Statistics and R Computing Workshop Using IBIS Data
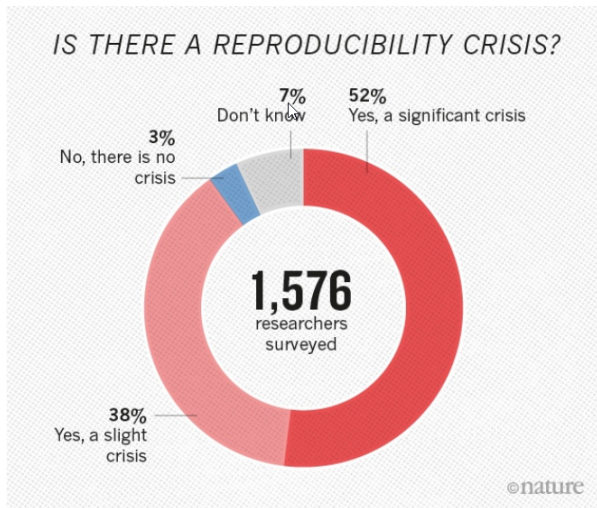
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UNC-Chapel Hill and IBIS Network

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Reproducibility in the Computing Age

Evidence shows low reproducibility of scientific research despite

1. Extensive professional specialization
2. Well-developed methodology for study design and data analysis
3. Explosion in open source statistical software and computing tools
4. Software supported by extensive documentation

How can we turn the tide on the reproducibility issue?

Introduction

My part:
Principled and detailed statistical consulting and education

Goals with IBIS:
NOT to:

1. Teach scientists to be self-reliant statistically
2. Use statistical jargon scientists and expect them to decipher

YES to:

1. Teach scientists about fundamental statistical methods and concepts
2. Teach scientists good programming practices for data management and visualization
3. Focus less on jargon and more on concepts of statistical analysis

Welcome

Motivation for class:
Acting on goals for **whole IBIS network**

About Me
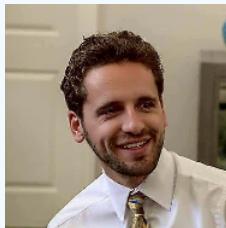
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Basketball and Green Bay Packers enthusiast

Structure for class:

- Lecture and Q+A sessions - 1 hour, twice a month
- Office Hours - 2 hours, twice a month, open
- No slides filled with code, **NO** droning on about coding
- Focus on **live and conceptual programming**
- **All lectures and code publically available**

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"But before we move on, allow me to belabor the point even further..."

Goals for class:

1. Primary: Promote the understanding of statistical concepts and mindset
2. Secondary: Teach tools in R software for
   1. data management
   2. data visualization/tabulation
   3. exploratory analysis
   4. **reproducibility**
3. Make statistics and coding less intimidating and more exciting!

Class materials: link
Text for class: link
Code for text: link