

How to Read a Research Article

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Goals of the Lecture

- To introduce undergrad students to the concept of “research.”
- To help students understand the types of articles, where they are published, and how to understand what they tell you.

Sources

- Albert & Bell (2002). "Timing and Music," Academy of Management Review, 27(4):574-593.
- Arthur (1994). Increasing Returns and Path Dependence in the Economy, The University of Michigan Press, Ann Arbor.
- Christensen & Rayner (2003). "Why hard-nosed executives should care about management theory," Harvard Business Review, September 2003:67-74.
- Jordan & Zanna (2000). "Appendix: How to read a journal article in social psychology," in Stereotypes and Prejudice: Essential readings, Charles Stangor (ed.), Psychology Press, Philadelphia.

Sources (continued)

- Kuhn (1987). "The function of dogma in scientific research," in Scientific Knowledge: Basic issues in the philosophy of science, Janet A. Kourany (ed), Wadsworth Publishing Company, Belmont, CA, 253-265.
- Locke, Silverman, and Spirduso (1998). Reading and Understanding Research, SAGE Publications, Thousand Oaks, CA.
- Tahai & Meyer (1999). "A revealed preference study of management journals' direct influence," Strategic Management Journal, 20(3):279-296.
- Discussions with Jon L. Pierce.
- Class notes, MGMT8301, Organizational Behavior, Winter 1995, Taught by Larry L. Cummings.

What is an article? Why are they written?

- A research article is a summary of a research study.
 - Research articles are written (at best) to advance our knowledge in a field of endeavor.
 - Knowledge is cumulative in the sense that current studies build on prior studies.
 - There are almost no “new to the world” ideas.
 - See “Timing and Music” as close to an exception.
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How knowledge advances^{*}

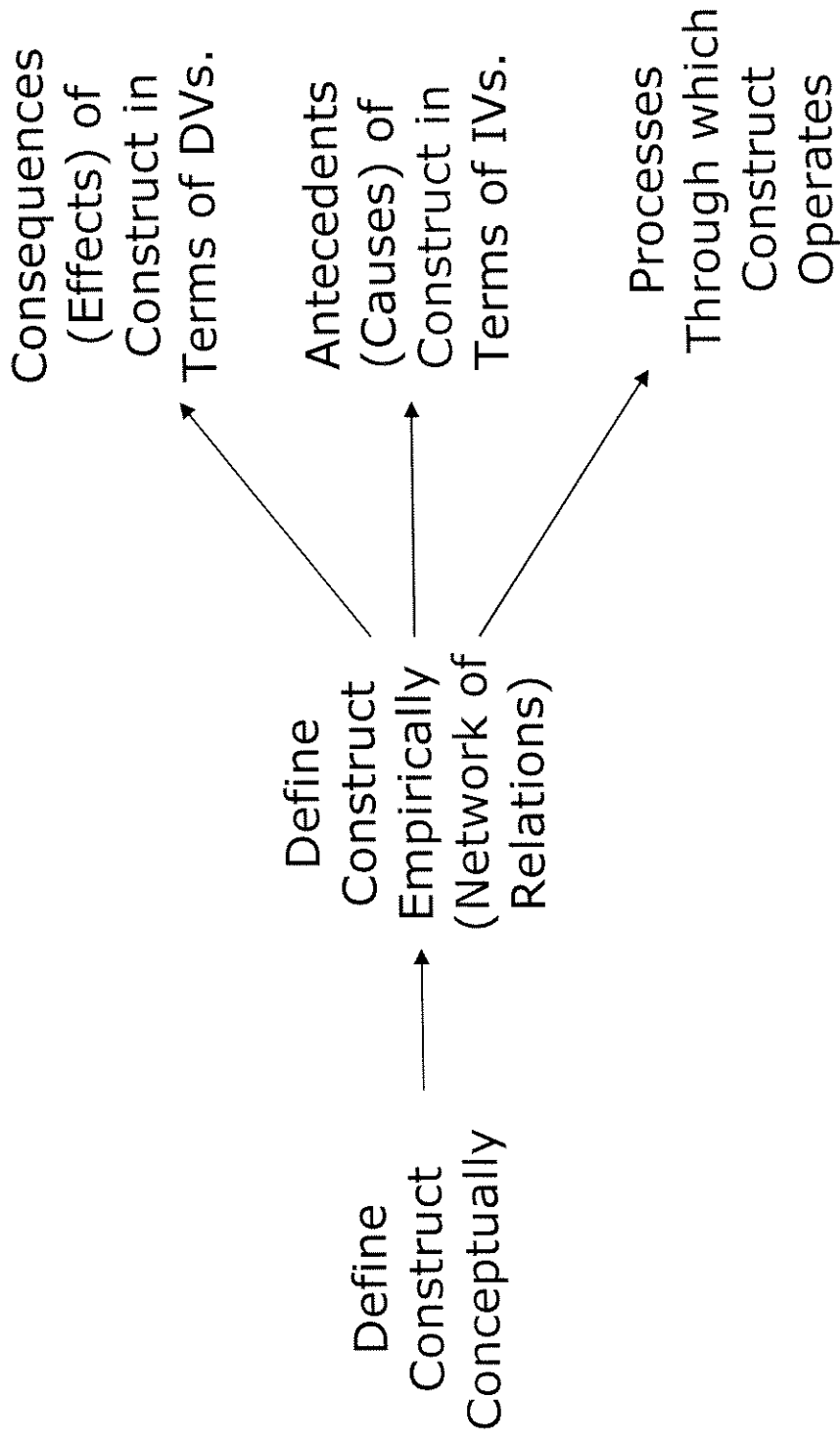
- A scholar gets an idea about how the world appears to work.
- The scholar^{**} writes a theoretical piece presenting his or her expectations about relationships.
 - E.g., Ron Burt's theory of structural holes.
- The scholar examines the phenomenon empirically (with data) to test whether the expected relationship holds.
 - Ron Burt's stream of research 1992-present examining the relationship between structural holes and performance.
- The scholar (and others) develop a nuanced understanding of the new theory (boundary conditions, moderating / mediating relationships) to answer the question, "why does(n't) the theory work in these conditions?"
 - E.g., Zaheer & Bell on how actor characteristics moderate the value of structural holes.

* Note – this subject can (and does) comprise an entire course in the Philosophy of Science. Readings available on request.

** There may be multiple scholars working on a given idea at any point in time.

The progression of research

(Adapted from Larry L. Cummings' class notes)



Construct definition

- Define construct conceptually:
 - Somebody says what the construct means in words.
 - What does the construct mean?
 - How is this construct different from something else, and why do we need it?
 - This may be the hardest part of the job!
- Define construct empirically:
 - “nomological networks” – how does construct fit in with other related constructs?
 - Empirical relations among similar, but not identical, constructs.
 - Establishes construct empirically (it exists separate from, but related to, other constructs).

Antecedents and consequences

- Antecedents:
 - What kind of things are known to cause changes in the construct, as empirically defined?
- Consequences:
 - Does the construct make any difference about anything we care about?
 - Does the construct predict anything we care about?

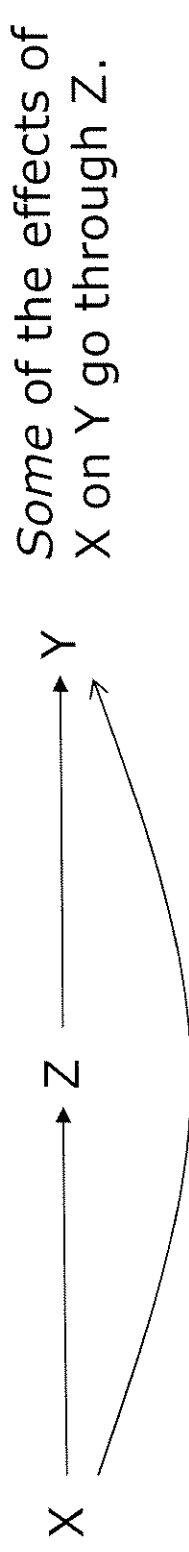
Processes: Mediation

- If variations in the construct affect the DV, what is going on between the construct and the DVs?

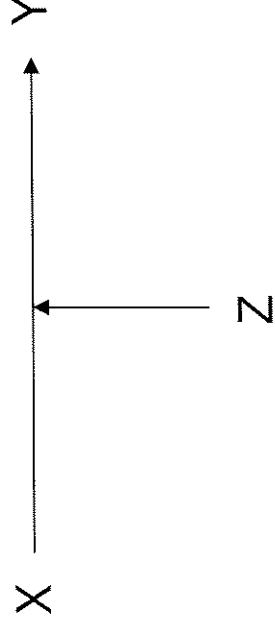
Full mediation:



Partial mediation:



Processes: Moderation



- The value of Z moderates the effects of $X \rightarrow Y$.
 - Z can affect the direction and / or magnitude of X on Y.
- It's a boundary condition:
 - "Only when the following conditions hold are X and Y related."
- Z can be a confound.
- E.g., the value of bridging structural holes depends on the capabilities of the bridger.

What is the publication process?

- A scholar gets an idea for a research project, and examines a phenomenon.
- The scholar prepares a paper and presents his/her findings at a conference.
- Based on feedback received at conference, the scholar revises the paper and submits it to journal.
- The paper is reviewed by up to three reviewers. The reviewers recommend to the editor whether or not the paper has potential, and if so, what revisions need to be made to make the paper publishable. Depending on journal, no more than 25-75% of papers make this first cut.
- Assuming the editor and reviewers feel that the paper has potential, the scholar will make revisions requested by the reviewers, or will (in extreme cases) dispute the need for specific revisions. The paper is returned to the journal for another series of reviews by the same reviewers.
- If the reviewers are satisfied with the revisions, the paper is accepted for publication. Depending on the journal, the acceptance rate varies between 2-20%.

What kind of assurance can you have about the study?

- Given the ability to self-publish on the Internet, the quality of research varies from outstanding to terrible. It's really "reader beware!"
- Assuming the article is published (in journal or edited volume), look at the reputation of the outlet:
 - What is its acceptance rate? (E.g., Strategic Management Journal accepts 2-3% of submitted manuscripts.)
 - What is the review process?
 - How many reviewers?
 - Is the process "blind"?
 - Is the journal considered an "A" (top tier), "B" (mid-range), or "C" (lower tier) journal. See e.g., Tahai & Meyer, 1999 for a ranking scheme.

A Caveat: The work might be “heretical”

- Depending on the field, there may or may not be a “dominant paradigm.”
- The stronger the dominant paradigm, the harder to publish in mainstream outlets papers that challenge the paradigm. (See Kuhn, 1987 for details.)
- Consequently, studies that challenge the dominant paradigm may be relegated to B or C journals.
 - For example, Brian Arthur found that his ideas of “positive returns economics” challenged the dominant paradigm in economics. Thus, he had to publish his studies in relatively obscure economics journals (Arthur, 1994).
- In management / organization, there tends to be a philosophy of “let a thousand flowers bloom.”

What kinds of studies exist?

- Three main kinds of studies exist:
 1. Literature review – summarizes our knowledge of a given area.
 2. Theoretical articles – builds theory in a new area.
 3. Empirical articles – tests a given theory or extension of a theory using data and statistical tools.
- Note – there will be a literature review in *all* of the articles, but it will be most extensive in the specific literature review article.

How to read a literature review

(Adapted from Larry L. Cummings' class notes)

- Is the domain of the review defined up front (chronological, by subject groups, etc)?
- What is the basis for the organization of the review?
 - Chronological
 - Around independent variables
 - Around dependent variables ("so what")
 - Problems with the area of research (not preferred as it's too easy to become too critical).
- What suggestions does / do the author(s) make about work needed in the subject area and how it might be accomplished?

Theoretical articles

(Adapted from Larry L. Cummings' class notes)

- Often, these are the hardest to diagnose (and to write).
- Covers new theoretical ground.
- In most major journals, must be path-breaking in new areas.
 - Extensions are rarely publishable (need to validate theory with data; hence an empirical study).

What to look for in a theoretical article (Adapted from L.L. Cummings' class notes)

- Internal validity / logical structure of the argument.
- Is it innovative? Is there something new here?
- Is the article provocative? Does it elicit an emotional response?
- Is the article elegant? Is it a "work of art"?
- Is the article parsimonious (present the simplest explanation possible to fully explain the phenomena in question)?
- Is it straight forward, or convoluted?

Empirical articles (overview)

- Are the constructs clearly defined?
- Is the study carefully positioned in the literature?
- Measurement issues.
- Appropriateness of data analysis.
- Are the results clearly reported?
- Are the conclusions consistent?

More on measurement issues: Reliability

□ Reliability

- Internal consistency
 - Do items hang together?
- Inter-rater reliability (especially important in cases of subjective judgment).
 - Do the judges agree with each other?

More on measurement issues:

Validity

- Validity
 - Internal validity
 - Is the theory logical?
 - Are the assumptions valid and consistently used?
 - Is there a "moving construct"?
 - External validity
 - Is the relationship found in one situation found in another also?
 - A finding shown to be true in one setting is true in at least one other setting.
 - Does not necessarily mean true in *all* settings.
 - Predictive validity
 - Does variation in the construct predict variation in something else it's supposed to?

More on measurement issues: Generalizability

- How many other different settings can we find to which our findings in our initial setting hold?
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A note on causality

- Many studies claim to examine a causal issue (A causes B). If so, how have they tested the causality?
- Unfortunately, many studies simply measure correlation between A and B, and impute a causal relationship. (I'm struggling with that right now!)
- Ideally, the expected cause should occur temporally before the outcome.
 - E.g., if I expect that seeking advice enhances employee on-the-job performance, I should measure advice-seeking behavior before I measure performance, not at the same time.
 - There are ways to overcome these deficiencies using cross-sectional time series data. (I'm finding out more about this right now!!)