

# Think before you do (Part 1): Key ingredients of a reproducible research plan

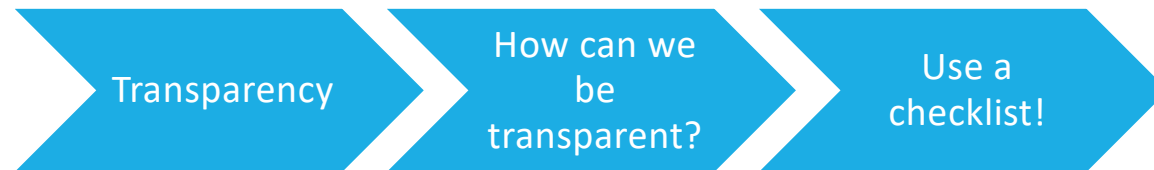
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 @Edinburgh\_Tea

# Aim of today's lecture

- Introduce reproducible publishing methods and outline reproducible research checklist



# What does reproducible research look like?

There are two main formats:

## 1. Pre-registration:

A time-stamped, read-only version of your research plan created before you begin data collection/analysis



## 2. Registered Report:

When your research plan undergoes peer review before results are known

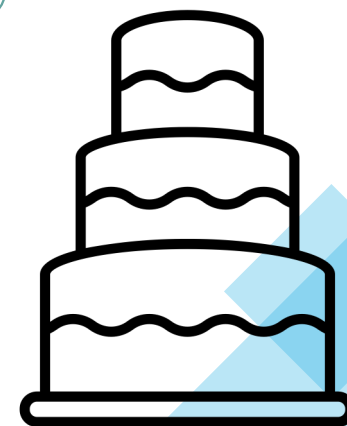


# The “recipe” to reproducible research?

## Reproducible Research Checklist

- What is my *general* research question?
- What are my *specific, concise and testable* hypotheses?
- What are my variables of interest and how will they be measured?
- Do I have covariates? If so, what is my *rationale* for including them?
- What is my sample size?
- What statistical tests will I use to test my hypotheses?
- How will I treat missing or skewed data, outliers?
- What criteria will I use to make inferences? (e.g., p-values, effect sizes, confidence intervals).

Does my “recipe” have enough information for someone else to “make” the same research study?



# Why should I care about pre-reg?

- Front-loading the work, but your future self will thank you!
- Will be very helpful for your progress report.
- Always have a project “blueprint” to refer to.



# Examples of pre-registrations

Pre-registrations can be applied to all types of research projects:

- Data-collection based
- Secondary data analysis
- Qualitative work

Methods and structure may vary but the principles are the same.

We will look at an example of a pre-registration in the next video