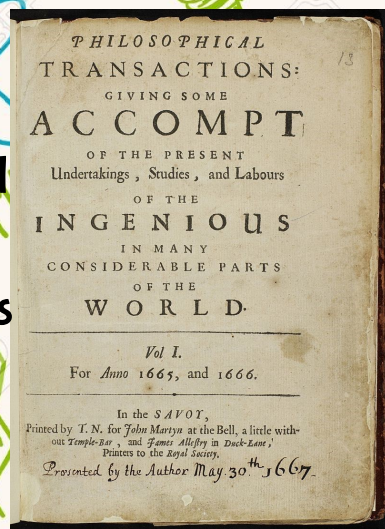


WHAT IS
GENERALISABLE
RESEARCH?
AND WHY DO WE
NEED IT?

The way academia works at the moment is that **scientists do lots and lots of work** and then **publish their work in journals** to share their findings with others.

Originally they were visited in person by other researchers...



But nowadays its very difficult to know **exactly** what people did! It isn't standard to share data or detailed instructions!

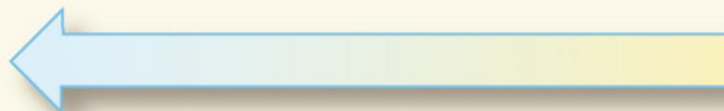
Publication +

Publication
only

Code

Co
and

Not reproducible



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Research is **REPRODUCIBLE** if independent scientists can get exactly the same results when you give them your data

Reproducible research should be the **bare minimum** requirement! Without the data and the code (if you used any) you're only publishing **a nice story!**




code
data

Linked and
executable
code and data

Full
replication

Gold standard



The idea that failed replications have the potential to cause great damage to the original authors' reputations, and so we should have a very high bar for publishing them--

JARGON BUSTIN'

Research is REPLICABLE if other scientists

(or you!) conclude the same message

when they follow your exact analysis

but using an independent data set




That seems
problematic
to me.

It's ok if we don't replicate everything! It doesn't mean anyone is lying.

But it is important to know if the finding only works for the original data.

Otherwise we can't begin to **generalise** the finding.



**There are
lots of ways
to skin a cat!**

(But don't worry,
this one was born
this way!)

JARGON BUSTIN'

Research is ROBUST if you conclude

the same answer even when you

use different analysis techniques

(on the same data set)



JARGON BUSTIN'



Governments

need generalisable
research to make useful
policies, and **doctors** need it to
know how best to treat you!



Research is **GENERALISABLE** when independent
scientists come to the same take home result
using their own data and methods
(but asking the same question!)

YOUR HANDY DANDY GUIDE TO GENERALISABLE RESEARCH



Made by Kirstie Whitaker
Mozilla Fellow for Science 2016/17
& Space Wrangler for MozFest 2016
Stay in touch on twitter @kirstie_j

Data			
Same	Different		
		Same	Different
		Code	
Reproducible		Robust	
Replicable		Generalisable	