

Why do we Need Another Book About Research and Statistics?

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Psychology is currently facing a crisis. In 2015, a study published by the Open Science Collaboration found that only 36% of 100 experimental and correlational studies from three top-ranking journals could be replicated.^[1] This news was widely covered by media outlets around the world, including the *New York Times* and the *Atlantic*. As a wide-eyed (and very naive) undergraduate psychology student at that time, who was eager to cure humanity of its mental health issues, this was not what I had signed up for.

While some researchers argue that psychology is not in crisis,^[2] it is still important to understand the reasons behind the replicability crisis and how the findings of the Open Science Collaboration study can be used to promote better scientific practices. This Open Education Resource is a humble attempt to assist future psychology students in conducting research that is robust and reliable.

It is also my hope that this resource will help ease the burden of mandatory research and statistics coursework for students who aspire to make a positive impact on people's lives through the field of psychology.

My Experience with Statistics

My relationship with statistics is unique compared to that of my peers. Many people are surprised or confused when I tell them that I love statistics. Sometimes, I am even surprised by this myself. If someone had told my 16-year-old self that I would one day be teaching statistics at the undergraduate level, I would have thought that my 30-something self had lost their mind.

I do admit that I have always loved puzzles, and I was fortunate enough to have passionate educators who taught me statistics in a fun and non-threatening manner, using resources such as Andy Field's book.^[3] I viewed statistics class as another puzzle to be solved, albeit a very challenging one.

Because of this, I developed a deep curiosity about statistics and began to see it in a different light. I realised that maybe statistics isn't as difficult as it seems, or maybe, a lot of educators (even myself) make it more difficult than it needs to be. Maybe, just *maybe*, there is a way to make it more intuitive for students.

Dustin Fife, who inspired me to write this Open Education Resource, even suggested renaming statistics as "simplistics" to make it more approachable.^[4]

The Philosophy Behind this Little Book

When I first started teaching undergraduate statistics, it was challenging to find a textbook that aligns with my perspective on statistics. I was also teaching intensive classes. While I loved Andy Field's textbook, I couldn't use it as a prescribed text because it required a lot of reading through stories to get to the statistical knowledge.^[5] Additionally, it didn't cover certain topics, such as a brief introduction to research methods, open science principles and critiquing research. I ultimately felt that my students would be better served by a book that closely follows my philosophy of teaching research methods and statistics in psychology.

The statistics section of this book will be similar to Field's book, but the content is substantially less comprehensive and less engaging.

The goal of this book is to help future scholars of psychology conduct better science by teaching statistics in an intuitive manner. I also hope that my students will not only learn a thing or two about research and statistics, but also find it useful in their everyday life and future practice. Perhaps some students may even be inspired to become statisticians or data analysts in the future!

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1. Open Science Collaboration. (2015). Estimating the reproducibility of psychological science. *Science*, 349(6251). doi.org/10.1126/science.aac4716 ↩
 2. Barrett, L. F. (2015). Psychology is not in crisis. *The New York Times*. www.nytimes.com/2015/09/01/opinion/psychology-is-not-in-crisis.html ↩
 3. Field, A. (2013). *Discovering statistics using IBM SPSS statistics*. Sage. ↩
 4. quantpsych.net/stats_modeling/ ↩
 5. If you think this approach will work for you, please purchase a copy of Andy Field's textbook - it is very entertaining! ↩