

Lab report video 1

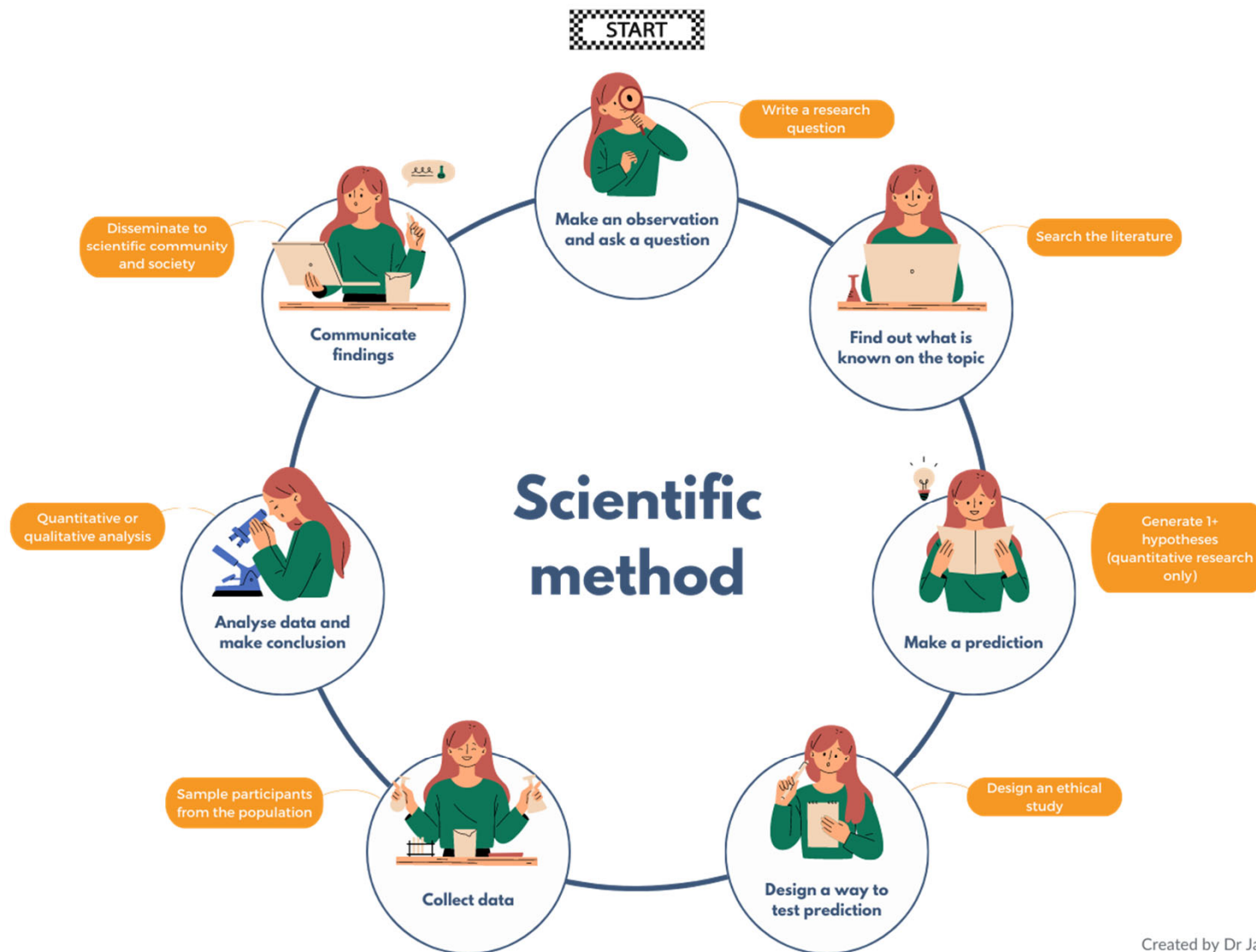
Lab report overview and scientific method

Laboratory (lab) reports

- A lab report is a written document that we use to tell other researchers about a study we've conducted
- Lab reports are common to many different fields
- Psychology lab reports have their own requirements, which we'll cover in this video series and the seminars
 - If you have experience in lab reports from another field, you still need to engage with all of the provided resources
- Regardless of discipline, lab reports mirror the scientific method

Scientific method overview

- Explains and guides how scientists do their work
- Not a linear process
- Cyclical, messy process



And so the cycle continues...

- Move onto next study to further understanding in area, in light of findings from present study
- Replication is integral – one study does not a definite finding make
 - Repeating studies to test whether certain methods generate similar results
 - Three types:
 - Direct – copy methods exactly
 - Conceptual – address same research question but use different methods
 - Replication + extension – make minor changes to methods, e.g., add variables
- “Replication crisis” in psychology

Core concepts to expand on

- Research question
- Aim
- Hypothesis
- Study design
- Sampling
- Data analysis

Core concept: Research question

- The query that is kickstarting and guiding the whole scientific method
- What is the question about psychology you are wanting to try and answer by doing this study? What is unknown but worth knowing in the area?
- For example:
 - How does the level of concern people feel about the climate differ based on age?
 - Does being more connected to nature improve people's wellbeing?

Core concept: Aim

- The aim is the objective or the goal of the study being undertaken
- States how you are going to try and address the research question
- For example:
 - The aim of the current study was to compare levels of climate concern in people of different ages.
 - The present study aimed to explore the association between connectedness to nature and wellbeing.

Core concept: Hypothesis

- A statement about what you, as the researcher, expect to find from your analysis
- Based on reading of past literature, key theories and models, etc.
 - Must be logical
- Studies can have multiple hypotheses – as many as necessary to address the research question
- Informs data analysis; tested by running statistical analyses
- This statement can be fully supported, partially supported, or unsupported
 - In psychology, we do not talk about hypotheses being proven or disproved; we exercise caution
- For example:
 - Based on the findings of Kothe et al., (2017), it was predicted that younger participants would report higher climate concern than older participants.
 - Informed by the findings of Klas & Clarke (2019), it was hypothesised that as connectedness to nature increases, so too does wellbeing.

Core concept: Study design

- Different ways of structuring a study
- Determine how the researcher collects, analyses, and interprets data
- Informed by research question, aim, and hypotheses
- Quantitative:
 - Cross-sectional design
 - Experimental design
 - Longitudinal design

Core concept: Sampling

Population

vs

Sample



Core concept: Data analysis

- Analysis that addresses the research question, aim, and hypotheses
- Informed by the study design
 - Qualitative analysis
 - Quantitative analysis
- Each analysis has pros and cons
- Largely out of scope of this unit

Note

- As this is most likely the first (psychology) lab report most of you have written, we have given you some elements of the scientific method
- We have provided you with:
 - The topic and research question
 - Some of the past literature
 - The aim
 - An idea of how many hypotheses you should write and what they should be focussed on
 - Statistical output
 - We collect and analyse the data for you

Summary: What is a lab report?

- Piece of writing that documents the scientific method that was followed by a researcher/group of researchers
- Communicates what was done and why, as well as what was found, to multiple audiences: other researchers, policy makers, the general public, etc.
- Provides evidence, which can help inform decisions made by health professionals, other researchers, individuals, etc.
- In other words, a lab report is both a part of the scientific method and a reflection of the scientific method
- Also known as an empirical report, journal article, or paper

How is a lab report structured?

- Contains the following sections:
 - Title page
 - Abstract
 - Introduction
 - Method
 - Results
 - Discussion
 - Reference list
- Follows APA7 style (refer to prescribed writing guide)

What next?

- There is a video dedicated to each section of the lab report, providing more detail on each section's purpose and structure
- Watch the Introduction section video next

Questions

Please post any questions you might have on the discussion boards.