



COMPONENTS OF A CLEAR RESEARCH QUESTION

Summer Internship in Psychological Science

Slides taken from The How-Tos of Research and Ben Silver from SIPPS 2021

A GOOD RESEARCH QUESTION

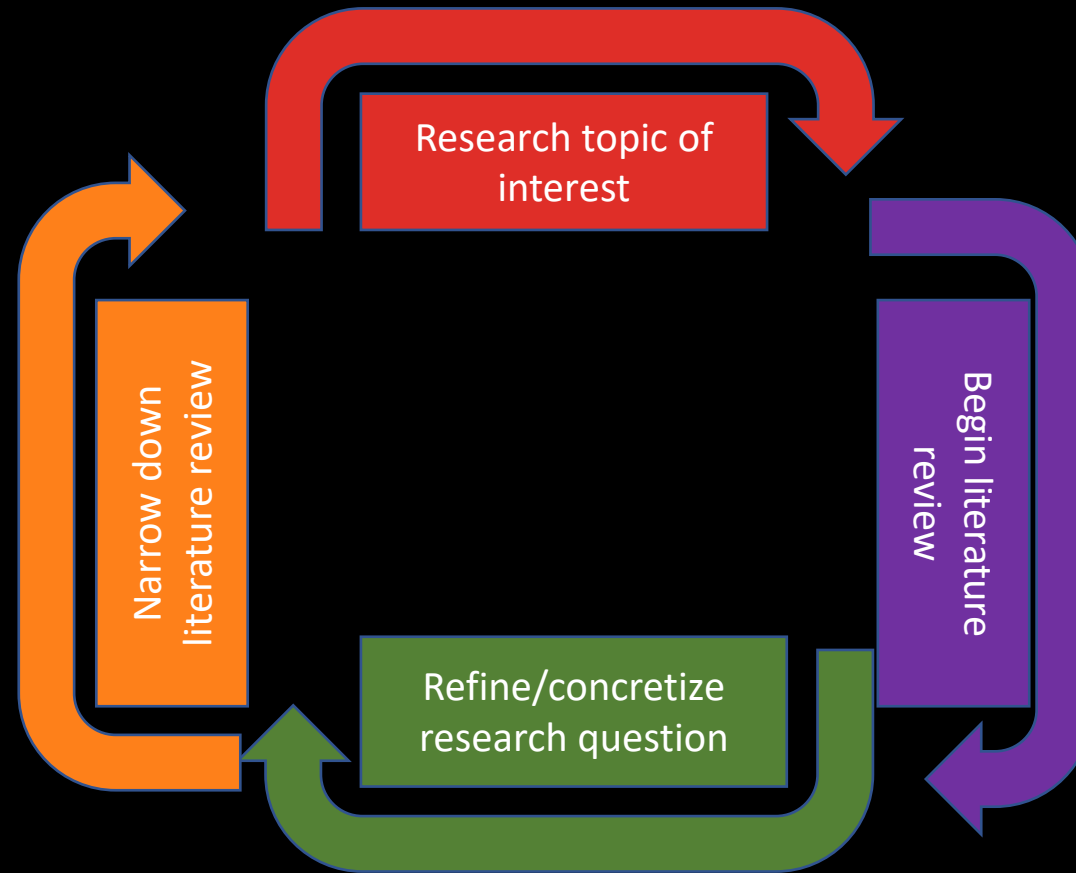
Builds on prior theory or prior research

Reflects a real-world phenomenon or something you have observed

Something personally relevant/important to you

Fills a gap in the literature: is novel and hasn't been done (novelty can mean an improvement on methods or testing in a new sample!)

THE ITERATIVE PROCESS



STRUCTURE OF A RESEARCH Q

Research is all about effects: What is the effect of X on Y?

What is the effect of social support on well-being?

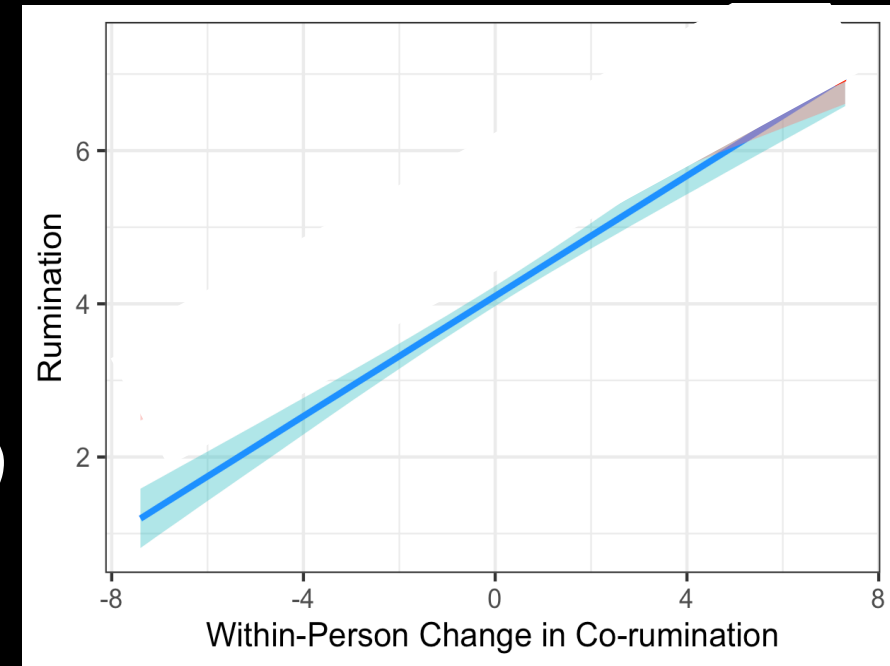
X = independent variable (IV)

what you manipulate or what is varying

Y = dependent variable (DV)

what you measure or what the outcome is

DV
(y-axis)



IV (x-axis)

STRUCTURE OF A RESEARCH Q

Research is all about effects: What is the effect of X on Y?

What is the effect of social support on well-being?

X = independent variable

what you manipulate or what is varying

Y = dependent variable

what you measure or what the outcome is

Does X have an effect on Y, or is it simply related to (or associated with) Y?

How can we determine causality in research?

VARIABLE OPERATIONALIZATION

There are always countless ways to measure what we are interested in, but we have to be explicit in how we decide to measure variables → a research question is only as good as your operationalization of variables!

How would you measure social support?

Amount of social support/number of close friends?



Quality of social support?



Self-reported? Other-reported (e.g., ask a friend if they PROVIDED SS?
Observationally coded (RAs code support behaviors in the lab)?



SPECIFYING YOUR SAMPLE

Our findings may vary based on the sample we are studying

Our findings usually can't generalize to *all* populations

We have to specify what our sample is:

Are we studying adolescents? Adults? Clinical populations?

Are we studying people in the united states? Or a different country?

Country? Continent?



City? Rural?



WHAT ARE COVARIATES?

A type of “control variable” in non-experimental work (a related, but distinct, concept to confounding variables in experimental work)

X may be associated with Y... but there is a third variable that also affects Y that we want to **adjust for**

To make sure that we are measuring the true association between X and Y, we want to “control for” or “adjust for” other variables

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Covariates are normally not included in research questions, but are something to think about as you design your study

EXAMPLE OF A COVARIATE

Some research indicates that visible or overt forms of social support lead to INCREASED negative affect.

However, experiencing ***more stressors may also be related to increased negative affect***

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Stressors = covariate

Measure this in your study so that you can “adjust for” this effect

WHAT ARE INTERACTIONS?

Sometimes we don't think a relationship will be the same across all conditions or across all people

A moderator / interaction variable affects **(or modifies)** the strength of the relationship between X and Y

A moderator can strengthen or weaken a relationship
→ acts as a dimmer switch



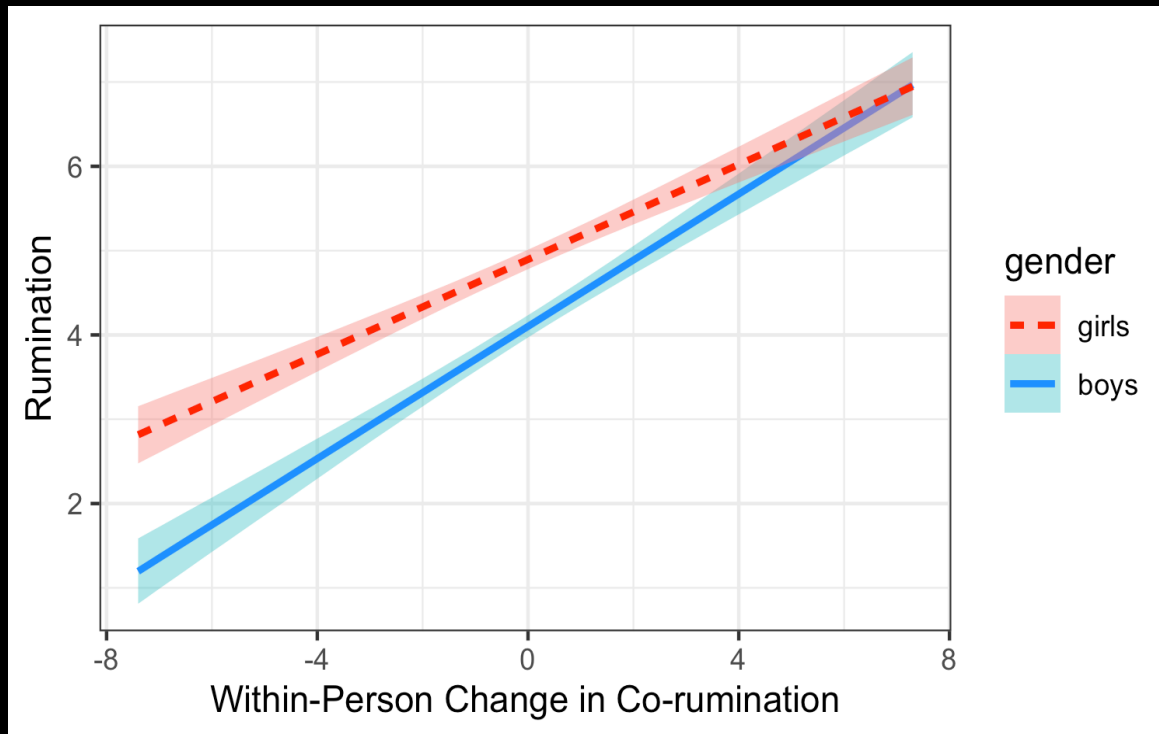
WHAT ARE INTERACTIONS?

When you think of a moderation, think of the phrase
“it depends”

Does salary increase with years of work experience? The strength of that relationship depends on your gender

EXAMPLE OF AN INTERACTION

DV
(y-axis)



IV (x-axis)

- Increases in co-rumination are associated with heightened rumination at a given timepoint for all adolescents
- **HOWEVER**, the strength of this association is **STRONGER** for boys than it is for girls