PAPOR TRAIL

Principles & Practices of Open Research

An online module for undergraduate and Masters students

The History of Open Research
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The History of Open Research

Did you know the internet was originally designed for research purposes?

Researchers wanted a fast, easy and low-cost way for sharing data with each other.

So the internet was born

Now the internet dominates almost all aspects of our daily lives. Yet it has deviated from its original purpose

Open research is the movement to bring modern research back in line with this original digital

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The open access movement

This movement began in the early 1990s, with the aim to make research products available to everyone - including the general public

Improving transparency & reproducibilit

This related to making research processes and outputs more open so other researchers could examine and reproduce them

The 'open science' movement

This was aimed at correcting bad science and restoring public trust in scientific research

Open research

It became evident that more open research practices could apply across disciplines -- not just in science. This would ensure reproducibility, transparency, and collaboration across disciplines

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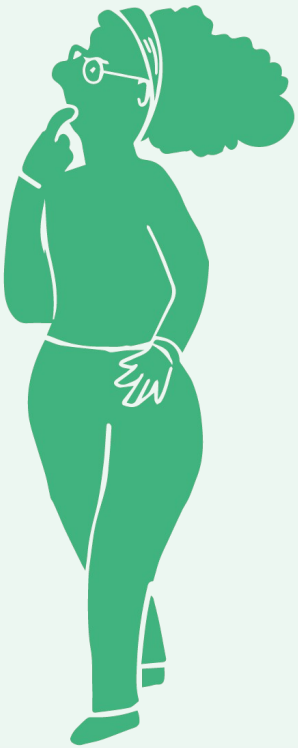
Methodological issues and Questionable Research Practices



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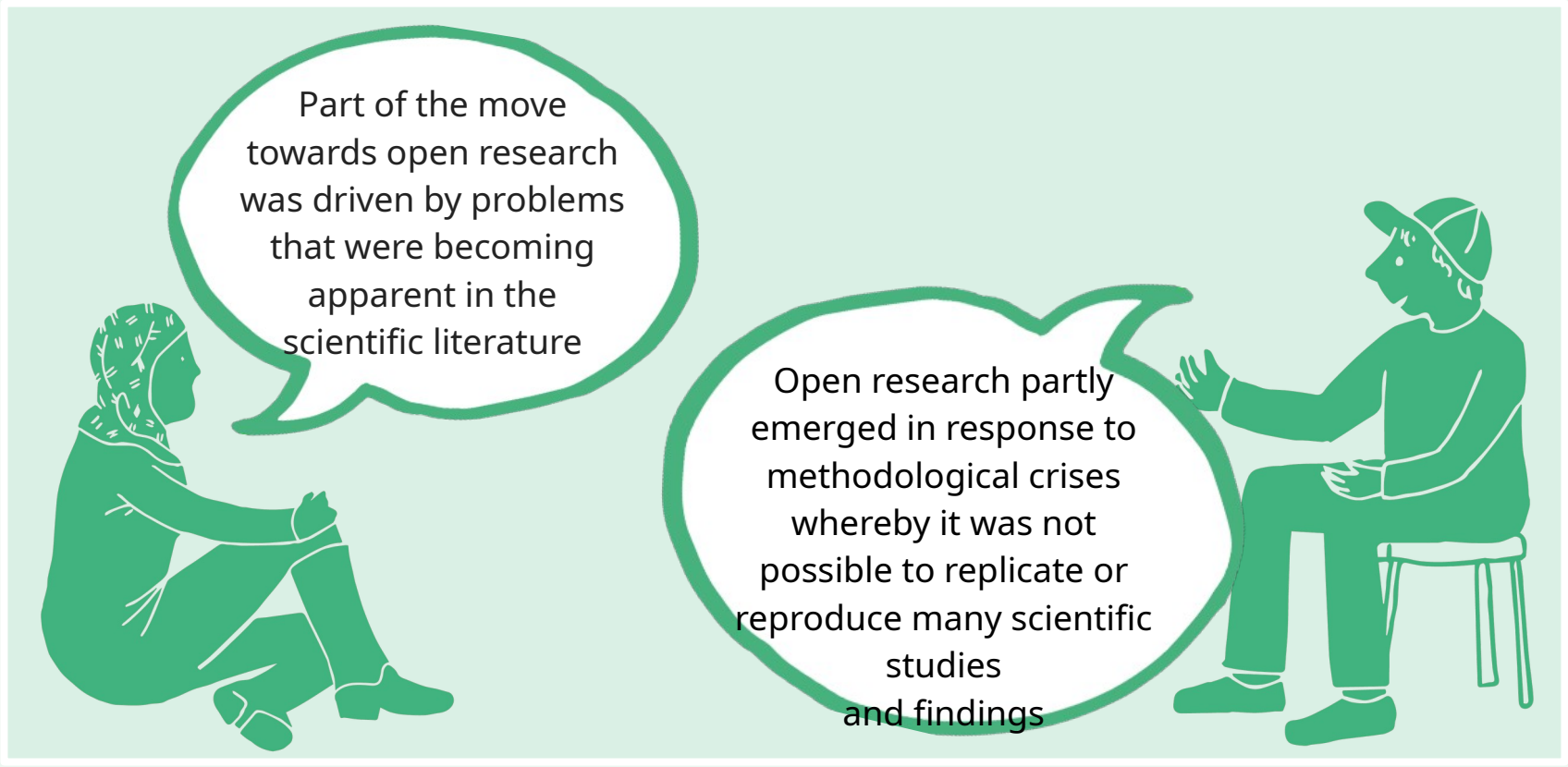

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This reproducibility crisis (or replicability crisis) has been most commonly reported in psychology, and some areas of health and medicine.

For example, in one survey of over 1500 researchers

More than 70% had tried & failed to reproduce another researchers findings

More than half had failed to reproduce their own findings

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Open research also aims to address questionable research practices (QRPS)

1. They are practices and techniques that do not follow best research practice
2. They can be used to get a desired research result or report research findings in a more favourable manner
3. They undermine trust and confidence in research findings
4. They introduce bias to research processes and findings

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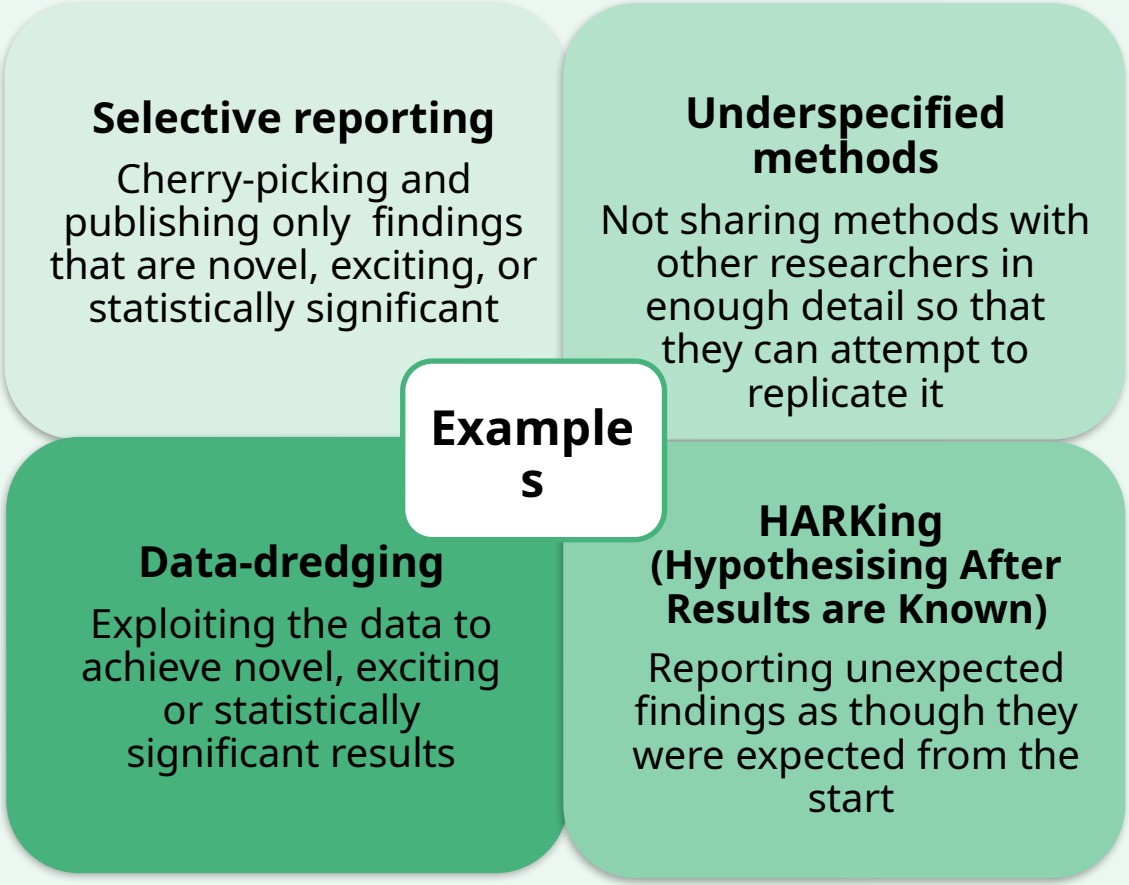
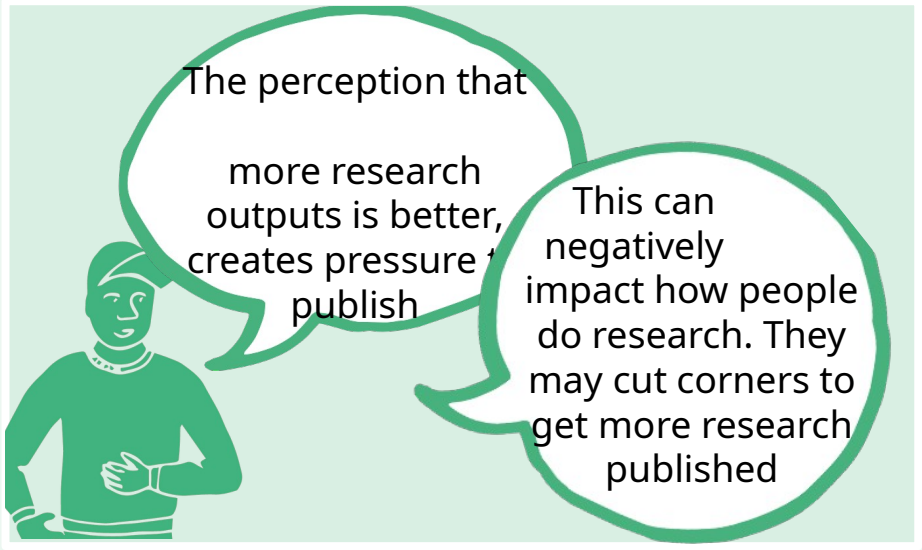
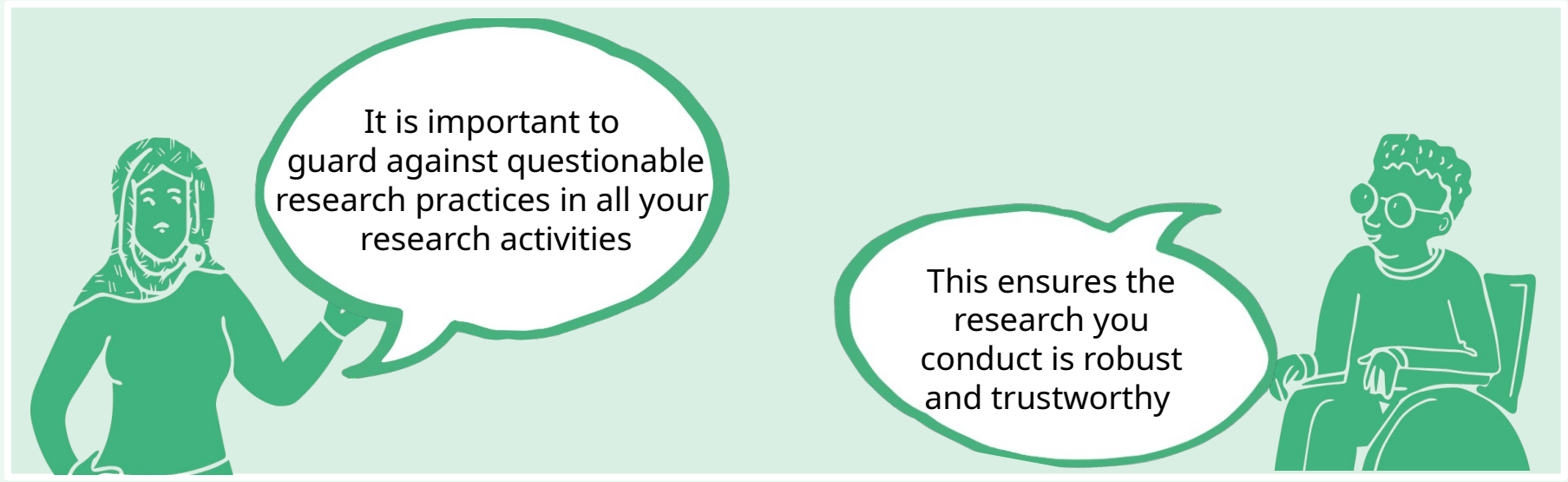
Questionable research practices can take place at any stage of the research process.



Why do researchers engage in QRPS?



As a student, it can be easy to engage in QRPS



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Increased and on-going awareness of issues around reproducibility and QRPs has led to improved open research practices

Open research practices can improve the validity and integrity of research

- Though poor methods exist open research aims to improve them

It is these practices, and the underlying principles of open research that we will introduce you to in this course

Did you know?

Making and having open research is so important that it is in the United Nations declaration on Human Rights

According to this document:

Everyone has the right to freely participate in the cultural life of the community, to enjoy the arts and to share in scientific advancement and its benefits

Everyone has the right to the protection of the moral and material interests resulting from any scientific, literary or artistic production of which s/he is the author

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Take a look at the video on Canvas on how open research can help fix broken research culture.

The video discusses science but is relevant across disciplines!

Activity

Complete the activity on Canvas to identify questionable research practices in some hypothetical research situations

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