IOWA STATE UNIVERSITY | Debbie and Jerry Ivy College of Business

Replication and Doctoral Student Education

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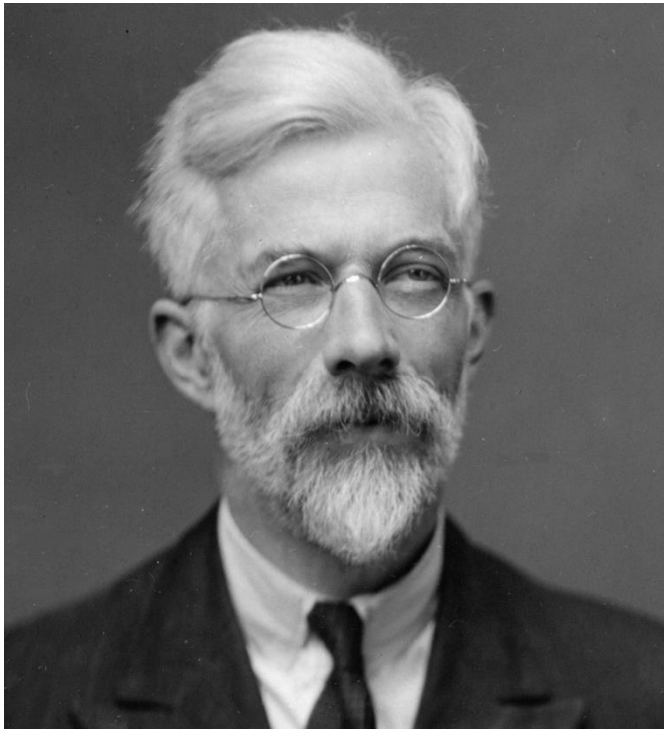
CARMA New Doctoral Student Workshop Series
August 18, 2025

Need of Replications



Sir Ronald Fisher

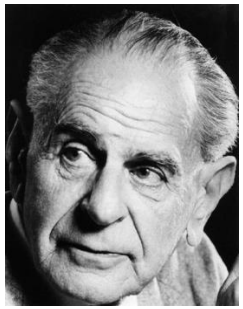
No isolated experiment, however significant in itself, can suffice for the experimental demonstration of any natural phenomenon.

The Design of Experiments (1935: 14)

We always knew …

We need replications for solid quantified evidence-based theories

- Critical rationalism (Popper 1959; Albert 1968)
- Strong inferences (Platt 1964)
- Research programs (Lakatos 1970)



Sir Karl Popper

John Platt

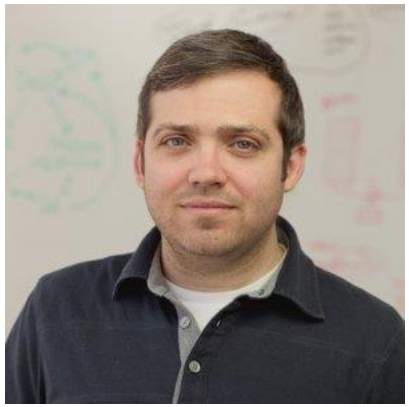
Imre Lakatos

Hans Albert

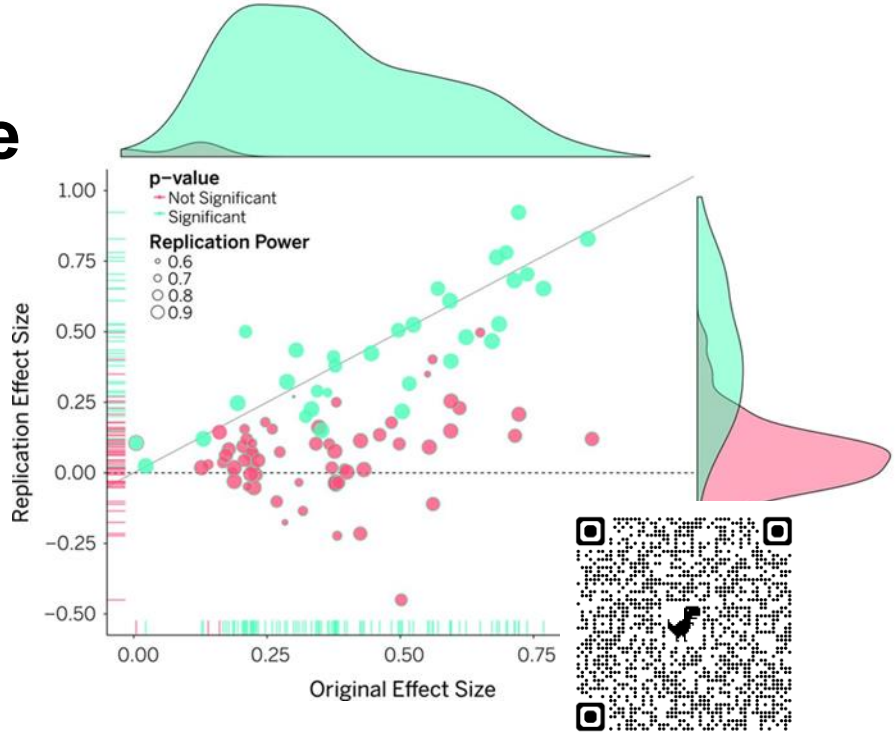
Need for Replication …

- **2015 "Wake Up Call"**
- **Center of Open Science**

Brian Nosek



Jeffrey Spies



- Recognition for a need of more replication studies to validate reported research findings.

Discussion question

Why are we not conducting more replications if they are essential for scientific knowledge generation?

Why not more replications?

Replication Challenges

- Publication outlets
- Incentive systems
- Education & training

More journals are publishing replication studies (https://www.arimweb.org/journals)

Doctoral programs

- Intensive methods training
  - Method seminars
  - Research project apprenticeships
- Current replication training
  - Limited or no replication content of method seminars
  - Senior scholars rarely conduct replications and have limited replication experience
  - Replication studies discouraged

Missed Opportunity:
Replication as an educational tool

- Replications enable experiential imitation learning
- Replicated studies as a template can teach students
  - Study design
  - Data collection
  - Data analysis
- Instructors can focus on additional guidance for
  - Comparing results of replicated and replication studies
  - Writing and publishing replication reports

=> Replications great for early-stage doctoral students

Doctoral programs should add replication studies to their curriculum

- **Benefits of replications for doctoral student education**

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How replication studies can improve doctoral student education

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Doctoral student replication initiative

Why Replicate?

"We do not take even our own observations quite seriously, or accept them as scientific observations, until we have repeated and tested them. Only by such repetitions can we convince ourselves that we are not dealing with a mere isolated "coincidence", but with events which, on account of their regularity and reproducibility, are in principle inter-subjectively testable."

Karl Popper, The Logic of Scientific Discovery, 1959.

https://www.arimweb.org/

Advancement of Replications Initiative in Management (ARIM)

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What is ARIM currently doing?

Project 1: Dark Side of Goal Setting (Chris Castille)
Project 2: Romance of Leadership (Billy Obenauer)
Project 3: Industry Cluster Dynamics (Andreas Schwab/Xavier Martin)

2025 ARIM project experiences

Lessons Learned:

- How to select replication-worthy studies
  - impact and salience (awards, citations)
  - transparency and documentation
  - author support for replication
- High levels of skill and motivation among recruited doctoral students
- Doctoral students are learning a lot, and they teach each other more than expected
- Participants experience the power of “big-team” science and extend their academic social network

ARIM Contributions

Replications teach doctoral students

- General research skills
- Replication research skills

Doctoral student replications help address the dearth of replication studies in management research

- Large number of doctoral programs and students
- … plus, increased likelihood of future replication studies by these students

How to get involved …

Visit ARIM website and become a supporter and endorser

- https://www.arimweb.org/

Answer future calls for doctoral student/faculty teams to join an ARIM replication project

Propose ARIM replication projects

- Always interested in suggestions for replication projects
- Always interested in expanding the pool of actively involved students and faculty members

Participate in ARIM and JOMSR replication workshops

- Next: Southern Management Conference in October

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