

# Neuroscience of giving: Who, what, how and why?

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SOCIAL  
DECISION LAB  
the science of giving

The logo for Social Decision Lab features a stylized 'V' shape composed of four arrows pointing outwards from a central grey diamond. The top-left arrow is red, the top-right is purple, the bottom-left is yellow, and the bottom-right is grey.

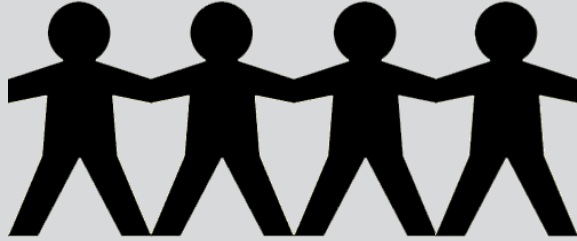
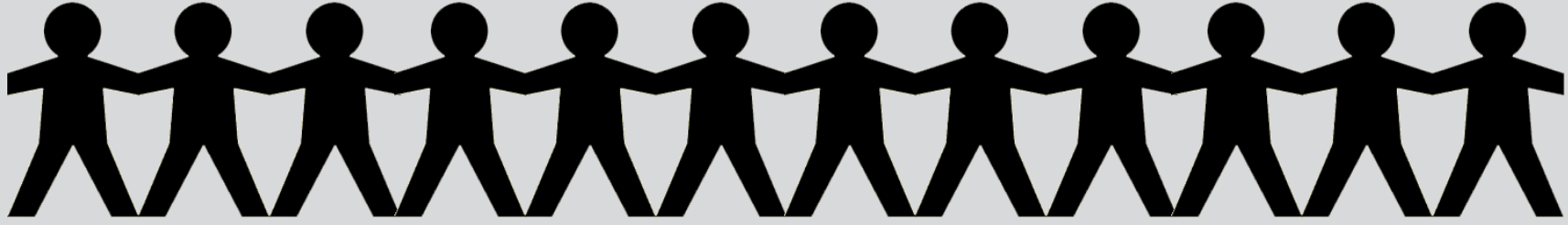
# neuroscience

*noun*

The study of the anatomy, physiology, biochemistry, and pharmacology of the nervous system.

Collins English Dictionary





# cognitive neuroscience

*noun*

The branch of neuroscience that deals with the way neurological mechanisms are involved in thinking and behaviour.

American Heritage Dictionary



# **Giving involves processes which are:**

- Subconscious
- Socially desirable
- Biased



# MRI



## Where?

- MRI – structure
- fMRI – function

# EEG



## When?

# Good neuroscience experiments:

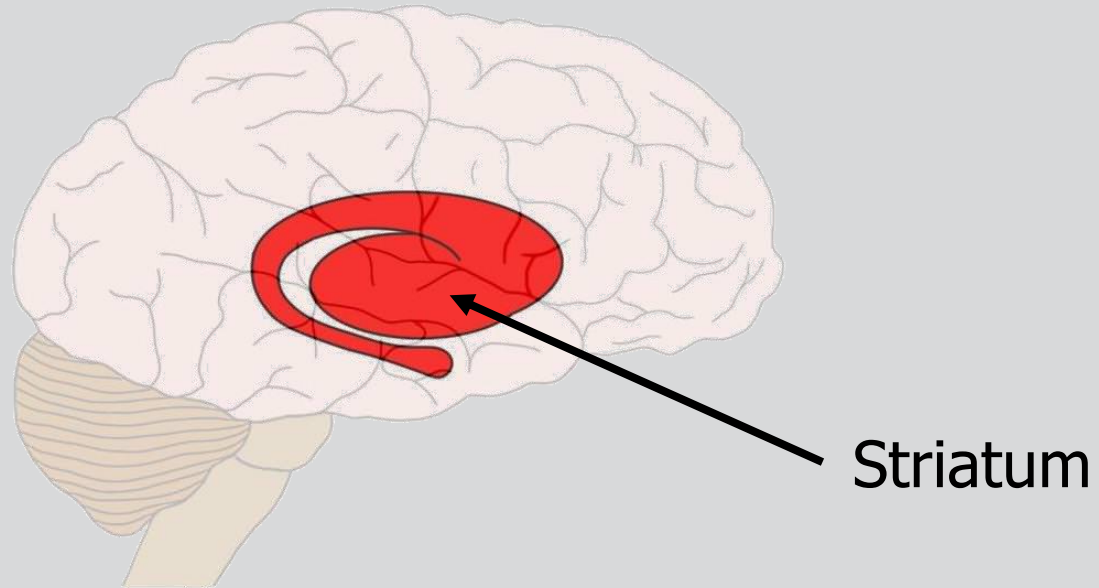
- Compare with a “control”
- Use lots of rounds or “trials”
- Have lots of people
- Are more sophisticated than “blob spotting”

Beware of those which don't, especially if they cost money!



# Moll et al., 2006

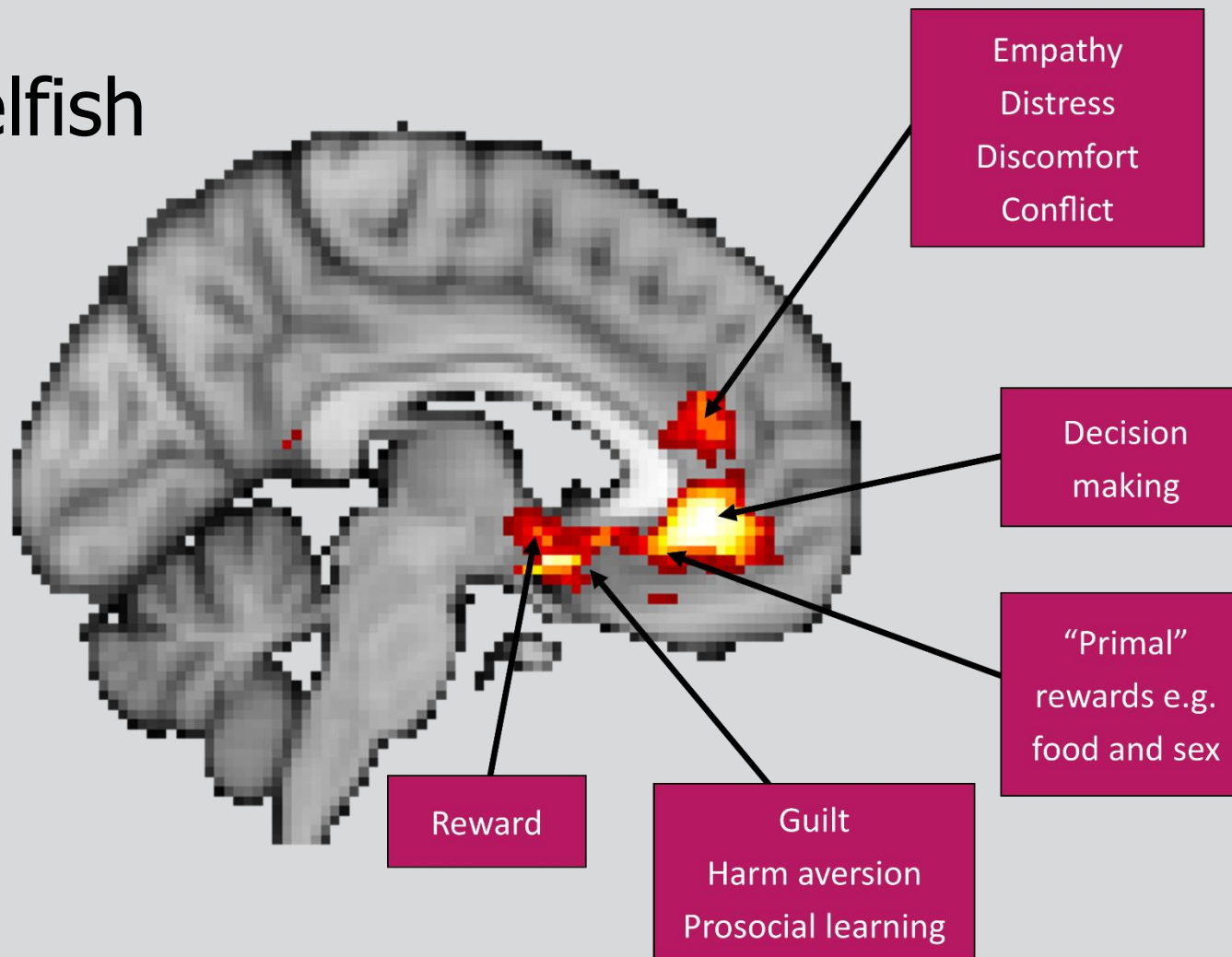
Giving activates brain areas associated with reward





# Cutler et al., 2018?!

Giving vs. being selfish



## **Harbaugh, Mayr, & Burghart, 2007**

Voluntary giving is more rewarding than when its forced

- Pure altruism – enjoy paying tax...
- Warm glow – enjoy being responsible for the gift

## **Kuss et al., 2013**

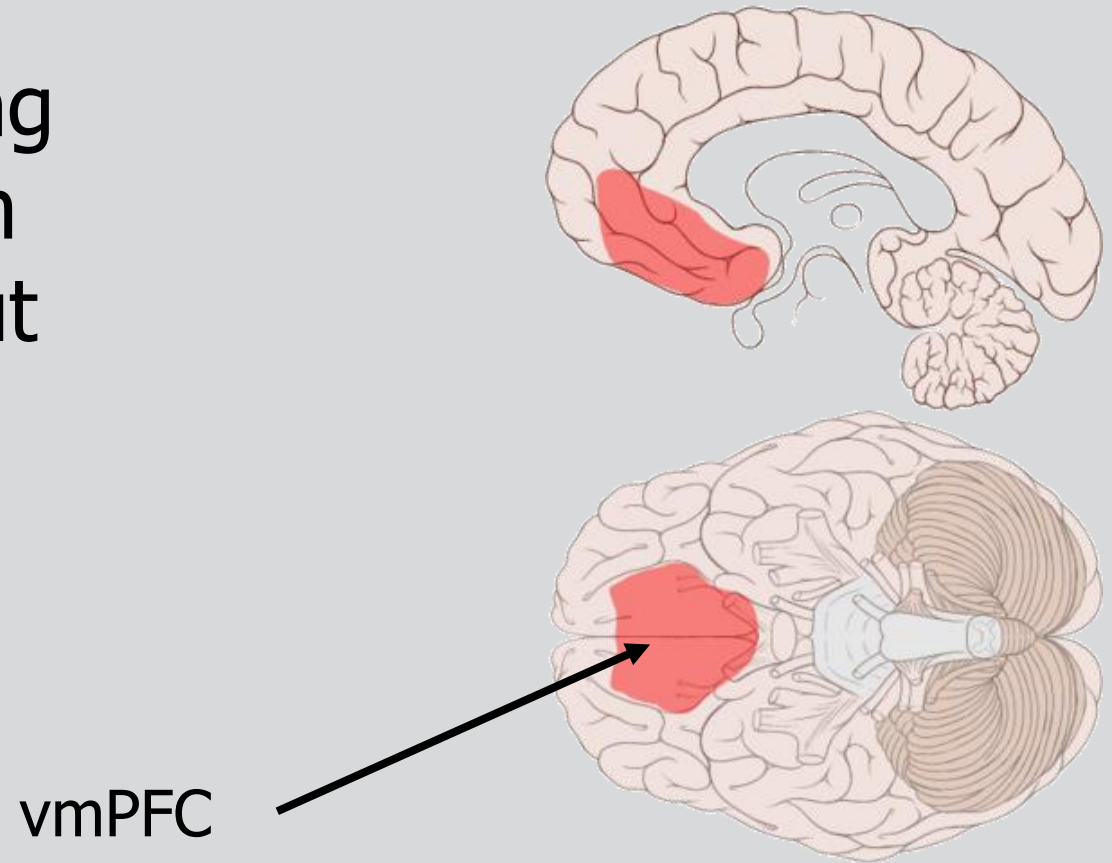
Donors do care whether it reaches the charity



## Hare et al., 2010

Area for calculating value during donations receives signals from areas involved in thinking about others.

- Empathy – recipient
- Social desirability



# Empathy

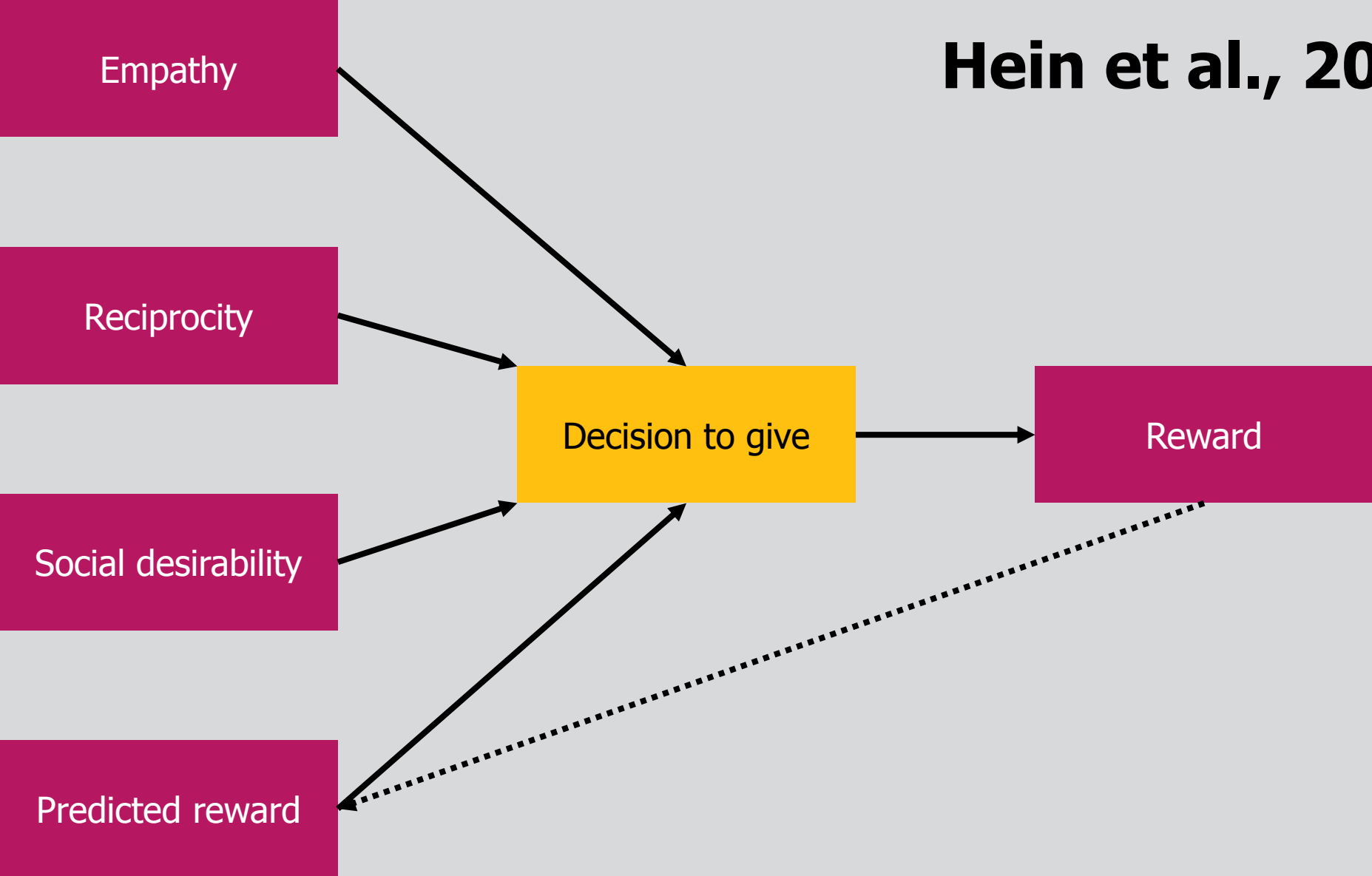
*Cognitive empathy* – Understanding the thoughts of others

*Emotional empathy* – Feeling the feelings of others

e.g. Tusche et al., 2016



**Hein et al., 2016**



# Genevsky et al., 2013

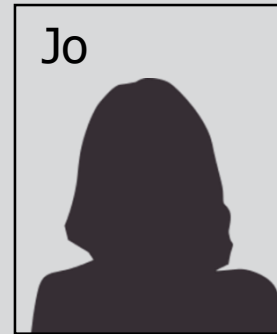
Identifiable victim effect – increased donations associated with positive feelings



Name + photo



Photo

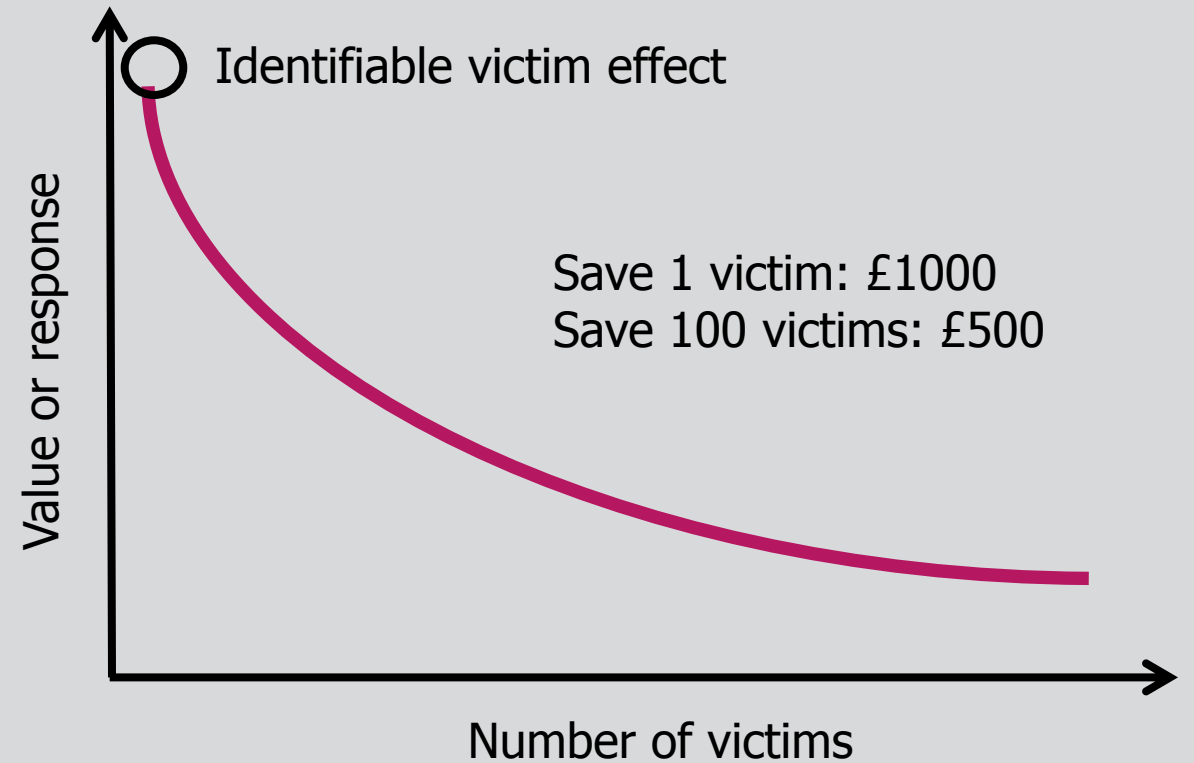
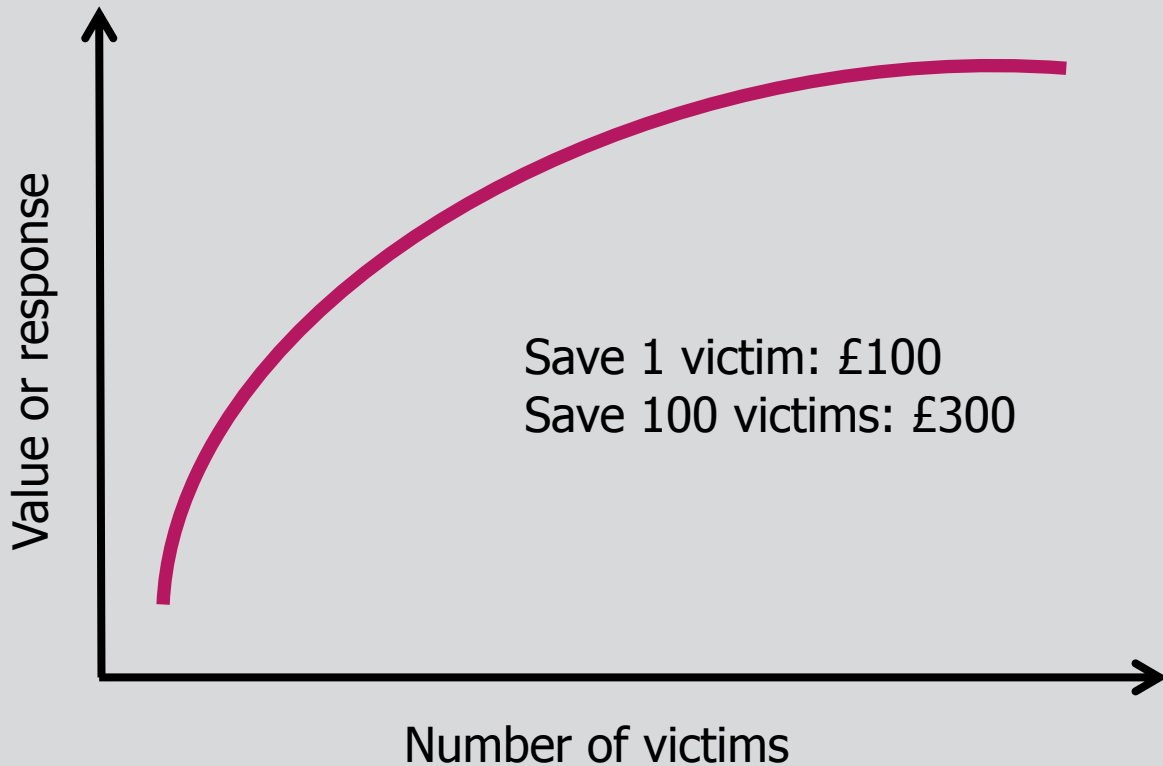


Name



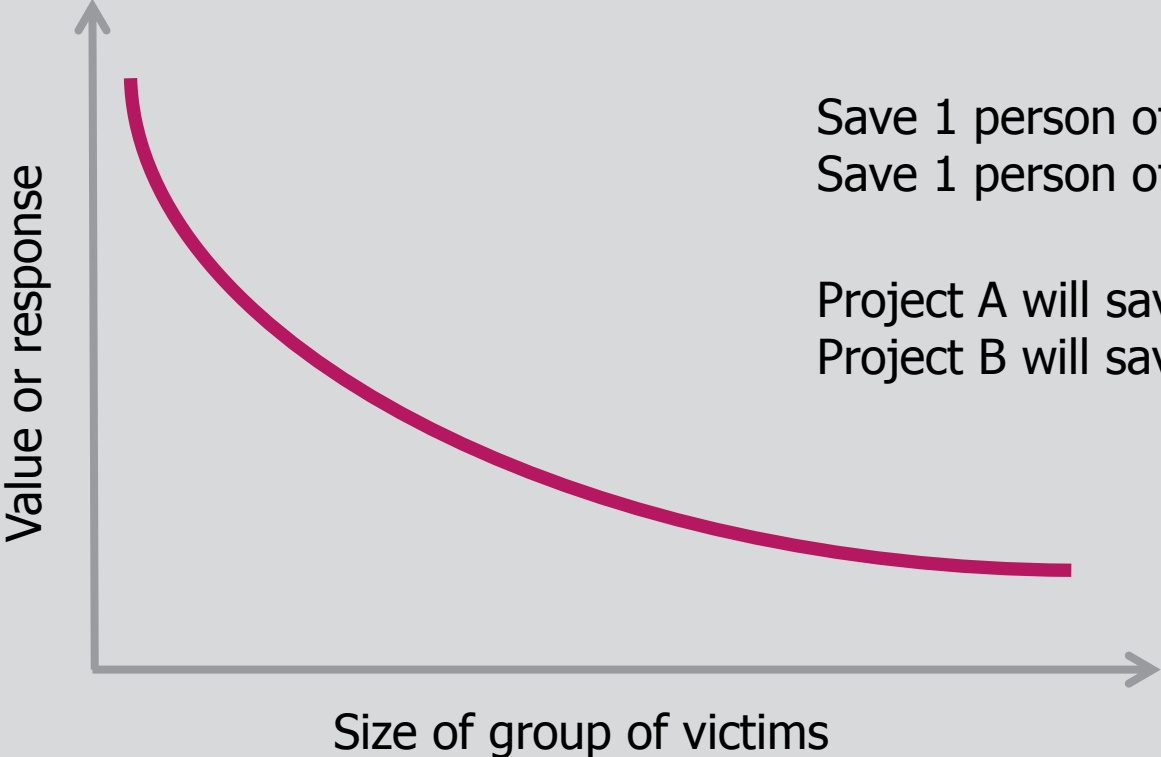
# Cutler et al., work in progress!

## Scope insensitivity



# Cutler et al., work in progress!

## Proportion dominance



Save 1 person of 1 in need: £500  
Save 1 person of 100 in need: £100

Project A will save 24/30 lives at risk  
Project B will save 28/437 lives at risk





# The Science of Giving newsletter

[www.tinyurl.com/science-giving-signup](http://www.tinyurl.com/science-giving-signup)



# Resources

TED talk “Beware neuro-bunk” – the limits of neuroscience findings and some bad examples of when these have been ignored!

[https://www.ted.com/talks/molly\\_crockett\\_beware\\_neuro\\_bunk](https://www.ted.com/talks/molly_crockett_beware_neuro_bunk)

TED talk “How we read each other’s minds” – How the brain understands other’s thoughts and actions:

[https://www.ted.com/talks/rebecca\\_saxe\\_how\\_brains\\_make\\_moral\\_judgments](https://www.ted.com/talks/rebecca_saxe_how_brains_make_moral_judgments)

Blog post on similar topic – exploring “mirror neurons”:

<https://thecharitablebrain.wordpress.com/2017/02/13/how-does-your-brain-know-whats-going-on-in-my-brain/>

TED talks by Dan Ariely – author of Predictably Irrational on biases in our decision making:

[https://www.ted.com/talks/dan\\_ariely\\_on\\_our\\_buggy\\_moral\\_code](https://www.ted.com/talks/dan_ariely_on_our_buggy_moral_code)

[https://www.ted.com/talks/dan\\_ariely\\_asks\\_are\\_we\\_in\\_control\\_of\\_our\\_own\\_decisions](https://www.ted.com/talks/dan_ariely_asks_are_we_in_control_of_our_own_decisions)

[https://www.ted.com/talks/dan\\_ariely\\_how\\_equal\\_do\\_we\\_want\\_the\\_world\\_to\\_be\\_you\\_d\\_be\\_surprised](https://www.ted.com/talks/dan_ariely_how_equal_do_we_want_the_world_to_be_you_d_be_surprised)

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# Thank you

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## Questions?

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