How to Identify Mechanisms in Psychosocial Interventions

Lessons learned from the application of a realist approach to a program evaluation, a realist review and a qualitative research

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Before we start

- This presentation is on mechanism from a **realist approach**
  - Not necessarily realistic evaluation
  - Not necessarily program evaluation
  - Input from different literatures and disciplines

- I don't consider myself to be an expert on the topic;
  I am trying to answer questions I have been asking myself
  (and questions that I have been asked)

- Reflections are **based on**
  - The literature on realist review and evaluation (e.g. Pawson et Tilley, 1997), sociology (e.g. Hedstrom & Ylikoski, 2010) and others (Maxwell, 2012; Gerring, 2008)
  - The reflections of our team, based on three research projects

Three projects
In a realist perspective

1. **Theory-driven program evaluation** of case management program for people with SMI **from a realist perspective** (part of my master's degree in social work)

2. **Realist review** of case management programs in North America (and the Province of Quebec)

3. **Traditional research** on the social mechanisms explaining the influence of social relationships on mental health recovery, **from a realist perspective** (part of my PhD program in Community Psychology)

Presentation structure

- Introduction
- Overview of the literature
  - Definition
  - The keys and clues to identify a mechanism
- Keys to identify mechanism
  - Mechanisms as theories
  - Mechanisms produce outcomes
  - Mechanisms are sensitive to the context
  - What are mechanism made of?
- Discussion
- Questions

Introduction

Explanation is at hearth of social sciences (Little, 2004)

"[...] a central ambition of virtually all social research is to discover causes"
(Little, 2004, p.100)

Mechanism-based explanations have gained popularity in recent years (Hedstrom & Ylikoski, 2010; 2013)

Mechanism is central to critical/scientific realism, realistic evaluation and realist review

"It is though the notion of program mechanism that we take the step from asking whether a program works to understanding what it is about a program which makes it work" (Pawson & Tilley, 1997, p.66)

Overview of the literature
Usage of "mechanism"

- The term of mechanism is largely used in social sciences, not always in the context of a realist approach

- This usage is somewhat uncontrolled; many authors don't have an explicit definition of what a "mechanism"

- Gerring (2008), for example, identified 9 meanings of "mechanism" in the literature. Some those usages can be coherently combined, while others are contradictory.

Review Article: The Mechanismic Worldview: Thinking Inside the Box

JOHN GERRING*

Overview of the literature
An example

**Understand how interpersonal relationships
influence mental health recovery**

Social support	Relationship with a professional
"Over the past 30 years, investigators have called repeatedly for research on the mechanisms through which social relationships and social support improve physical and psychological [outcomes]" (Thoits, 2011, p.145)	"Results indicated that […] However it is not clear precisely what the mechanism of change was." (Elvins & Green, 2008, p. 1182)

• Two contexts of helping relationship (whether it is a paid helper or not)
• Plenty of covariance research showing that interpersonal relation is linked with mental health recovery
• A call for "mechanism" (even if it is not from a realist perspective)

Overview of the literature
What is a mechanism? What it's not?

Maybe the best way to present a mechanism would be to define what it is not (Gerring, 2008, p. 163).

Mechanism are **not universal covering-laws**, they are more situational, bounded or specific to a certain number of contexts

Mechanism are **not variables**, they are explanation of why variables are related (Astbury & Leeuw, 2010, p.367)

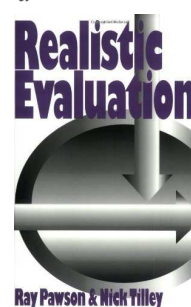Mechanism are **not programme activities**

Mechanism-based approach to causation can be distinguished from a **variance** (Maxwell, 2004; 2012) or **covariance approach** (Gerring, 2008)

Overview of the literature
Definition (1/2)

The commonly used definition from Pawson & Tilley (1997, p.68) states that a mechanism is "*an account of the makeup, behavior, and interrelationships of those processes that are responsible for the outcome. A mechanism is thus a theory – a theory that spells out the potential of human resources and reasoning*".

In realist evaluation it takes a central role in the Context-Mechanism-Outcome

There are always multiple mechanism**s**
(Pawson & Tilley, 1997; Astbury & Leeuw, 2010; Bunge, 2013)

Realistic Evaluation

Ray Pawson & Nick Tilley

Overview of the literature
Definition (2/2)

Astbury & Leeuw (2010): "*mechanisms are underlying entities, processes, or structures which operate in particular contexts to generate outcomes of interest. There are three essential clues located in a "realist" reading of mechanisms.*" (p.368)

1. Mechanisms are usually hidden;
2. Mechanisms are sensitive to variations in context;
3. Mechanisms generate outcomes.

Unpacking Black Boxes: Mechanisms and Theory Building in Evaluation

Brad Astbury[1] and Frans L. Leeuw[2,3]

Overview of the literature
Features and identifiers

- Broad features of mechanisms (Pawson & Tilley, 1997, p.75)
  1. "'**analytic**' and so involve breaking down the program into a series of potential sub-processes [...]
  2. '**stratified**' in that they involve both macro and micro processes [...]
  3. '**propositional**' and '**processual**' in that they involve the interplay between social resources and participants' reasoning." (p.75)

- Three key identifiers (Pawson & Tilley, 1997, p.66):
  1. to reflect the **embeddedness** of the program within the **stratified** nature of social **reality**;
  2. to take **the form of propositions** which will provide an account of how both macro and micro processes constitute the program
  3. to demonstrate how program outputs **follow from stakeholders' choices (reasoning)** and their **capacity (resources)** to put these into practice
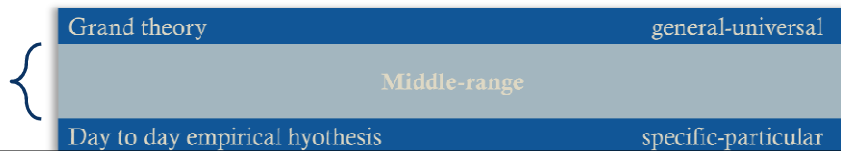
How to identify mechanisms?

Clues : 1) usually hidden
Broad features: 1) analytic
Key identifiers: 2) take the form of propositions

- Keys to identify mechanism
  - Mechanisms as theories
  - Mechanisms produce outcomes
  - Mechanisms are sensitive to the context
  - What are mechanism made of?

Mechanisms as theories

Clues : 1) usually hidden
Broad features: 1) analytic
Key identifiers: 2) take the
form of propositions

- Mechanisms are not variables; they are an **explanation** of why variables are related (Astbury & Leeuw, 2010, p.367)

- Middle-range theory
  - A theory *"which can be used for partially explaining a range of different phenomena but which makes no pretense of being to explain all social phenomena"* (Hedstrom & Ylikoski, 2013, p. 27)

Grand theory	general-universal
Middle-range	
Day to day empirical hyothesis	specific-particular

Mechanisms as theories

What level of abstraction is the good level?

- There is a notion of choice in the level of abstraction (Hedstrom & Swedberg, 2010)

- Usefulness:
  - For the research: testable
  - For the stakeholders: makes sense and/or can be modified

Mechanisms produce outcomes
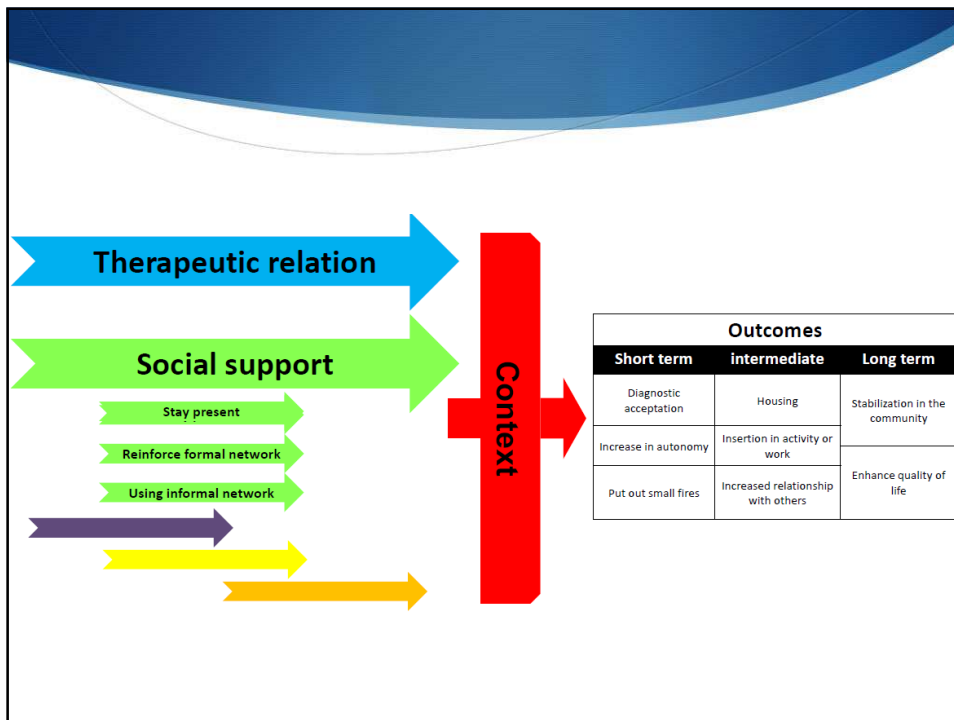
- The main characteristic of a mechanism is its causal power

"[...] a mechanism is irreducibly a causal notion. It refers to the entities of causal process that produces the effect of interest." (Hedstrom & Ylikoski, 2010, p.50)

"Mechanisms are agents of change" (Pawson, 2013)

- Which outcome are we referring to?
  - Theory-driven program evaluation
  - Reviews on case management
    (e.g. Hospital use: admission, length of stay)
  - Psychotherapy research

Mechanisms produce outcomes

- Data collection: Interview, questionnaire, observation, program and policy documents (Lauzier-Jobin, 2013)

- Three strategies to reach the level of mechanism in an interview:
  - Backward thinking (Chen, 2005): start with the reached outcome, then identify what was responsible for it.
  - Start with a description of a specific example, generalize from that example.
  - Indirect questioning: "If I ask [the user], what would he tell me was the most helpful component of the intervention?"

What is it about therapeutic relationship and social support that produce outcomes?

Social support in the recovery from serious mental disorder: Results from a Scoping Review
Lauzier-Jobin, F., Ouellet, C., & Viquez Porras, F.
Doctoral candidates in Community Psychology at *Université du Québec à Montréal*

Les mécanismes de la relation thérapeutique responsables des améliorations chez les personnes ayant des troubles de santé mentale graves : les résultats d'une étude de portée
François Lauzier-Jobin, étudiant au doctorat en psychologie communautaire, Université du Québec à Montréal

UQÀM   Vitalité

4 commun components:

1) Being there (belonging);   2) Emotional support;

3) Practical support;   4) Role attribution (influence).

(Lauzier-Jobin et al., 2014; Lauzier-Jobin, 2014)

Sensitive to the context

> Clues : 3) sensitive to variations in context
> Broad features: 2) stratified
> Key identifiers: 1) reflect the embeddedness of the program within the stratified nature of social reality

- Sensitive in two different ways (Henry, 2004):
  - For their activation
  - For their effect

- Central role of diversity and comparison of different contexts (Maxwell, 2004)

- What is a context?
  - The context of the mechanism, not the context of the program or the context of the individual
  - The context is infinite; must identify important aspects on which a variation can be applied
  - What level are we talking about?

Sensitive to the context

What level are we talking about? (specially important when there are multiple researchers from the realist review)

i) individual   iii) institutional settings

ii) interpersonal   iv) infrastructural

(Pawson, 2013, p.37)

Analytical matrix of the articles about case management						
Author Date	Publication type	Method used	Process - Outcome	Context	Articulation C-M-O	Notes

What are mechanism made of?

Broad features: 2) ... involve both macro and micro processes
Key identifiers: 2)… provide an account of how both macro and micro processes constitute the program

- What are mechanisms made of?
  - Actors' reasoning (choices) and programme's resources
  - Agency and structure
  - Processes

  *"Causual explanation, from a realist perspective, involves the development of a theory about the process being investigated, a **process** that will rarely be open to investigation" (Maxwell, 2004, p.251)*

- What level? Both macro and micro processes

Discussion

- Two steps in theory-driven evaluation (Rogers, 2000): development of a theory and theory testing

  An important limit of my project is that I haven't carried it to the testing face

- I found it useful to place of the notion of « mechanism » within the theory-driven evaluation literature
  - Sources of the theory: research and prior evaluations, implicit theories from stakeholders, observation, program and policy documents.

- Triangulation (Maxwell, 2004; 2012)

Questions

⬧ How do you describe the notion of "mechanism" to newcomers?

⬧ What are the clues that tell you this is a mechanism?

⬧ What are the clues that tell you this is not a mechanism?

⬧ How do you identify the good level of abstraction?

⬧ What strategies do you use to make mechanisms emerge?

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Thank you for your attention!

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