



University of California
San Francisco

Measurement Considerations and Gaps in Population-Based Survey Research

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Disclosures

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- RRF Foundation
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- California Department of Public Health

Commercial Sources:

- None

Session Goal

To reflect on how we measure social connection in different research and practice settings, including what is going well, and challenges and opportunities that we need to address to move the field forward.

Session Goal



Outline

1. Background
2. Three Measurement Considerations in Survey Research relevant to Comparative Effectiveness Research
 - a. Rationale for decision
 - b. Priority Question for the Field
 - c. Proposed Measurement Challenge

Why Me?

My Perspective

Different Roles

- **Clinician**
- **Survey researcher**
 - NSHAP, HRS, NHATS, UK Biobank, All of Us, BRFSS
 - Scale Development
- Primary Data Collection
- Mixed Methods
- Community-Engaged Research & Implementation Science



Rationale

Surveys cover many domains

Prevalence: magnitude, subgroups, change over time

Relationship to health outcomes: short- and long-term

Mechanisms linking social connection to health outcomes

- Pathways; Development of new measures/scales

Evaluation of interventions

We have more and more data...

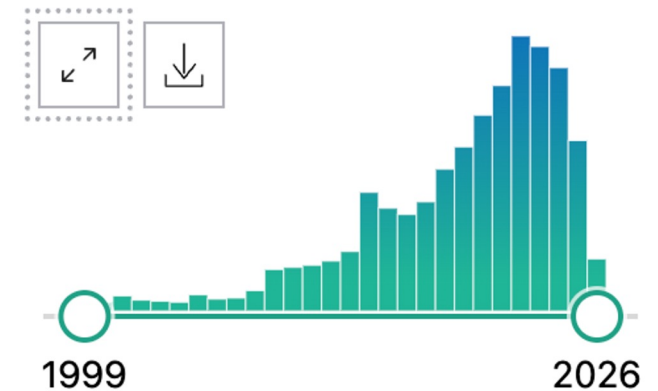
Category	Study
Aging (Longitudinal)	HRS, NHATS, NSHAP, SHARE, MIDUS, UAS
Surveillance	BRFSS, NHIS, Pulse, GSS, NHANES
Health Systems	All of Us, MEPS, MCBS, UK Biobank
Youth & Lifespan	ATUS, Add Health, NSCH, YRBSS
Social Connection Specific Surveys	AARP, Cigna

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>1800 studies from 3
cohorts alone

RESULTS BY YEAR



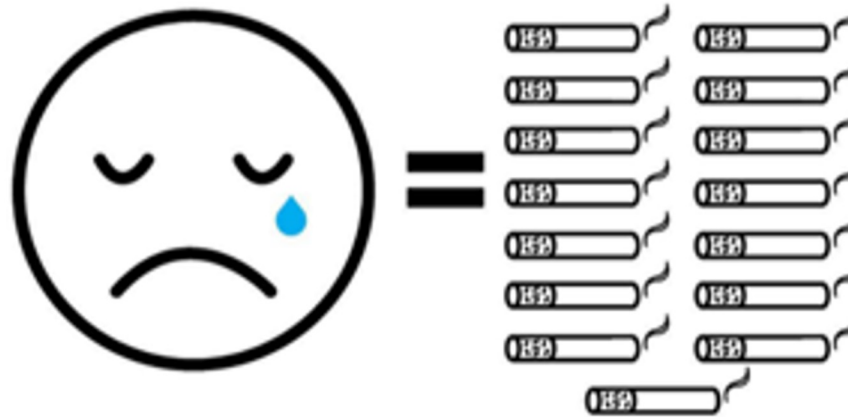
Source: Pubmed; search: (((loneliness) OR (social isolation)) OR (social support)) AND ("Health and Retirement study") OR (((loneliness) OR (social isolation)) OR (social support)) AND ("National Health and Aging Trends Study") OR (((loneliness) OR (social isolation)) OR (social support)) AND ("National Social life Health and Aging Project")



u.s.surgeongeneral

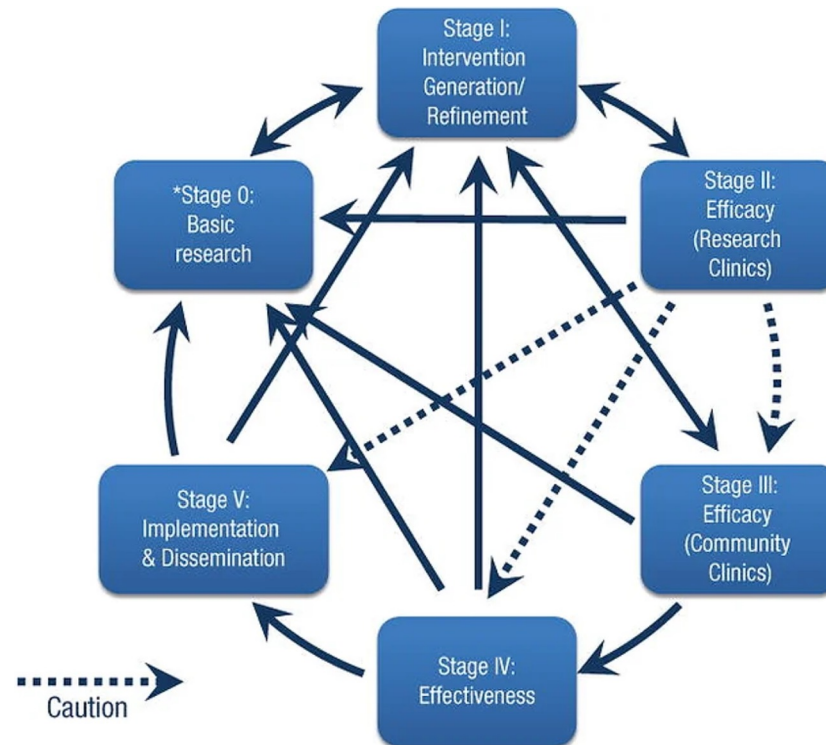
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**#ScienceAlert:
Social isolation is as bad for
your health as smoking.**



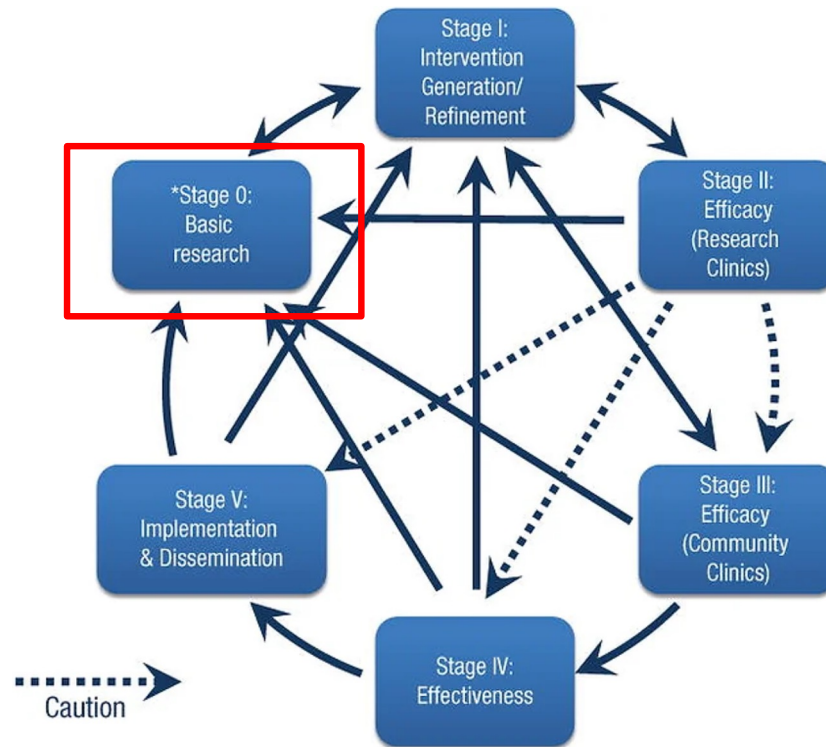
source: Holt-Lunstad, 2015 & 2010

NIH Stage Model



NIH Stage Model

Stage 0: Basic Research

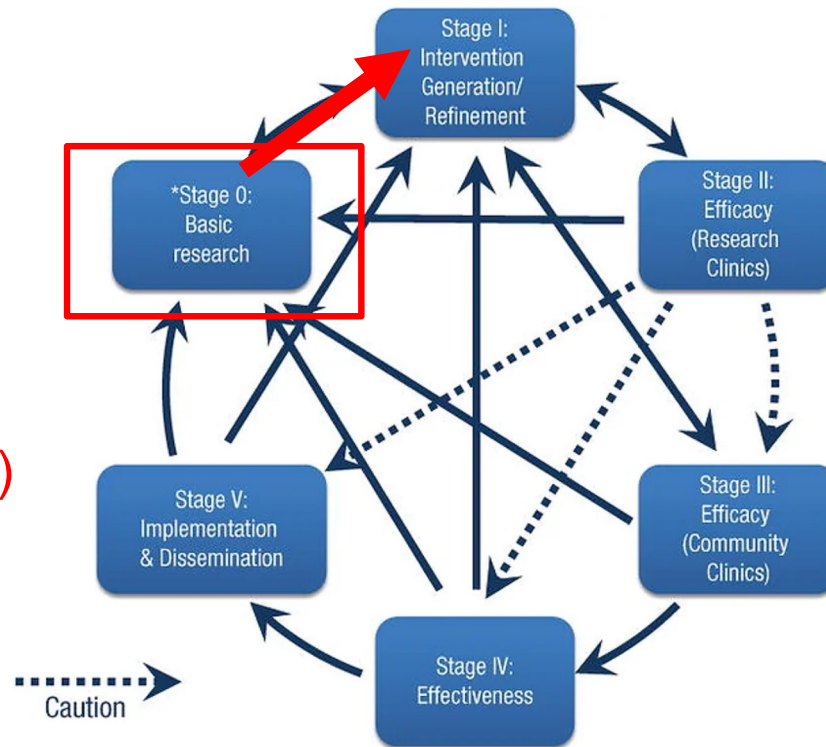


NIH Stage Model

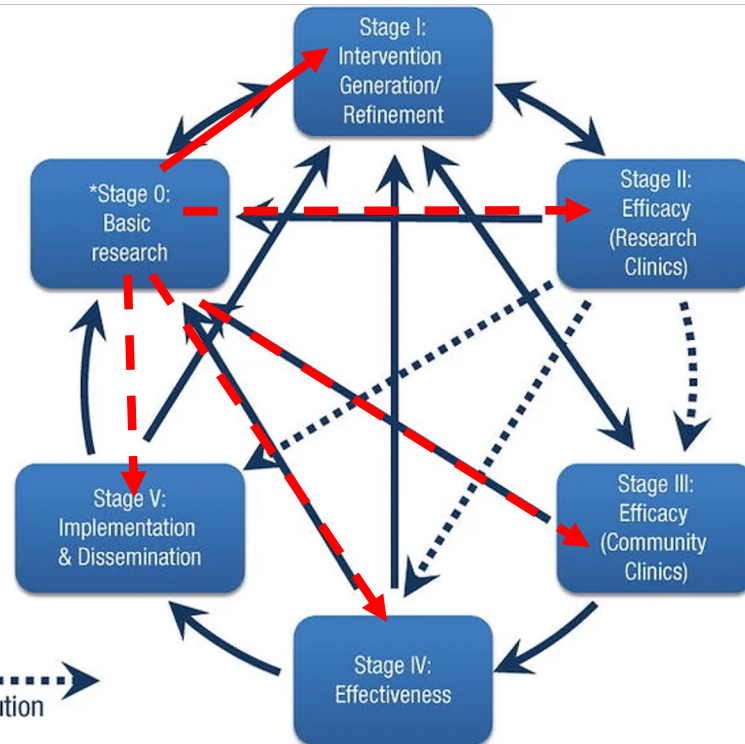
Stage 0: Basic Research

Driven the field forward!

(and had outsized influence)



We have **optimized** social connection measurement for use in large national surveys, and used the **same** tools in the development and evaluation of interventions.



Need to adapt our strategies

Three considerations

Need to rethink our strategies

Three considerations

1. Brief Scales

Consideration #1: Brief Scales and Questionnaires

Surveys use the shortest scale possible

Example:

Loneliness: UCLA 20 item -> 11 or 8-item -> 3-item -> 1-item

Consideration #1: Brief Scales and Questionnaires

Pros:

- Simple, Less Time, Lower Participant Burden
- Mimics certain real-world settings (e.g. clinical screening, intake forms)

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- Simple, Less Time, Lower Participant Burden
- Mimics certain real-world settings (e.g. clinical screening, intake forms)

Cons:

- Ceiling and Floor Effects
- Inability to capture change over time
- Does not examine specific domains

Scenario:

The Institute on Aging Friendship Line uses the UCLA 3-item loneliness scale (Range: 0-6) to capture change over time. A participant scores 6 points on the scale before the intervention, and scores 6 points at 3- and 6-month follow-ups.

No benefit?

Scenario:

The Institute on Aging Friendship Line uses the UCLA 3-item loneliness scale (Range: 0-6) to capture change over time. A participant scores 6 points on the scale before the intervention, and scores 6 points at 3- and 6-month follow-ups.

Qualitative interview:

“The Friendship Line has changed my life, I look forward to my call. It feels like a friend. I feel less lonely.”

Priority Question #1

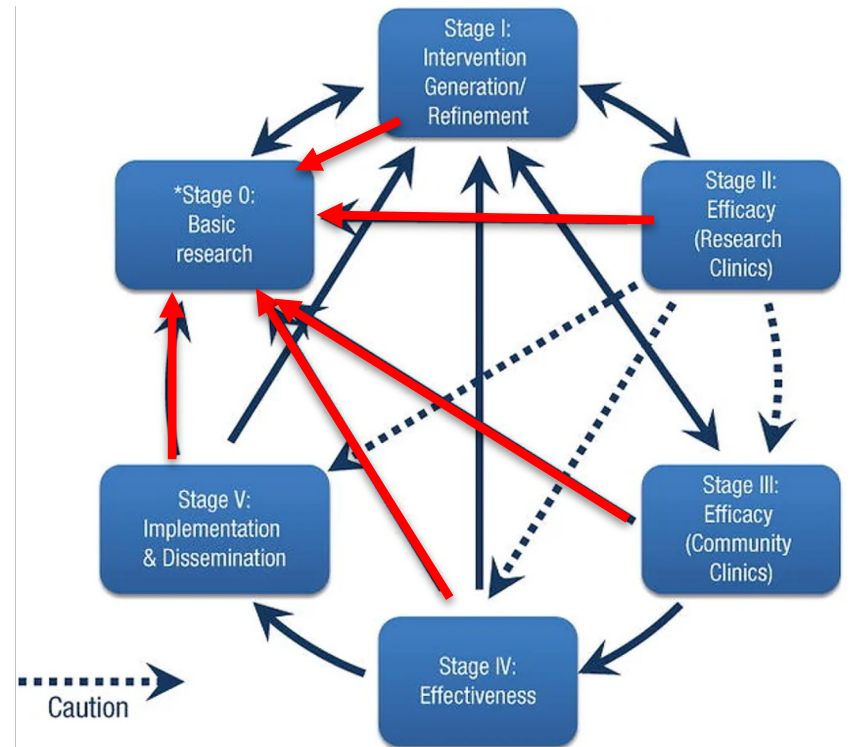
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Challenge:

Define what should be included in a **brief** measure of social connection in order to capture meaningful change over time and compare across research and real-world settings.

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Three considerations

- 1. Brief Scales - how can we redesign?**

Need to rethink our strategies

Three considerations

1. Brief Scales - how can we redesign?
- 2. Use of the Same Scales Over Time**

Consideration #2: Same Scales over Time

- Surveys try to use the same scales from year to year
 - Example: Health and Retirement Study
 - A Leave Behind Scale administered since 2006 every 4 years (similar to other surveys)
 - Minimal changes to wording

Consideration #2: Consistency over Time

Pros:

- To track change in prevalence over time
- To understand mechanisms (longitudinal analysis)
- Keeps researchers sane

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Cons:

- Does not measure different forms of social interaction since survey inception

Consideration #2: Consistency over Time

Scenario...

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Scenario... The COVID-19 PANDEMIC

When my extrovert friend takes me, an introvert, out for the night:



Consideration #2: Consistency over Time

Scenario... The COVID-19 PANDEMIC

- Zoom & Virtual interactions
- Community participation
- Social Media
- Artificial Intelligence

Priority Question #2

What is the role of technology-based social interaction in furthering social well-being and health across the lifespan?

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Challenge:

Update or adapt a measure to account for digital, virtual and new/emerging forms of social interaction for use in survey-based research.

Need to rethink our strategies

Three considerations

1. Brief Scales - how can we re-design?
- 2. Same Scales Over Time - how can we update?**

Need to rethink our strategies

Three considerations

1. Brief Scales - how can we re-design?
2. Same Scales Over Time - how can we update?
- 3. Sampling in National Surveys**

Consideration #3: National Sampling

Scenario:

Richard is a 70 year old veteran with moderate dementia. He has no friends or family. He is hospitalized for testing to determine if he has a metastatic cancer.

“Why am I here? Why won’t they let me eat? It’s torture.”

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Are we including people like Richard in surveys?

Clinicians are using the same instruments developed in surveys to assess their needs. Is this appropriate?

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 - Prevalence Estimates
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 - Some subgroup analyses

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- Complex Sampling Procedures
 - Prevalence Estimates
 - Improves generalizability
 - Some subgroup analyses
- Who is missing from the sample?
 - People unable to participate in the survey (Healthy, Language, Sampled Area, Etc.)
 - Measurements are developed for those who participate

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What interventions are effective in hard-to-reach and underrepresented groups?

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Challenge:

Develop a strategy for considering unique measurement considerations in subgroups (i.e. race and ethnicity, serious illness, dementia, etc.).

Summary

Priority Question #1:

Can we use interventions to re-design measures (and test them in surveys)?

Challenge:

Define what should be included in a brief measure of social connection in order to capture meaningful change over time and compare across research and real-world settings.

Priority Question #2:

What is the role of technology-based social interaction?

Challenge:

Update or adapt a measure to account for digital, virtual and new/emerging forms of social interaction for use in survey-based research.

Priority Question #3:

What interventions are effective in hard-to-reach and underserved groups?

Challenge:

Develop a strategy for considering unique measurement considerations in subgroups (i.e. race and ethnicity, serious illness, dementia).

Thank You!

UCSF Geriatrics
Department of Medicine