

Complexity and evaluative research

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Outline

- ❖ How complex causality affects the generalizability of RCTs
- ❖ Why context matters
- ❖ Alternative ways of studying causal claims

Randomised controlled trials

- The RCT structure can (in the ideal) ensure the RCT conclusion about effectiveness is highly credible.
- Counterfactual evidence provided by the structure supports the causal claim that the intervention led to improvement
- BUT generalisability is affected by:
 - How easy it is to describe the intervention sufficiently to be replicable
 - How easy it is to conclude that the study context/population is sufficiently similar to the context/population where you want to use the findings.

Defining the 'it' to study

- Measuring whether service users receive the intervention being evaluated
- Some interventions are readily described e.g. trying different wording in tax letters
- But most of interest in social work are more than this e.g. practice interventions such as Signs of Safety, Multi Systemic Therapy.
- Need measures of what each person/family in both experimental and control groups has received and it won't be consistent.

Complexity

Is a property of the system in which the intervention operates;

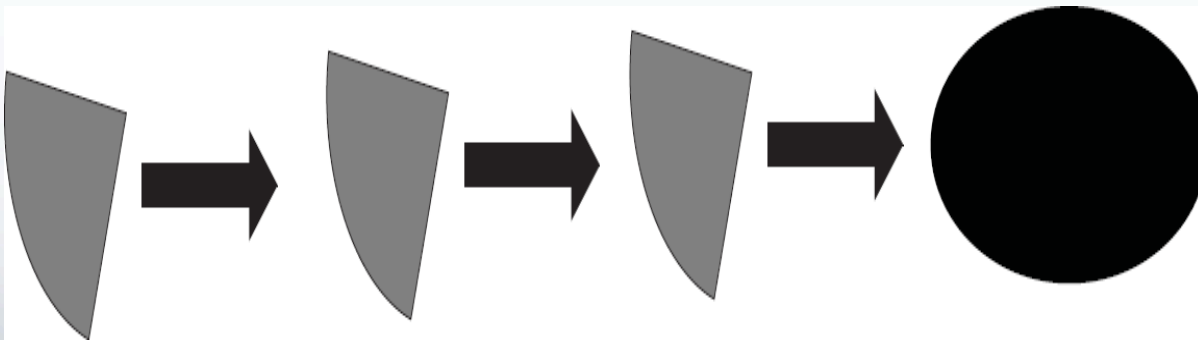
Featuring emergence, feedback loops, adaptation and self-organisation;

Context matters

- Social level differences
- Organisational level differences
- Recipient level differences

Linear causality

- Theories of change are often presented in simple linear way





We are dealing much of the time with *inus* conditions

- The single factor A is neither a necessary nor a sufficient condition for Y.
- Yet it is clearly related to Y in an important way: it is an
 - ***Insufficient*** but
 - ***Non-redundant*** part of an
 - ***Unnecessary*** but
 - ***Sufficient*** condition.
- J.L. Mackie. 1974. *The Cement of the Universe: A Study of Causation*. Oxford: Clarendon Press

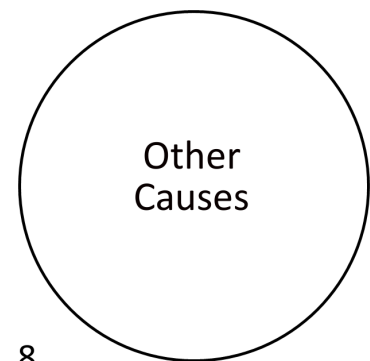
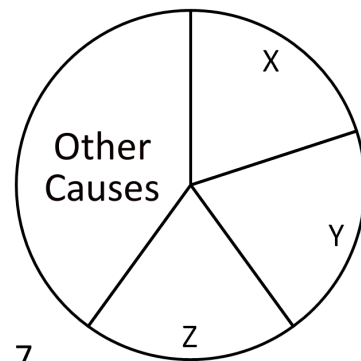
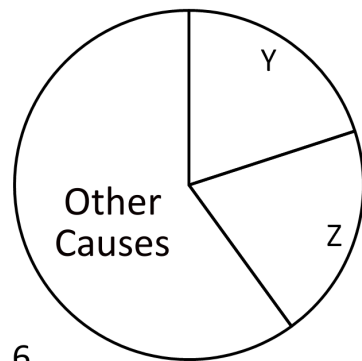
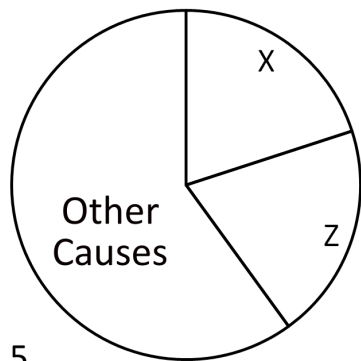
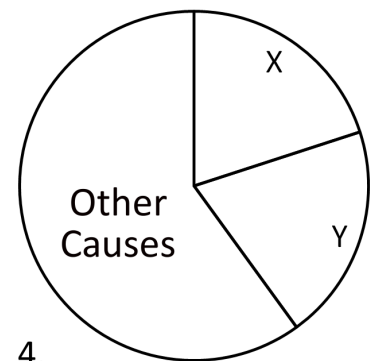
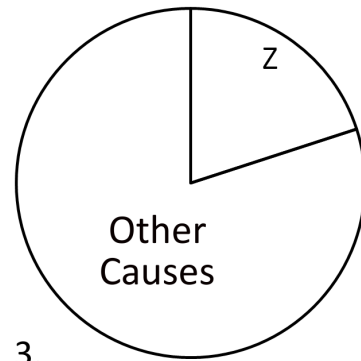
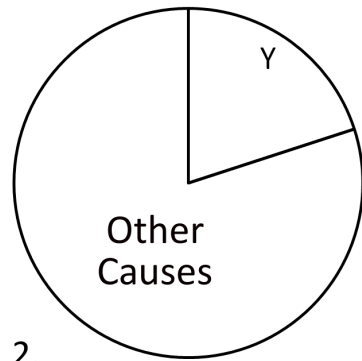
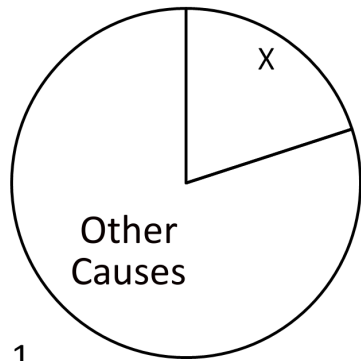
An illustration

ACES research illustrates the complexity of human development:

- High number of ACEs then more likely to have problems later
- But some won't
- And some with no ACEs will have many problems

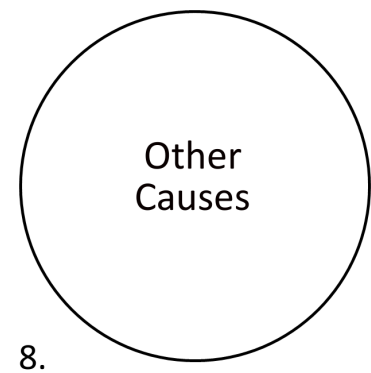
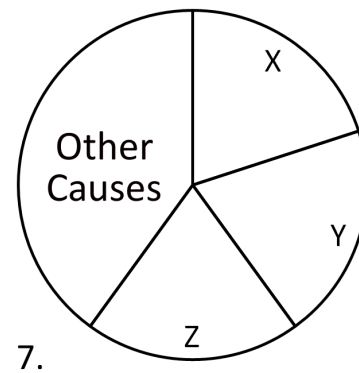
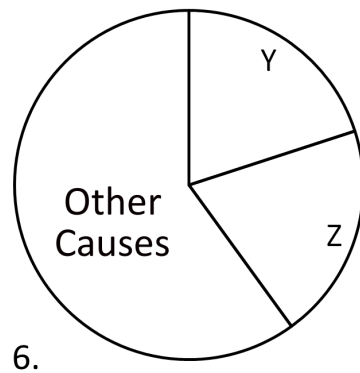
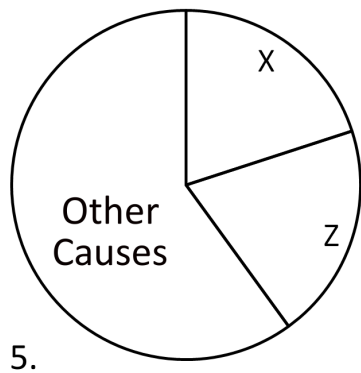
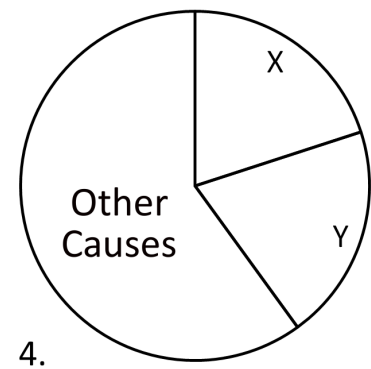
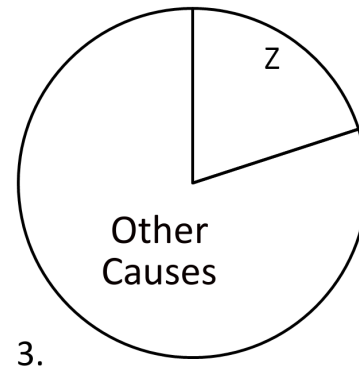
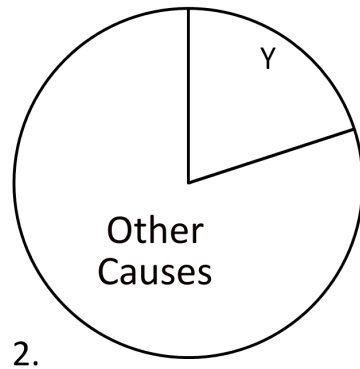
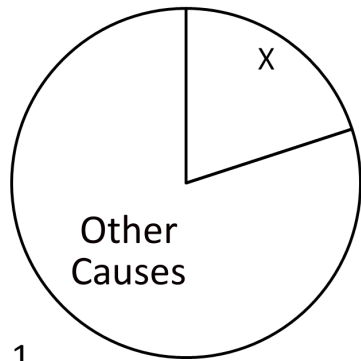
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INUS conditions for child abuse



X: was abused; Y: substance misuse; Z: poverty

INUS conditions for treatment success



X:treatment; Y:therapist relationship; Z:time

- The treatment variable T is never *enough* by itself to promote O – it is only a slice of a pie.
- It won't work without the other slices.
- And it won't work if there are any pies of sufficient strength operating to prevent O .



**Alternative ways of studying causal claims:
exploring HOW change occurs**



Move from 'black box' RCT

- Focus on HOW an intervention works
- Includes context in which the intervention is used
- What tends to help AND what tends to hinder

Safety engineering example

- Radical shift from person-centred to context-centred investigation of accidents/erros.

E.g in medicine:

To Err Is Human: Building a Safer Health System

- “Errors can be prevented by designing systems that make it hard for people to do the wrong thing and easy for people to do the right thing.”
- US National Academy of Sciences



Signs of Safety: changing the underlying system to promote desired causal pathways in supporting front line work

Manuals on complex research

- **Medical:** Craig P. et al *A new framework for developing and evaluating complex interventions: update of Medical Research Council guidance*, BMJ 2021. (authors are epidemiologists and statisticians)
- **World Bank:** Vaessen & Raimondom (2016) *Dealing with complexity in development evaluation* (authors are social scientists and policy analysts)
- **UK Government:** (2020) *Magenta Book Supplementary on handling complexity* (authors are economists and evaluators)

Intervention-centered approach

- **Focuses:** on characteristics of the policy
 - Does it work?
 - For whom, when, where?
 - How to implement it
 - How much does it cost?
 - What are the side effects?
- **Studies:**
 - Repeatable causal processes
- **Requires:** evidence to support generalizations or transfers of policy outcomes

Context-centered approach

- **Focuses:** on the arrangements in the target context
- **Studies:** what causal processes these afford; what changes can be made so that they afford more desirable processes
- **Requires:**
 - A model of what's happening in the target context
 - An understanding of how the powers and arrangements afford this
 - A plan to change what's happening, via producing either
 - A new intervention, old structure