



Principles & Practices of Open Research

An online module for
undergraduate and Masters
students

C Why is Open Research Important?

Why is open research important?



Why is open research important?

1

The open research movement is rapidly growing worldwide, with more researchers, funders and publishers embracing it

2

There are benefits of open research for research, researchers and students, and society

Why is open research important?

Benefits of open research for research include:

Increased research transparency and reproducibility

Enhanced accessibility and reusability of data

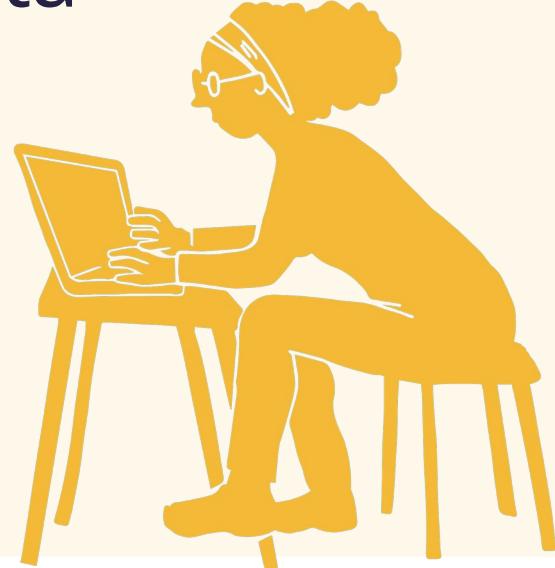
Less poor research practices and greater research accountability

Increased opportunities for research collaboration

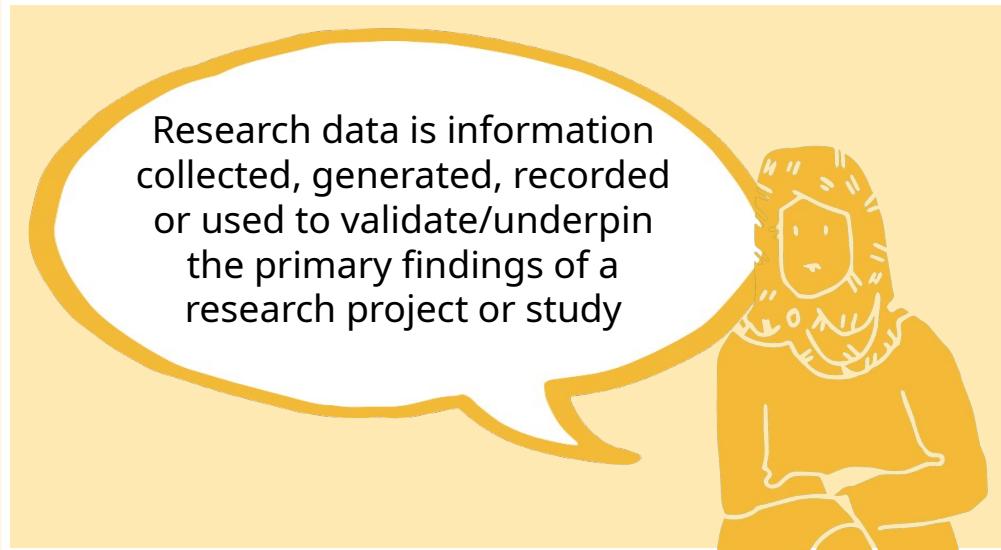
Improved visibility of research findings

Encouragement of broader society participation in research

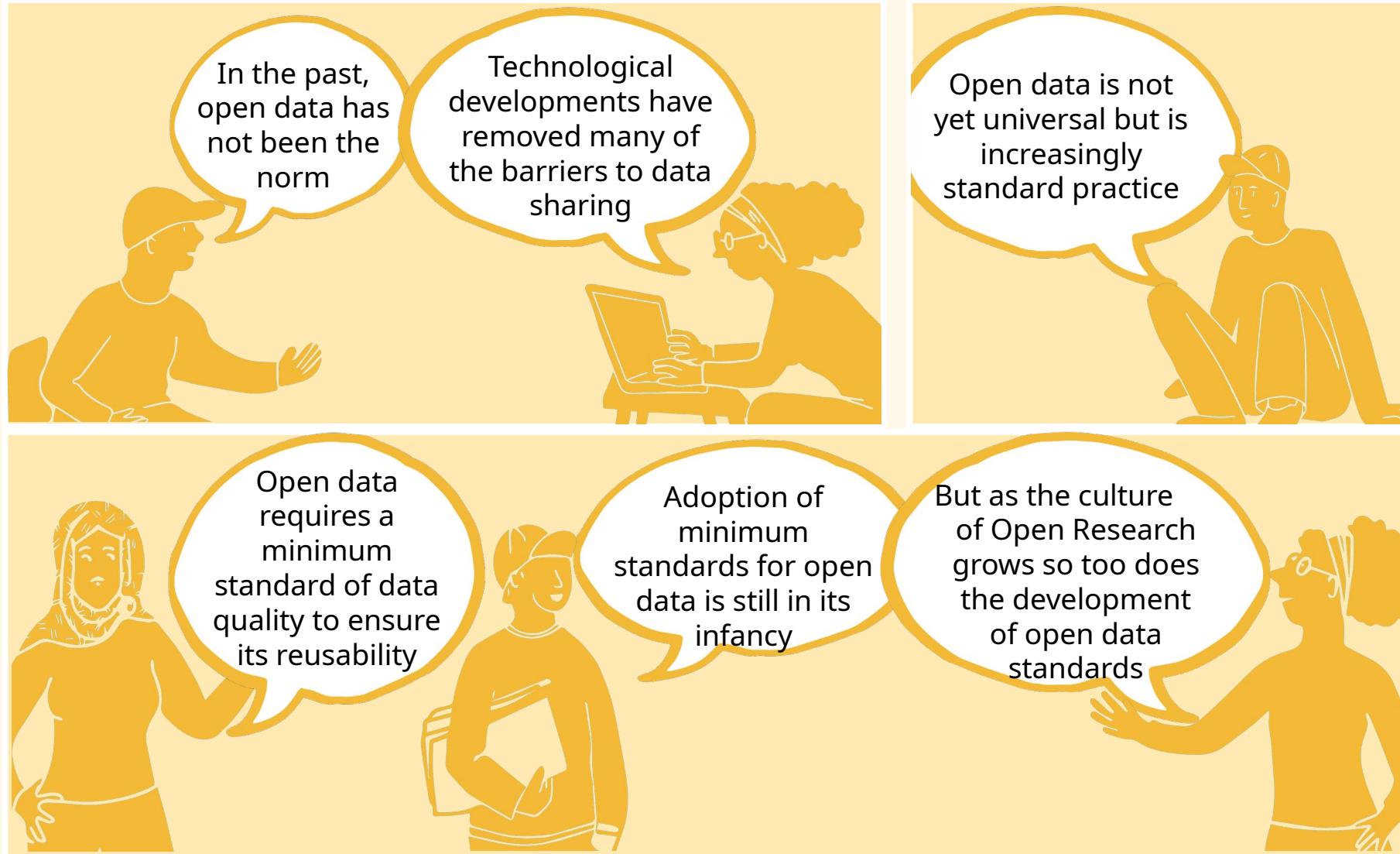
Enhanced accessibility and reusability of data



What is open data?



What is open data?



How does open data facilitate data accessibility and reusability?

1

By making data open researchers are enhancing the reproducibility and transparency of their research outputs



2

Making data open means the data can be accessed by and presented to a larger audience



3

The data can be reused by different researchers over time to answer new research questions



4

Making data open can save time in data collection and maximises research resources







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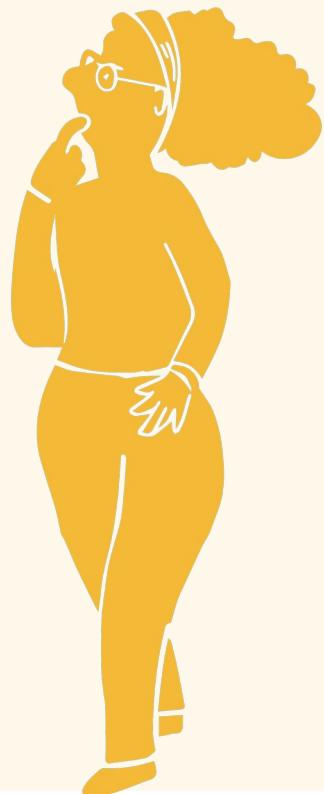


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Increased research
transparency and
reproducibility



How does open research increase transparency and reproducibility of research outputs?

In what ways does open research increase transparency and reproducibility of research outputs?



By being very clear and outlining exactly what was done and how it was done



This can include clearly stating what, when and/or how archives or repositories were searched to identify research documents



It could also include clearly outlining all steps in an experimental study and/or all the steps and statistical code used to analyse data

How does open research increase transparency and reproducibility of research outputs?



Open research also encourages researchers to share their data with other researchers

Data is information collected, recorded or created during the research process to validate research findings



Data can be made available on online repositories

Open data helps other researchers to independently validate (or attempt to reproduce) the research





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Less poor research
practices and greater
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How does open research discourage poor research practices?



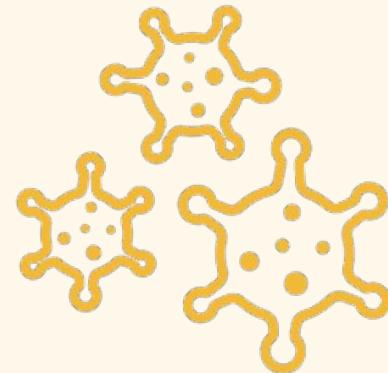
Open research encourages researchers to publicly disclose the details of their methods

These can then be reviewed, assessed, and validated by other researchers

This may discourage use of questionable research practices

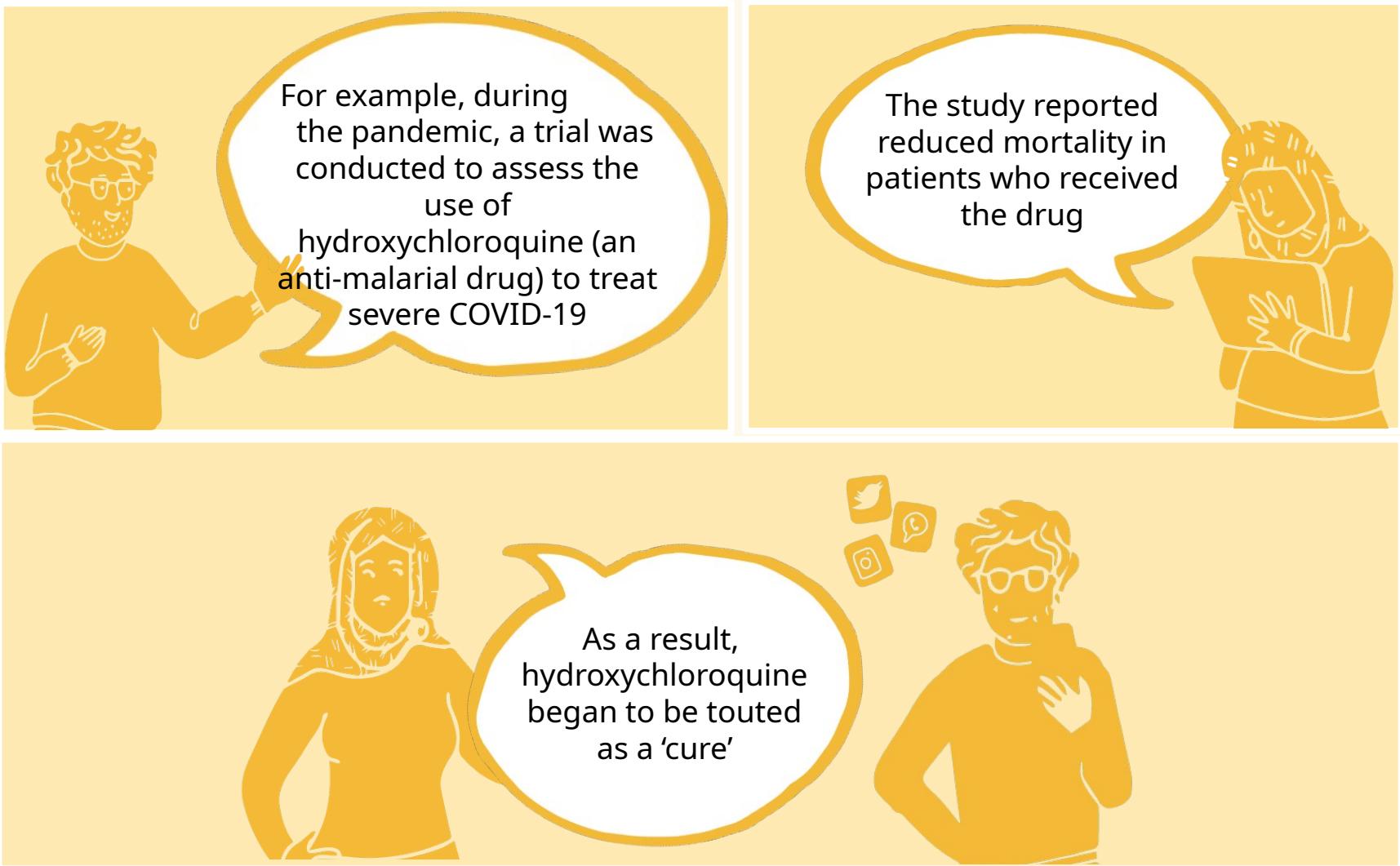
How does open research help us identify methodological issues in research?

The Case of COVID-19

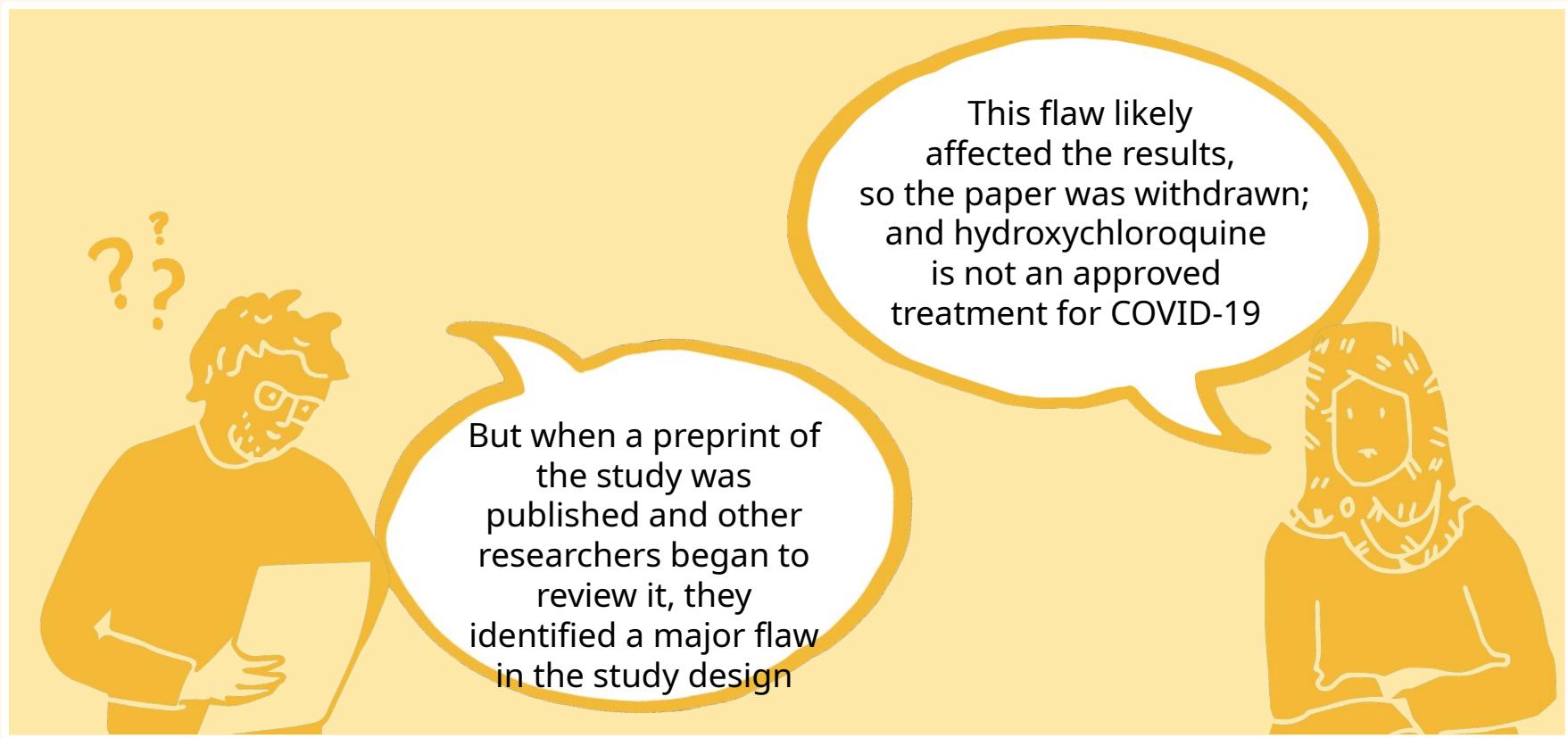


- The COVID-19 pandemic provides a stark example of the ways poor research design can lead to poor outcomes
- It also shows how open research can help us identify invalid results before they become the basis for bad clinical practice!

How does open research help us identify methodological issues in research?



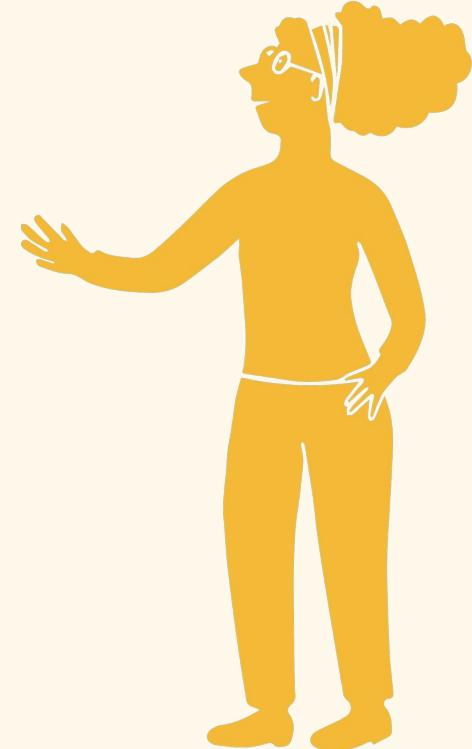
How does open research help us identify methodological issues in research?





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Encouragement of
broader society
participation in
research

How does open research encourage societal participation in research?

Including members of the public when conducting research is important for a number of reasons.

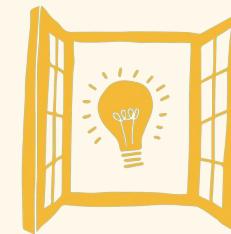
1

It enhances the relevance and impact of your research



2

It helps to ensure fairer access to knowledge and reduce inequalities



3

Inclusion of the public in conducting research is called Citizen Research



How does open research encourage societal participation in research?

1

Open research findings and outputs can be freely accessed by the public



2

Open research makes it easier for research to reach the public



3

It is not just research papers that can be made freely available



How does open research encourage societal participation in research?

Sharing of knowledge in open research also involves non-traditional routes, including:



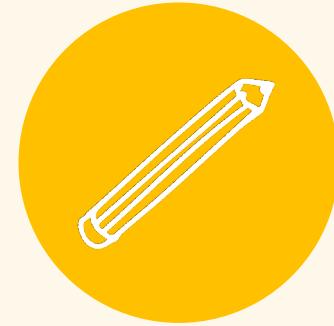
Social media



Public talks



Blogs



Visuals and infographics

Using diverse approaches to share knowledge and research increases the likelihood that people can and will engage with it.

Take a look at the
next set of slides
and/or recording to
see why open
research is
important **for you!**







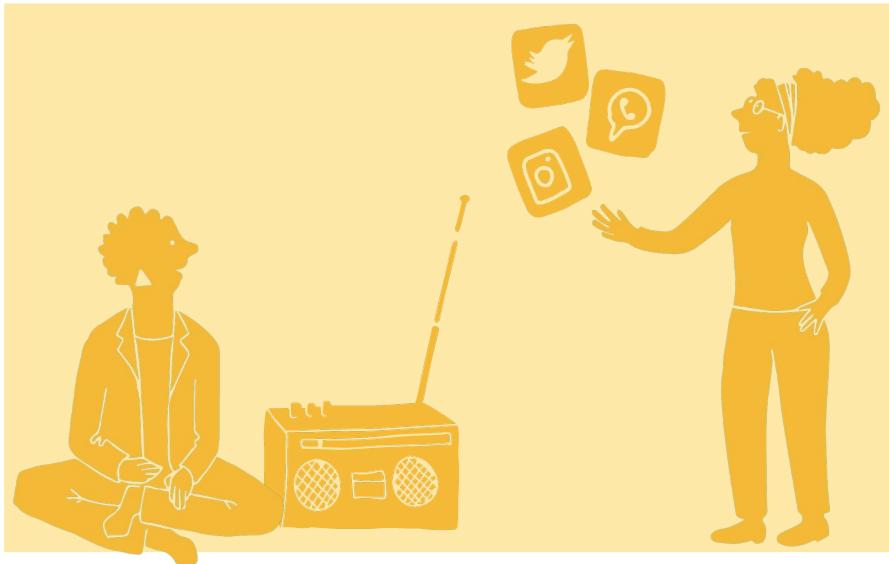
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Why is open research important for me?



Why is open research important for me?



We come across research findings every day -- in the news, on television, and online.



Having a better understanding of open research allows you to better engage with the research you read and hear about.

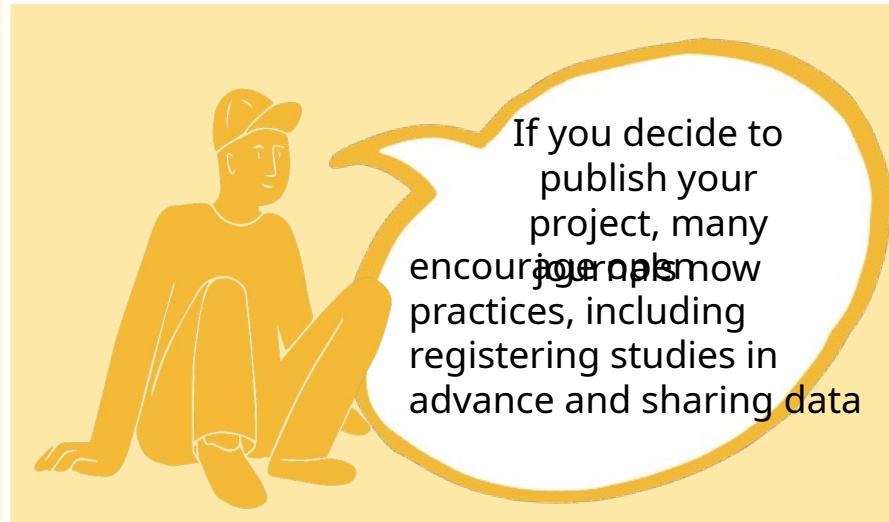
Why is open research important for me?



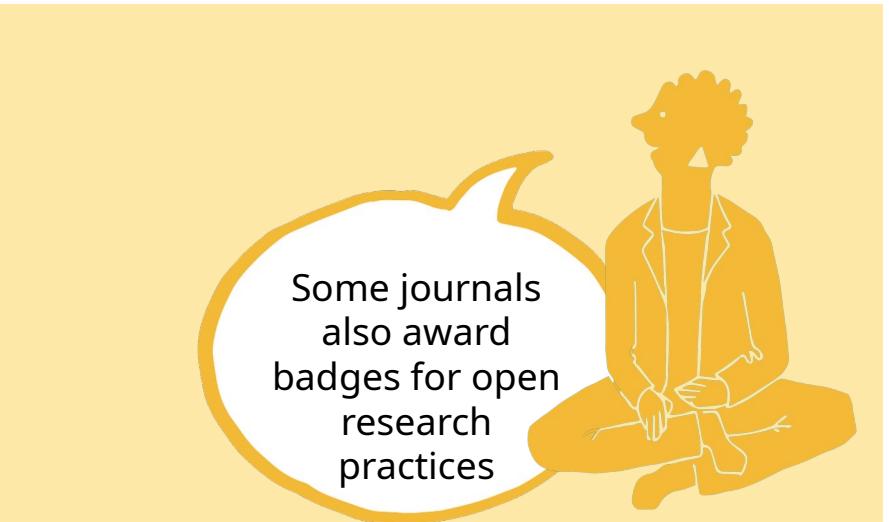
Understanding good practices (and spotting bad practices!) means you can judge how reliable and trustworthy a piece of research is



If you go on to apply for Masters or PhD funding, research funders increasingly require open research practices for grant applications

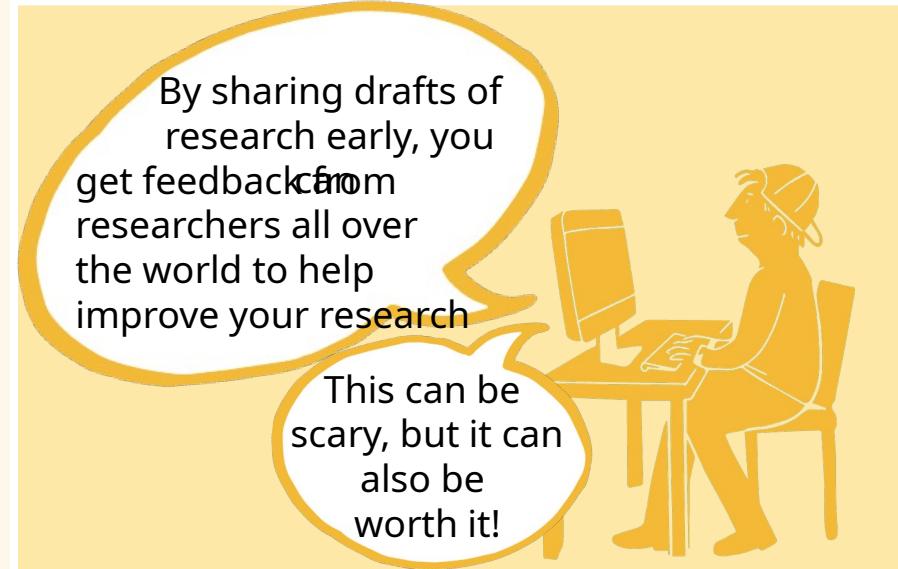


If you decide to publish your project, many journals now encourage open practices, including registering studies in advance and sharing data

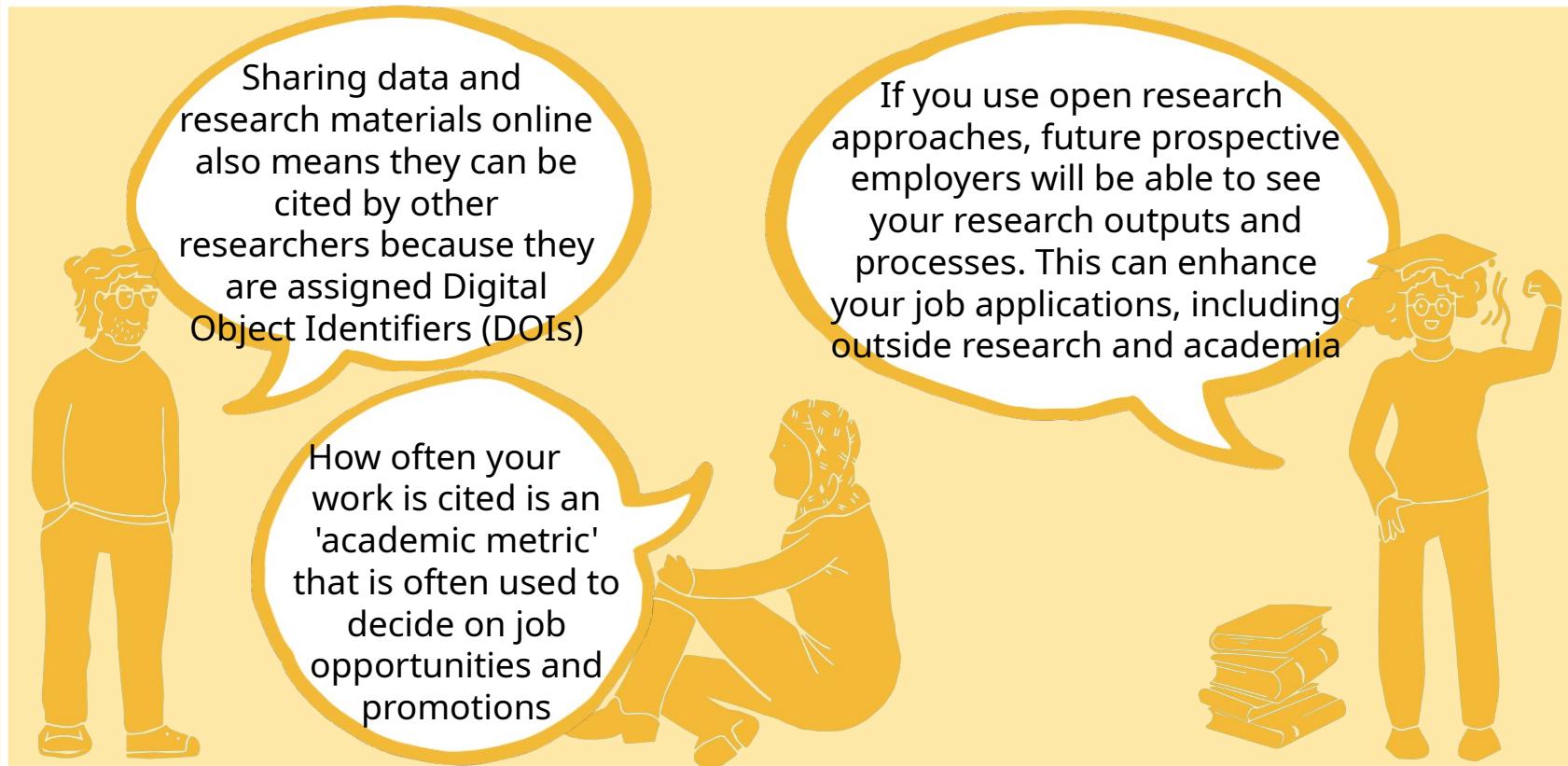


Some journals also award badges for open research practices

Why is open research important for me?



Why is open research important for me?



Activity



Complete the activity on Canvas to reflect on how your research goals and priorities align with the benefits of open research



