external validity and generalizability of published findings. In particular, our belief is that this replication philosophy allows for both replication and the creation of new knowledge. We express our views about why we believe our approach is more constructive, and describe lessons learned in the three years we have been involved in editing the IJRM Replication Corner. Of our thirty published conceptual replications, most found results replicating the original findings, sometimes identifying moderators.

## SPEAKER BIO SKETCH

### **John Lynch**

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John G. Lynch, Jr. is the Ted Andersen Professor of Free Enterprise at the Leeds School of Business, University of Colorado Boulder, and the Director of the Center for Research on Consumer Financial Decision Making. He holds a Ph.D. in psychology from the University of Illinois at Urbana-Champaign and previously held appointments at University of Florida and Duke University. Lynch studies the cognitive psychology of consumer decision-making, with a recent focus on consumer financial decision-making. Lynch is a Fellow of the American Marketing Association, the Association for Consumer Research, the American Psychological Association/Society for Consumer Psychology. He has been a recipient of the Paul D. Converse Award for Outstanding Contributions to the Science of Marketing and the Society for Consumer Psychology's Distinguished Scientific Achievement Award. Five of his papers have been honored as outstanding article of the year in top marketing journals. He is one of the 10 most published authors in the history of Journal of Consumer Research. In 2015 publications tracked by the Web of Science, Lynch was one of the 25 most cited marketing scholars in the world. He is a member of the editorial boards of Journal of Consumer Research and the Journal of Marketing, and a member of the Journal of Marketing Research Advisory Board. He has served as president of the Policy Board of the Journal of Consumer Research, president of the Association for Consumer Research, associate editor for the Journal of Consumer Research, and associate editor and co-editor for the Journal of Consumer Psychology. He co-chairs the Boulder Summer Conference on Consumer Financial Decision Making.

In addition to studying consumer decision-making, about a quarter of Lynch's work concerns validity issues in research methodology. His 2010 Journal of Consumer Research paper on mediation analysis, and 2013 Journal of Marketing Research paper on simple effects in moderated regression are the most cited papers in any marketing journal in the year of their publication.

Spiller, Stephen A., Gavan J. Fitzsimons, John G. Lynch, Jr., Gary H. McClelland (2013), "Spotlights, Floodlights, and the Magic Number Zero: Simple Effects Tests in Moderated Regression," Journal of Marketing Research, 50 (April), 277-288. Most cited paper published in any marketing journal 2013 to present.

Zhao, Xinshu, John G. Lynch, Jr., and Qimei Chen (2010), "Reconsidering Baron and Kenny: Myths and Truths about Mediation Analysis," Journal of Consumer Research, 37 (August), 197-206. Most cited paper published in any marketing journal 2006 to present. Recipient of 2013 JCR Award for Best Article in 2010 volume of JCR.

#### **DIGITAL READER: RESOURCES RECOMMENDED BY THE SPEAKER**

Cronbach, L. J. (1975). Beyond the two disciplines of scientific psychology. American Psychologist, 30, 116-127.



Lynch, John G., Jr., Eric T. Bradlow, Joel C. Huber, and Donald R. Lehmann (2015),  
“Reflections on the Replication Corner: In Praise of Conceptual Replications,” *International Journal of Research in Marketing*, 32 (4), 333-342.