01 introduction

Michael Franke

Experimental work is hard. Opportunities for suboptimality and failure abound. This course is all about avoiding pitfalls and cultivating a mindset aimed at continually improving practices. We will execute the whole process of implementation, execution and data analysis during this course, based on a replication of an existing experiment, which we will preregister.

Learning goals

We will conquer new concepts and tools.

You need not care about open science and reproducibility. But this course teaches you that it is no more complicated that staying in hiding.

Concepts

- experiment design

- cooperation ::: version control ::: issue tracking

- replication ::: preregistration ::: open science

- data wrangling ::: visuals ::: analysis

- tidiness

- crowdsourcing

Tools

- git & markdown

- HTML, CSS & Javascript
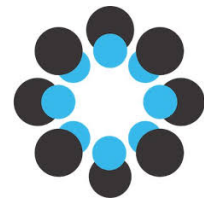
- R, tidyverse, Rmarkdown

- ggplot

Procedure

The course has two parts. In the first part we will:

1. discuss key ideas to motivate what we are doing;

2. go through the whole cycle of implementation, preregistration, execution and analysis once together.

In the second part, teams of 2-5 members pick an existing study and try to replicate it.

_babe

The focus of this course is on **browser-based experiments**. _babe provides templates and functionality for implementation and deployment. _babe lives here:
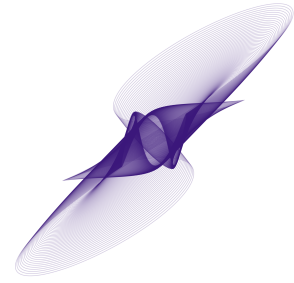
`https://b-a-b-e.github.io/babe_site/index.html`

Using _babe in this course has advantages and disadvantages.

Disadvantages

- slightly steeper learning curve

Advantages

- versatile ::: accessible ::: non-proprietary

- offline and online deployment

- domain-general skills (web-app!)

_babe
basic architecture for
browser experiments

_babe is work in progress. We need your input: feedback, criticism, user stories, active development . . .