

# Teaching Open Science

## Turning Students into Skeptics, not Cynics

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# How Reliable Are Psychology Studies?

A new study shows that the field suffers from a reproducibility problem, but the extent of the issue is still hard to nail down.



ED YONG | AUG 27, 2015

nature International

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Over half of psych test replication study to d

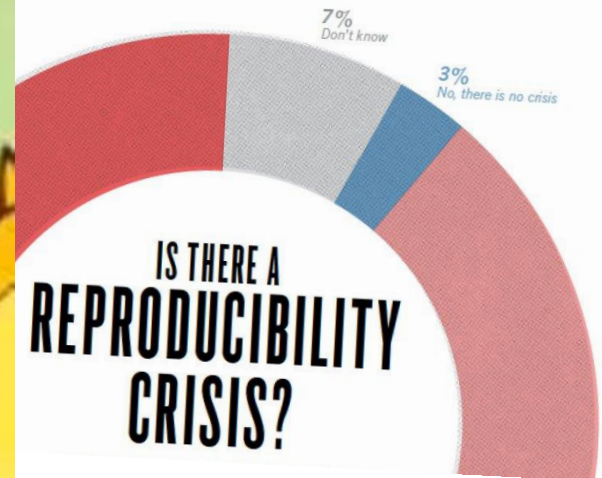
## Psychology replication study to d upon further review

Only 35 of 97 reports of statistically significant results published in three major psychology journals in 2008 could be replicated, a group led by psychologist Brian Nosek of the University of Virginia in Charlottesville reports in the Aug. 28 Science. Nosek is executive director of the Center for Open Science, which coordinated 270 researchers involved in the replication project.

REPRODUCIBILITY

## Many psychology papers fail replication test

An effort to repeat 100 studies yields sobering results, but positive about the process



## Psychology's Replication Crisis Can't Be Wished Away

It has a real and heartbreaking cost.

ED YONG | MAR 4, 2016 | SCIENCE


# What NOT to do

1. List everything that's going wrong in psychology
2. Period.



# What to do?

1. Be open about the problems in psychology
2. Give students the tools to deal with these problems



Science is the  
organized skepticism  
in the reliability of  
expert opinion

Richard P Feynman

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# What to do?

Start from the intuitions students already have...



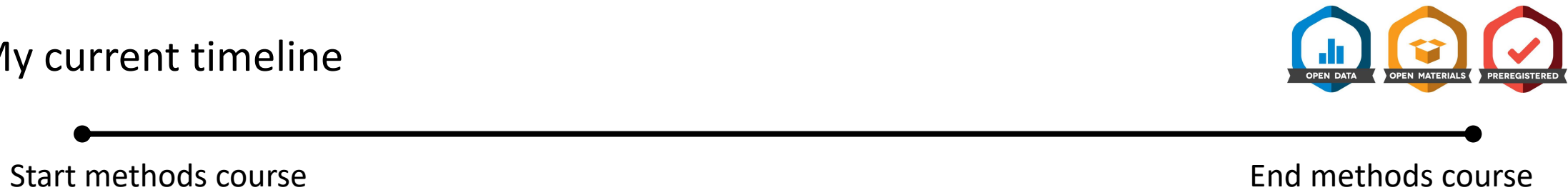
# What to do?

... and integrate this with open science principles



# When to do this?

## My current timeline



## Future plan



# When to do this?

Introduce open science concepts at a **relevant moment**



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<b>Methods topic</b>	<b>Open science topic</b>
Sources of knowledge	Transparency

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Sample size / generalizability	Multi-lab collaborations

# When to do this?

Introduce open science concepts at a **relevant moment**

<b>Methods topic</b>	<b>Open science topic</b>
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Sample size / generalizability	Multi-lab collaborations
...	...

# Release into the wild



# Some considerations

- How can students practice with open science?
- Only 1 methods course is not enough.. How to involve other courses?
- Should we subtly integrate open science or talk about it as “the Open Science Movement”?
- ...



## Turning students into skeptics, not cynics:

1. Be open about the problems in psychology
2. Give students the tools to deal with these problems
  - Start with their intuitions
  - Integrate open science with methods topics

# Thank you!



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