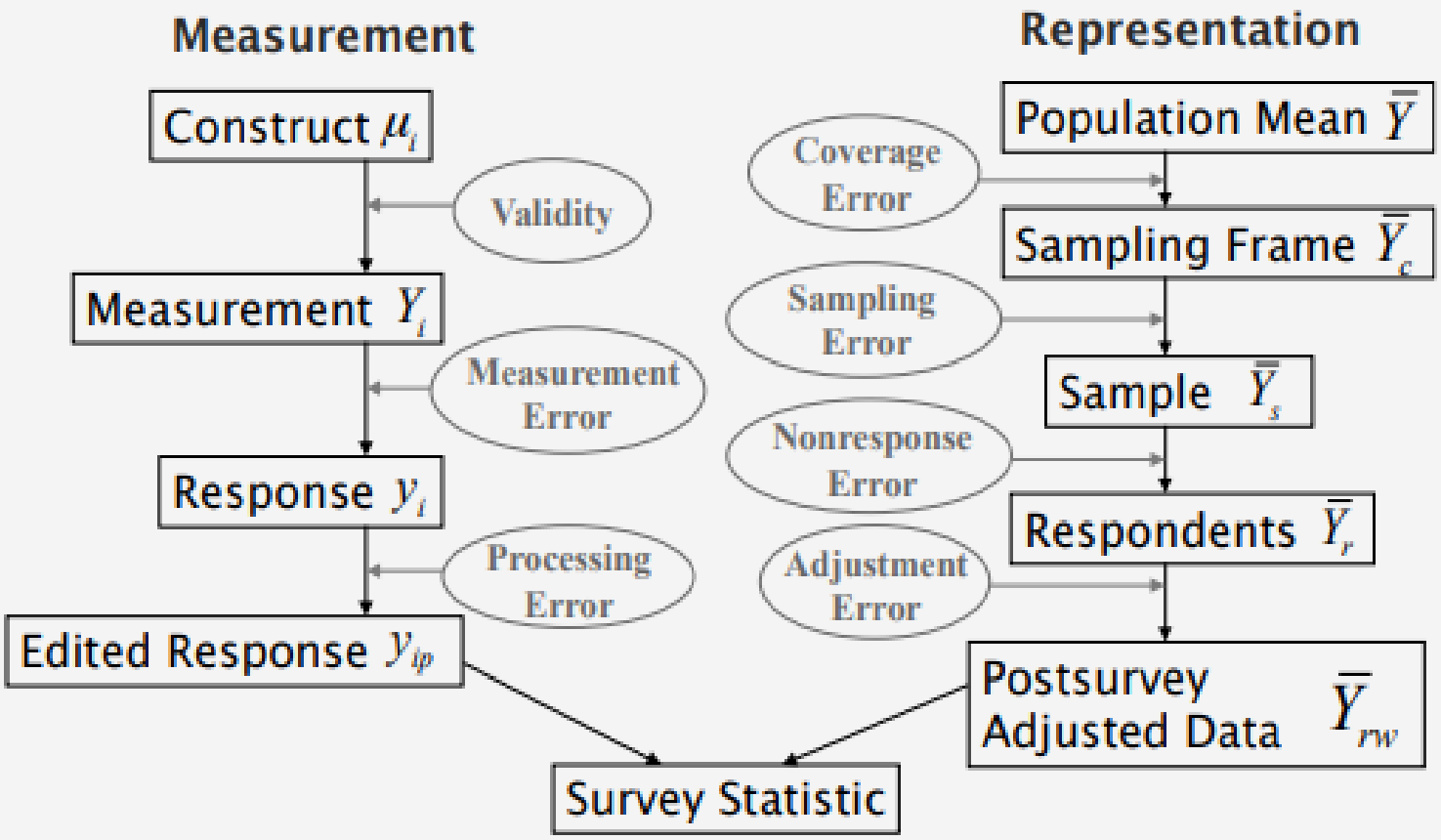
Questionnaire Design

LEBANESE UNIVERSITY
DATA SCIENCE
STATISTICS 2
CHAPTER 3: UNIT 1

Debunking what you know about questionnaires

- Asking the wrong question in a survey may not only lead to false results (and consequently poor decision making) but it may lead to opposite results
- Wrong wording, poor judgment of the respondents abilities, poor training of interviewers, ignoring circumstances influencing the way respondents answers are just a few ways where results may be altered in the process of conducting a survey
- This chapter will highlight most important considerations that are aught to be taken when performing a questionaire

Sources of Errors

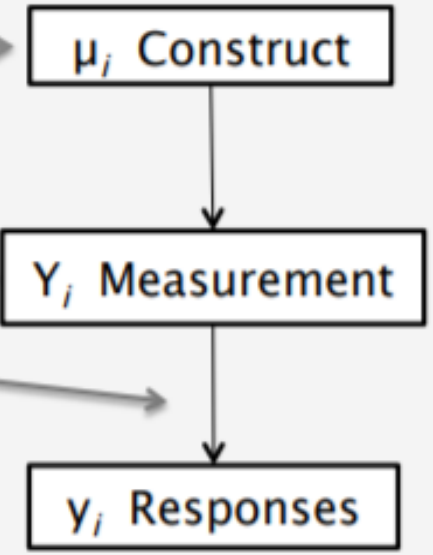


Groves RM, Fowler FJ, Couper MP, Lepkowski JM, Singer E, Tourangeau R. (2009). Survey Methodology, Wiley

Overview of Questionnaire Design Process

Overview of Questionnaire Design Process

- Determine purpose/objective/topic
- Select mode
- Develop analysis plan
- Gather or write questions
- Pretest/test survey questions
- Organize questions into a questionnaire



Outline

- Introduction and motivation (previous 3 slides)
- Unit 1: Terminology, accuracy and reliability, discussion of standardized interviews and related techniques.
- Unit 2: Background on response process. Unit will be referred back to a lot. Theoretical underpinning for rest of the course.
- Unit 3: Specific types of questions particularly difficult to ask
- Unit 4: Attitude questions and answer scales
- Unit 5: Testing questionnaires
- Unit 6: Putting it all together and in different modes

Unit 1: Outline

- Examples of questions
- Variance and bias
- Standardized interviewing
- Conversational Interviewing
- Concept specification

Simple Question

- Example (1):
  - Have you ever tried using marijuana or hashish and found that you couldn't stop?
    - (1) Yes
    - (2) No
- Example (2):

- هل استلفت في السنة الماضية أي مبلغ من المال من أحد البنوك لتسديد ديون شخصية؟

  .1 نعم

  .2 لا

Closed - One Choice

- Example 1:

6. How do you think your own life will go in the next few years—do you think it will get better or worse?

1. Get much better
2. Get somewhat better
3. Stay about the same
4. Get somewhat worse
5. Get much worse

- Example 2:

- كيف برأيك ستتغير حياتك في السنوات الخمس القادمة – هل ستصبح أفضل أم أسوأ؟
  1. ستصبح أفضل بكثير
  2. ستصبح أفضل بعض الشيء
  3. ستبقى كما هي
  4. ستصبح أسوأ بعض الشيء
  5. ستصبح أسوأ بكثير

Closed – ‘mark all that applies’

- Example 1

4. How do you describe yourself?
(Select one or more responses.)

- ○ Black or African American
- ○ Mexican American or Chicano
- ○ Cuban American
- ○ Puerto Rican
- ○ Other Hispanic or Latino
- ○ Asian American
- ○ White (Caucasian)
- ○ American Indian or Alaska Native
- ○ Native Hawaiian or Other Pacific I

Example 2

- ما هي الكليات التي تنتسب اليها؟

1. الإعلام
2. العلوم
3. الطب
4. الهندسة
5. العلوم الإجتماعية

Simple Classification

- For each of the following singers assign a number from 1 to 10 to indicate the degree to which you believe the singer has a beautiful voice (1 is the lowest grade)
  - Amro Diab ( )
  - Assi Hilani ( )
  - Moen Shreif ( )

- أستخدم مقياس (1-10) حيث كلما كان الرقم اعلى فهذا يعني انك تميل أكثر إيجاباً لتقييم أداء المذيعين التاليين:
  - مالك مكتبي: _____
  - تمام بليق: _____
  - طوني خليفة: _____
  - جو معلوف: _____

Likert Scale

- One of the mostly used scales
- 5 points or 7 points are the most common
- Odd number of points to illustrate normality
- First speaker statement format (not a question)

- يجب على الدولة أن تمنع البرامج التى تروج للتوقعات (علماء الفلك)

أوافق بشدة	أوافق	محايد	لا أوافق	لا أوافق بشدة
1	2	3	4	5

- Attending the class lectures is rewarding

Strongly agree ( ) Agree ( ) Neutral ( ) Disagree ( ) Strongly Disagree

Semantic Scale

- Is a scale in which variables are assessed by assigning an inclination to one of two opposite values of the variables

مجلة تايم

متحيزة ___:___:___:___:___:___:___غير متحيزة

موضوع ثقة ___:___:___:___:___:___:___ غير موثوقة

قيمة ___:___:___:___:___:___:___ ليست بذات قيمة

FOOD IN THIS RESTAURANT IS

TASTY___:___:___:___:___:___:___ NOT TASTY

WARM ___:___:___:___:___:___:___ COLD

CHEAP ___:___:___:___:___:___:___ EXPENSIVE

Filter Questions

PrevDam **[ASK IF ResYrAgo = No]**
6

[Apart from anything you have already mentioned], in that time did anyone GET INTO your house/flat without permission and CAUSE DAMAGE?

1. Yes
2. No

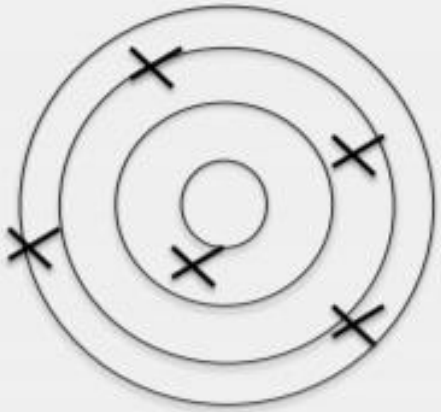
NPrevDam **[ASK IF PrevDam = Yes]**

How many times did this happen?
NOTE : 97 = 97 OR MORE/TOO MANY TO REMEMBER. USING CODE 97 CAN CAUSE PROBLEMS IN SEPARATING SINGLE AND SERIES INCIDENTS, SO PROBE FOR BEST ESTIMATES WHERE POSSIBLE

1..96
97. More/too many to remember

Variance and Bias

Visualizing **Variance** and **Bias**



Examples

Examples - Variance and Bias

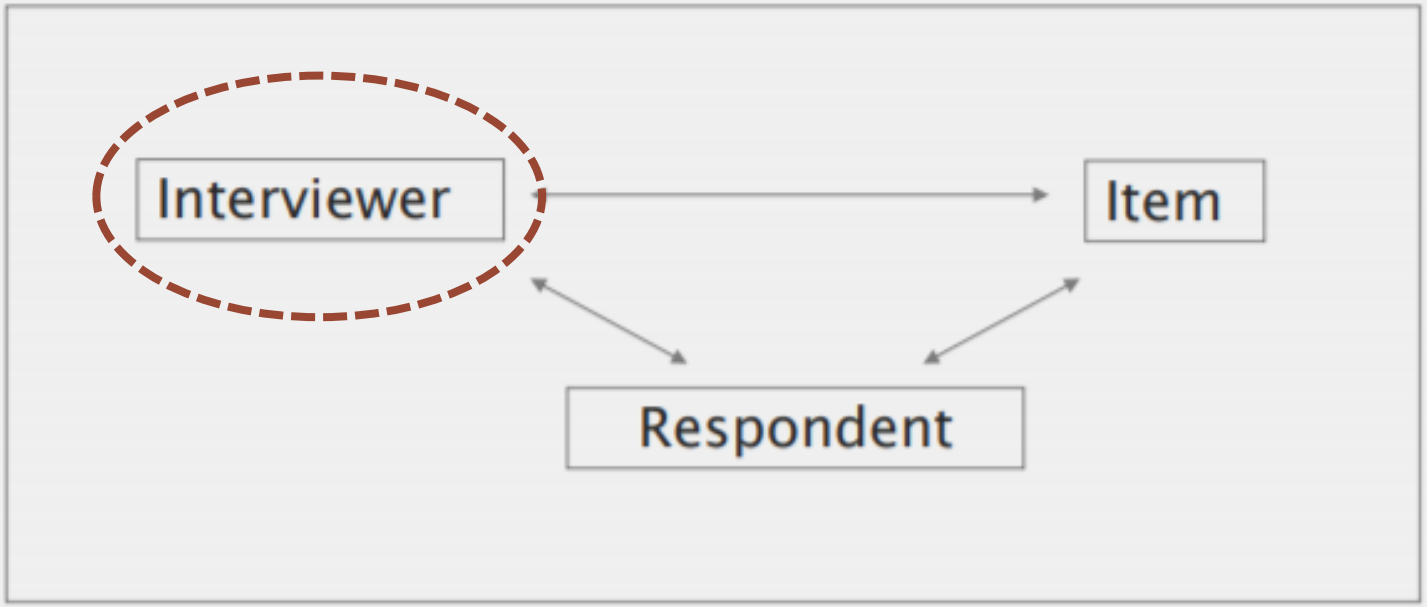
Variance:

"Last week, were you a victim of a crime?"

Bias:

"The Brady Bill takes guns out of the hands of convicted killers. Are you in favor of the Brady Bill?"

Sources of Variance and Bias



Standardized Interview

In survey research, "*The goal of standardization is that each respondent be exposed to the same question experience, and that the recording of the answer be the same, too,*

so that any differences in the answers can be correctly interpreted as reflecting differences between respondents rather than differences in the process that produced the answer."

Fowler, F.J., and Mangione, T.W., (1990), Standardized Survey Interviewing: Minimizing Interviewer-Related Error, Thousand Oaks, CA: Sage.

Assumption

- The interviewers will adequately fulfill their role
  - This requires that interviewers have been fully and carefully trained
- The wording of each question constitutes a complete and adequate script …such that when respondents hear or read the question, they will be fully prepared to answer it.

Guidelines

- Questions should be read exactly as worded
- Probing should only be done in non-directive ways … don't influence the respondent
- Recorded answers should reflect what respondents says
- Interviewer should not provide any personal information that might imply any particular values or preferences with respect to topics to be covered in the survey
- No feedback to the respondent

Standardized Interviewing

- Like standardized testing, want responses to be comparable across Rs
  - By holding constant as may attributes of interview administration as possible
  - Especially the wording of items
- Intended to reduce interviewer-related error (variance) by reducing variation in behavior across interviewers
- Should reduce cost by focusing interaction

Techniques

- Read questions exactly as worded
  - Even small changes in wording can affect answers
- Provide neutral or non-directive probes if response not among options offered
  - "Let me repeat the question"
  - "We need a number"
  - "Is that 'yes' or 'no'?
  - "Whatever it means to you."
  - "Can you be more specific?"

Report Followed by Non-Directive Probe

FI: # (0.3) .t .hh Du:rrin' tha pa:ss fou:r wee:ks have you: been able tuh see well enu:ff tuh read o:rdinary newsprin' .hh (0.1) withou:t gla:sses er contac' le:nses?
(1.2)
FR: A:h- (0.1) Ju:ss rea:din' gla:sses?
(0.7)
FI: Oka:y? I'm 'ust gonna reread tha que:stion? .hh=
FR: =O:h [o]ka:(h)y h (0.1) .hh=
FI: [uh-]
Du:rrin' tha past fou:r wee:ks (0.1) .hh have you been able tuh see well enu:ff (0.1) tuh read o:rdinary newsprint (0.1) .hh withou:t (0.2) gla:ss~es (0.1) o:r co:ntac' le:ns~es.
(0.3)
FR: A:~h- (0.3) No:. hh
FI: Oka:y?

Report

Neutral probe

Acceptable answer

Source: Schaeffer and Maynard , 2008, pp. 43-44

What is Standardized Interview

- Prevailing philosophy and practice of collecting survey data
  - Goal is to remove the *I* as a source of bias
    - "Interviewer variance"
  - *I*s expected to read question exactly as worded
    - Otherwise must use neutral probes
  - Should promote *comparable* data
    - Different responses should reflect differences between respondents, not differences in question stimulus
  - Similar approach for administering standardized tests and psychology experiments

Pros and cons of standadized interview

- What's good
  - Leads to fast interviews and cheaper interviewer costs
  - Should, in principle, eliminate interviewer effects
  - Can be sure all Rs receive same materials

- What's bad
  - Prevents *grounding* – back-and-forth process that helps interlocutors understand each other
  - This may lead to misunderstanding, which may lead to inaccurate answers

Proposal for conversational interview

- Suchman & Jordan (1990) proposed that strict standardization can undermine response validity
  - Though not reliability
  - Conversation Analysis study – analyzed small set of GSS* interactions
- Argued that interviewers should be "empowered" to use conversational resources to promote validity

*General Social Survey

Procedure

- Allow *I* to say whatever it takes to be sure R understands question as intended
  - Ground understanding
- *I* must initially read question as worded but then can
  - Paraphrase the question or relevant definition
    - Either when R specifically asks for clarification or *I* deems it necessary

Pros and cons

- What's good
  - Should promote the intended understanding of questions and, thus, high response accuracy
- What's bad
  - Clarification may take extra time

View of Meaning

- Rationale for standardized wording is that meaning resides in words
  - If Rs get same words, get same meaning
  - *Message model* (Akmajian et al., 1990)
  - Pretesting can remove most comprehension errors
- Alternative: meaning rests on collaboration
  - Participants must talk about meaning to be sure listener interprets as speaker intends, i.e., utterance must be grounded
  - Collaborative theory (e.g., Clark,1996)
  - Pretesting cannot anticipate mapping ambiguities for the many Rs in a diverse sample; clarification needed in interview

Conversational Interview

(Conrad & Schober, 2000; Schober & Conrad, 1997; Schober, Conrad & Fricker, 2004)

- I and R work together to assure R understands question as intended
  - Interviewer reads question as worded, then
  - Says whatever is necessary to assure R interprets question as intended, i.e. to ground meaning
- Goal is to standardize meaning, even if wording varies

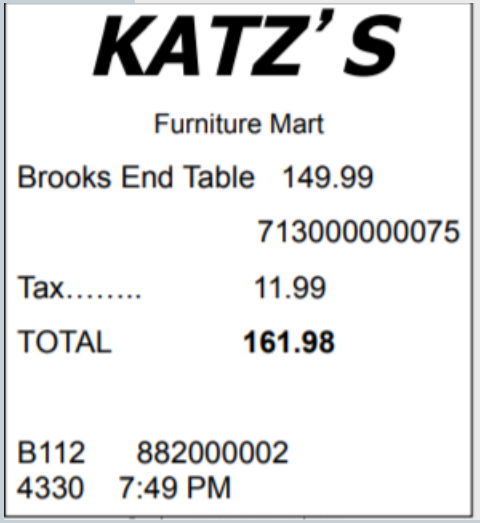
Comparison between two techniques

- Schober and Conrad (1997)
  - Two groups of interviewers both trained on survey concepts
    - One group trained in strictly standardized techniques
      - Read as worded, neutral probes, etc.
    - Other group trained to use conversational (flexible) technique
  - 12 questions borrowed from on-going Federal surveys
  - Rs answer on basis fictional scenarios so response accuracy could be determined

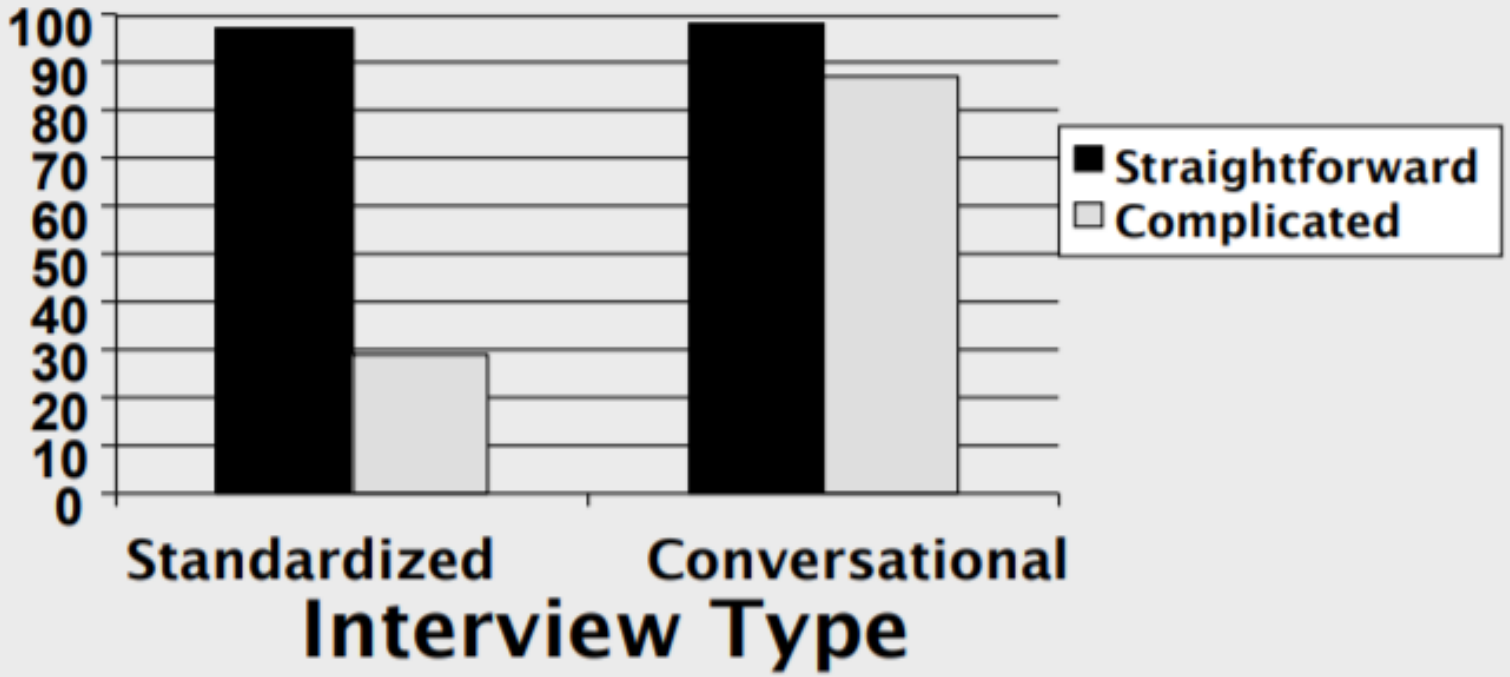
Complicated Situation

Example Question

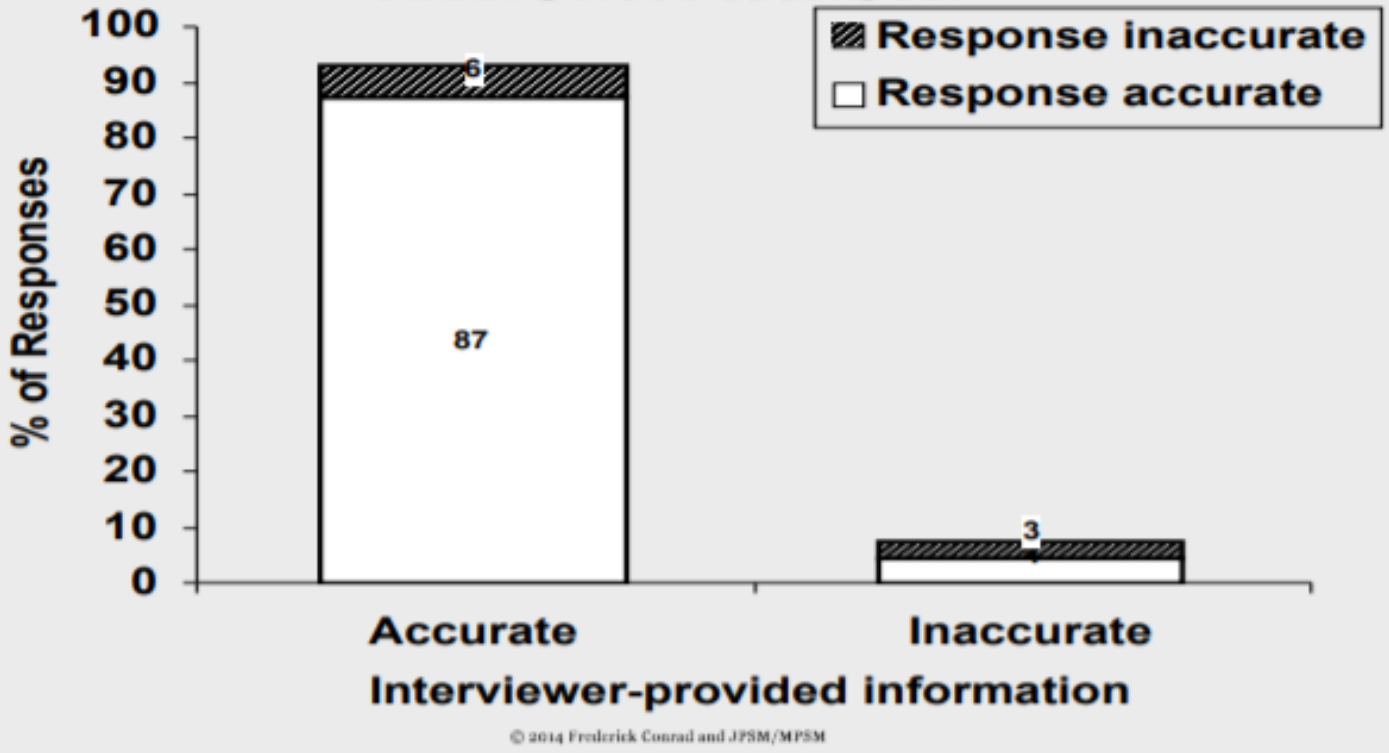
- *Has Kelly purchased or had expenses for household furniture?*



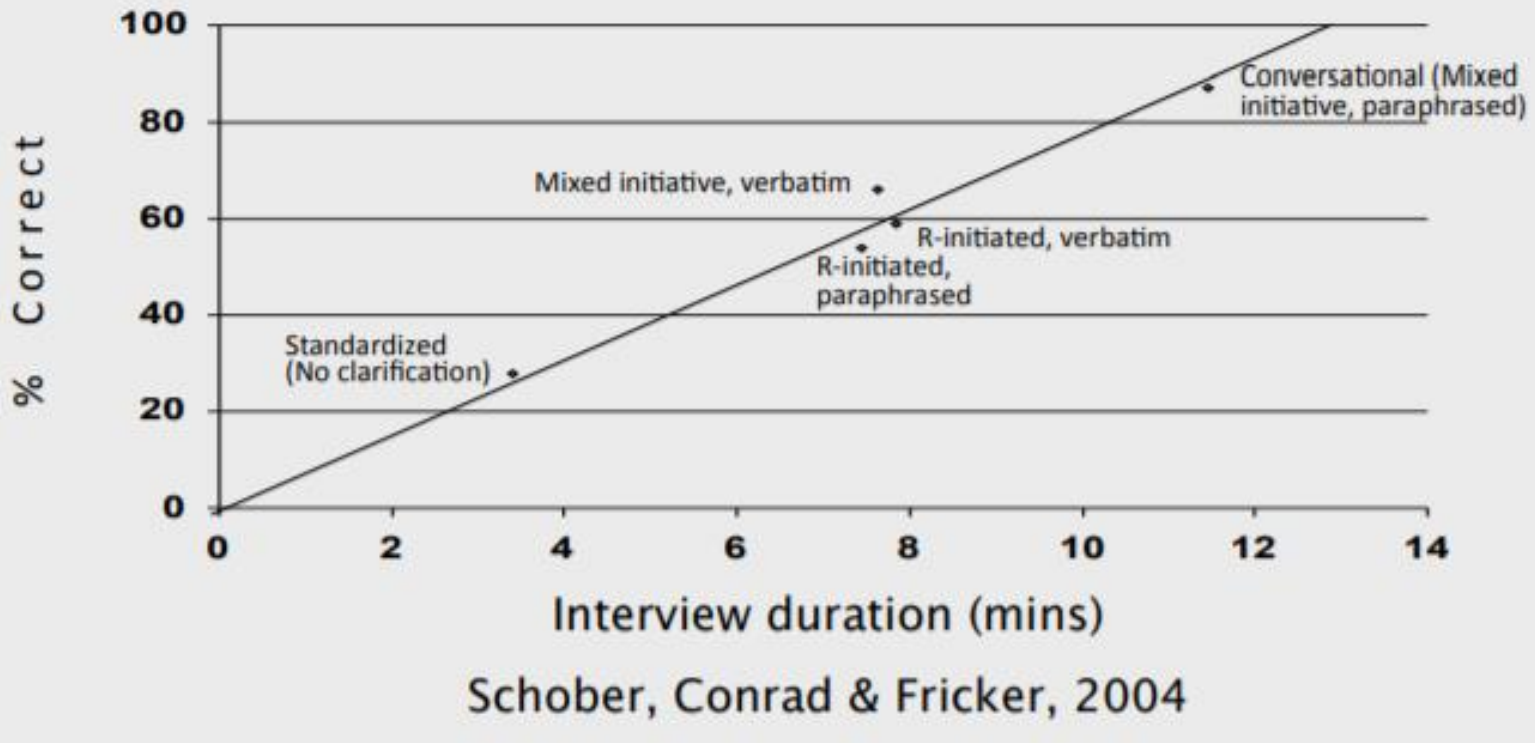
Response Accuracy



Interviewer-provided Information



Accuracy x Duration



Schober, Conrad & Fricker, 2004

Frequency of Complicated Situations

- Comparison of understanding and response accuracy in standardized and conversational interviews
- Hard to measure understanding in real survey settings
  - Without access to respondents' circumstances, can't tell if responses fit official definitions
  - Can't directly measure response accuracy
    - Record checks and diaries are expensive
    - May not be accurate themselves

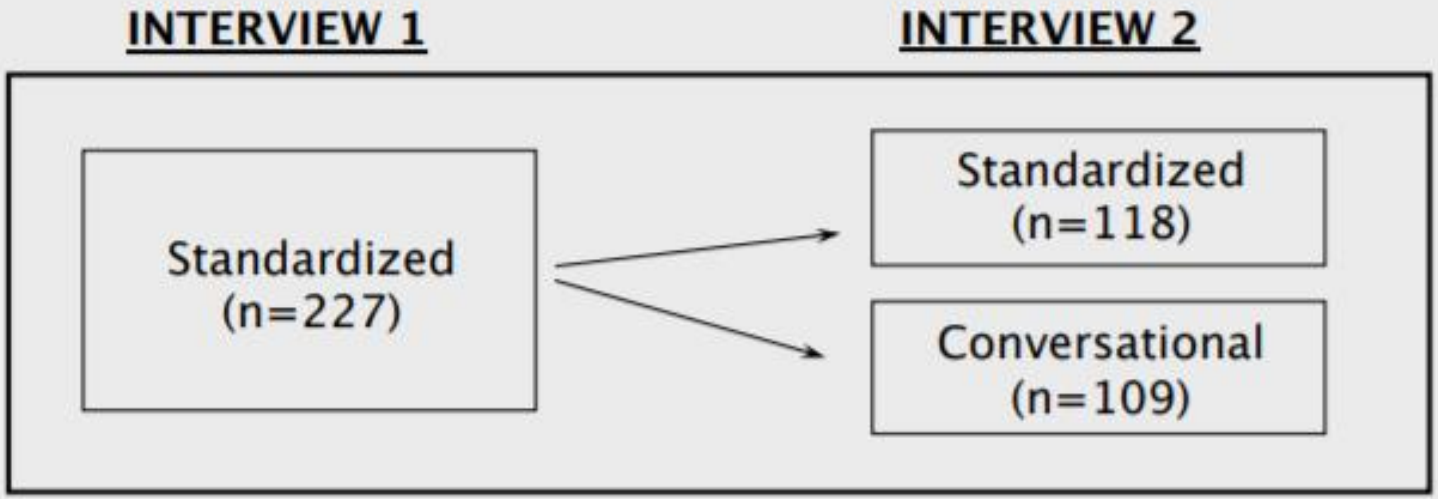
Measuring Comprehension

- We *can* determine if conversational interviewing *changes* *R*s' understanding
- Logic:
  - If conversational interviewing improves comprehension
  - Then *R*s in standardized interviews should change their responses in a subsequent conversational interview
  - More than they would in a subsequent standardized interview
- Conrad & Schober (2000) conducted re-interview study to examine effects clarification and collaboration in a field setting

Study

Measuring Comprehension (cont'd)

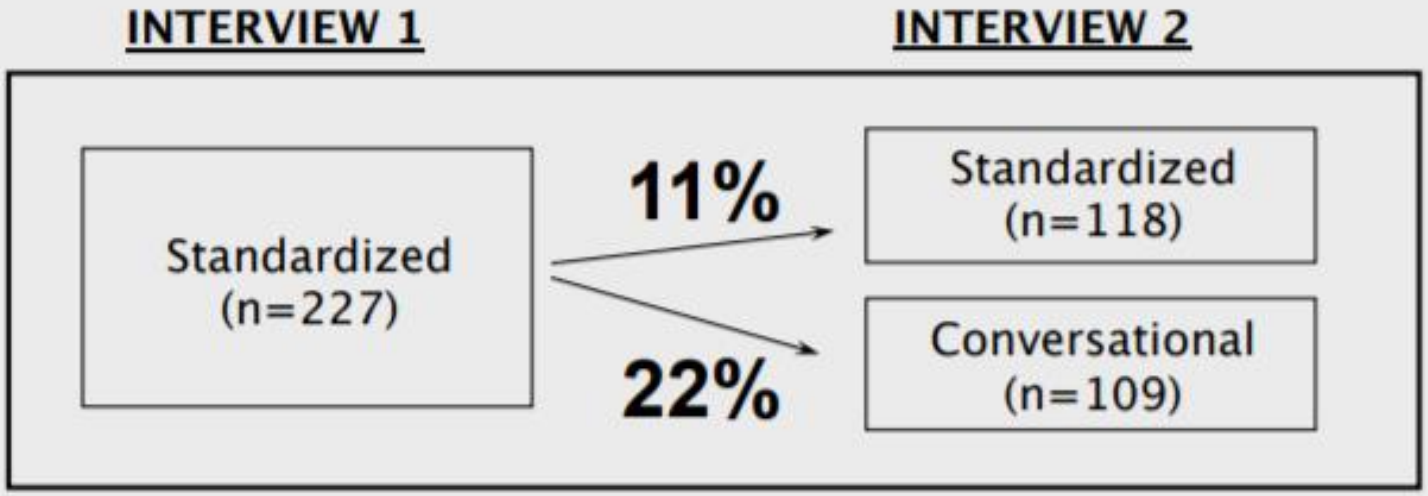
- Each R interviewed twice by different I's asking same questions
- Standardized and conversational interviews conducted by different I's



Study

Results: Response Change

- More responses changed when second interview was conversational than standardized



Study

Median Interview Duration

Interview 1 (Standardized)	Interview 2	
5 mins	5 mins	Standardized
	9 mins	Conversational

Clarifying Meaning of Opinion Question

Clarifying Meaning of Opinion Questions

- Hubbard, Antoun & Conrad (2012) compared accuracy (response change) for 3 factual and 7 opinion Qs about the economy and drowsy driving
- Production interviews from Survey of Consumers followed by re-administration of 10 *Q*s
  - First administration standardized
  - Re-administration conversational for ½ Rs, i.e., interviewers could provide definitions; other ½ standardized
  - Some response change in conversational re-interview reflects improved understanding, i.e., response aligned with definition, so more change in conversational than standardized re-interview reflects more accurate interpretation in former
- For opinion questions, definitions of question concepts and response scale labels

Example Definition of Concepts

We are interested in how people are getting along financially these days. Would you say that you (and your family living there) are better off or worse off financially than you were a year ago?

DEFINITIONS:

By "better off financially" we mean that you and your family have more left over at the end of each month than you did a year ago. Or if you're spending more than you're earning, that you're adding less debt each month than you did a year ago.

By "worse off financially" we mean than you and your family have less left over at the end of each month than you did a year ago. Or if you're spending more than you're earning, that you're adding more debt each month than you did a year ago

By "these days" we mean the last three months.

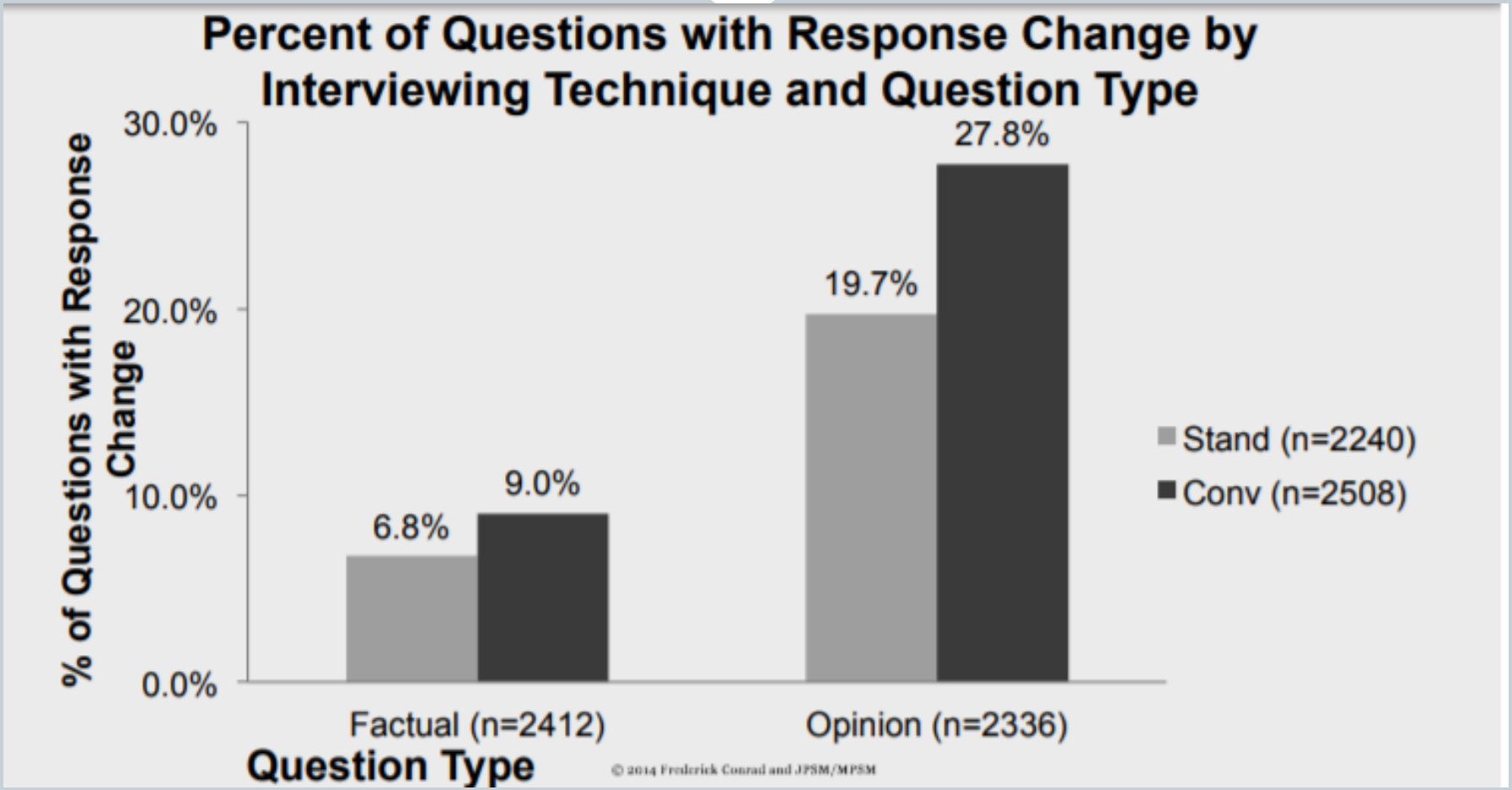
Example Definition of Response Scale

In your opinion, how risky is drowsy driving? Would you say that it is extremely risky, very risky, somewhat risky, not too risky, or not at all risky?

DEFINITION:

By "extremely risky" we mean it causes an accident every time you do it. By "not at all risky" we mean it never causes an accident.

Study


Percent of Questions with Response Change by Interviewing Technique and Question Type
% of Questions with Response Change
30.0%
20.0%
10.0%
0.0%
6.8%
9.0%
19.7%
27.8%
Stand (n=2240)
Conv (n=2508)
Factual (n=2412)
Opinion (n=2336)
Question Type
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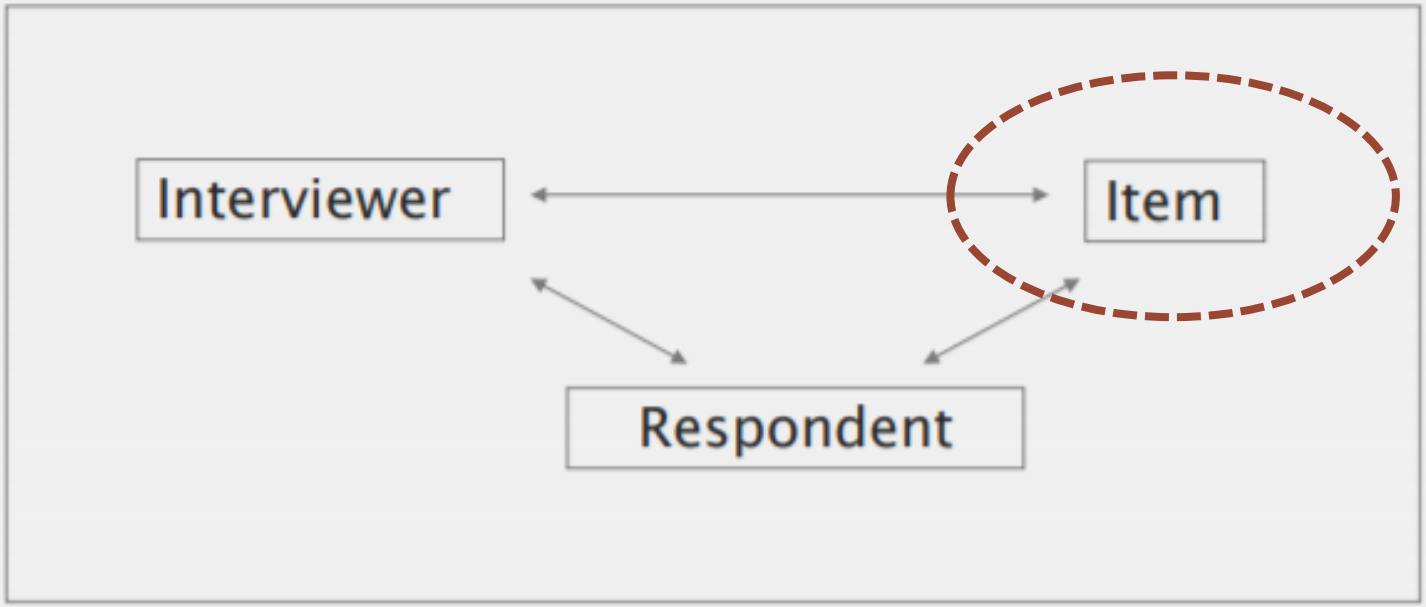
Standardized versus conversational interview (summary)

- Standardized interview:
  - Reduces the impact the (I) has on the (R)
  - Same wording for all
  - Neutral probing
  - No grounding of concepts is possible
  - Low cost and less time
- Conversational interview:
  - Reach a common understanding
  - If not done properly then high impact of (I) on (R)
  - Higher cost and more time
- The researcher must decide which is more favored method

Sources of Variance and Bias



Creating a questionnaire

- **What is the research question?**
- Transforming research questions to concepts
- Alignment of the survey questions with the concepts
- Making sure that questions are error free

The research question

- “The research objectives of many studies are surprisingly ill-defined. Asking a researcher what exactly should be measured by a question […] frequently elicits vague answers if not different answers from different researchers involved in the same project” (Shwartz, 1997)

Research Question flaw example

- مثل 1: في دراسة في مرحلة الماجستير في الجامعة اللبنانية كلية الإعلام أرادت طالبة أن تدرس تأثير **الإمكانيات** و **مستوى العاملين** في المكتبة على استخدام المكتبة من قبل الطلاب. تناول البحث عدد من الطلاب كعينة للدراسة.
  - كيف ممكن للمستجوبين أن يقيموا أداء العاملين؟
  - كيف ممكن للمستجوبين أن يحددوا الإمكانات الموجودة؟
- مثل 2: كيف تختلف انماط استخدام الهواتف الذكية بين طلاب الجامعة اللبنانية و الجامعة الأمريكية؟

Research question and expected results

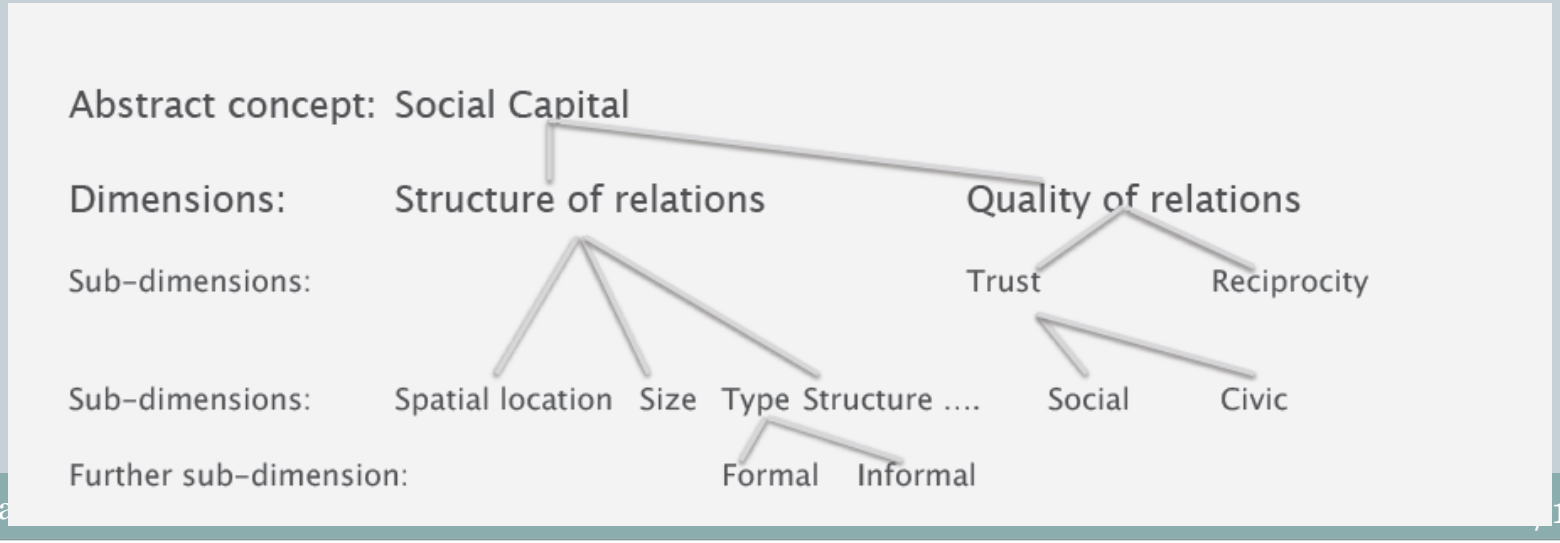
- Thinking about the expected results influence the type of questions that are asked in the questionnaire
- Will the expected results answer the research question?
- In previous example a better alternative:
  - ما هي العلاقة بين **إدراك المستخدمين** لكفاءة العاملين و نسبة استخدامهم للمكتبة

Creating a questionnaire

- What is the research question?
- **Transforming research questions to concepts**
- **Alignment of the survey questions with the concepts**
- Making sure that questions are error free

Concepts

- Most concepts in social sciences and human sciences can not be measured directly: for example how to measure the concept of “social capital”
- Breakdown this concepts to more specific dimensions
- The sub dimensions can then be formed into a question in questionnaire



In class assignment

- Try to come up with specific items for one of the following constructs:
- Job satisfaction
- Satisfaction with the government
- Class evaluation
- Healthy diet
- Household consumption
- Perceived quality of a partner

The transformation of the concepts to questions

- What are the collection of variables that need to be asked in order to create an accurate representation of the phenomena?
- Which dimensions should be retained?
- What is the analytical plan?
- How much resources is at your disposal?
- What variables should be excluded?

Creating a questionnaire

- What is the research question?
- Transforming research questions to concepts
- Alignment of the survey questions with the concepts
- **Making sure that questions are error free**

- In order to phrase the questions in the right manner (wording of the questions) we must understand how the (R) answer
- The (R) goes through the following stages while he is answering
  - Comprehension
  - Retrieval of information
  - Judgment and estimation
  - Reporting an answer
- Even though these stages are represented sequentially, however the (R) can go back and fourth before giving an answer

Pitfalls in answering process

- Misunderstanding
  - The most common and most serious. (R) will give an answer that does not match the indented purpose of the question
- (R) did not record the information
  - In this case there is no way to find out the true answer
- (R) forgot the information
  - (R) recorded the info but he simply forgot it during the time of the interview
  - (I) can attempt to help (R) remember
- May use acquiescence or satisficing in trying to answer
  - Satisficing: giving an acceptable answer but not 100% convincing
  - Acquiescence: the desire of the (R) to agree with the (I)

Answering Questions: Comprehension

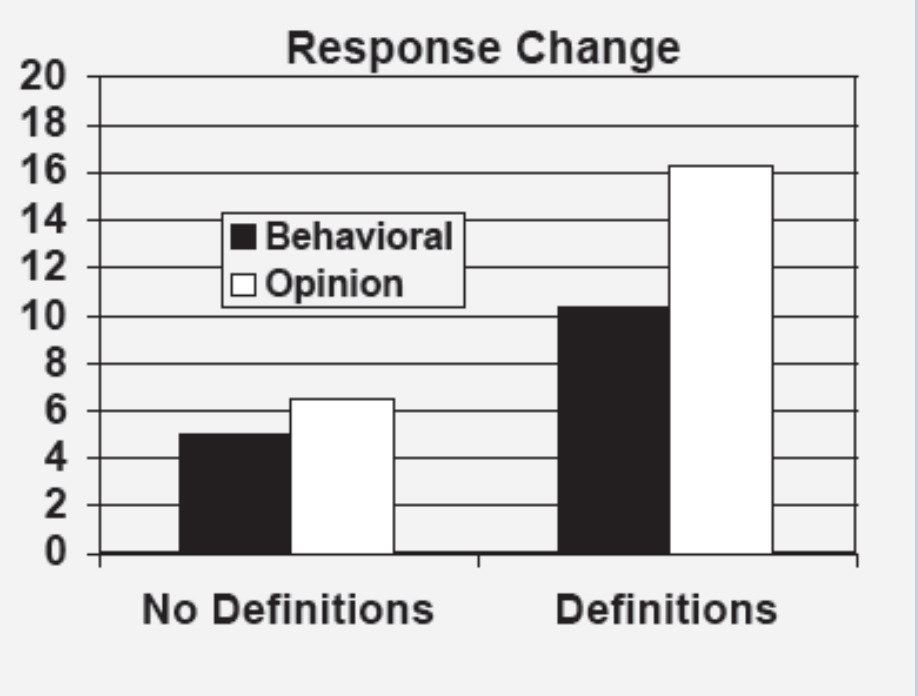
- Three sources of poor comprehension:
- Lexical process: wrong understanding of the word
- Semantic process: wrong understanding of the meaning of the question
- Pragmatic process: wrong understanding of the intended meaning by the (I)

Lexical Process

- Sources of flaws in the lexical process
- (1) Complex words
- (2) A word with many definitions
  - E.g: what is your income?
  - (what does the word income mean?)
- (3) Misleading the (R) visually (next slide)
- (4) Order of the question (next slides)

Misunderstanding of the word

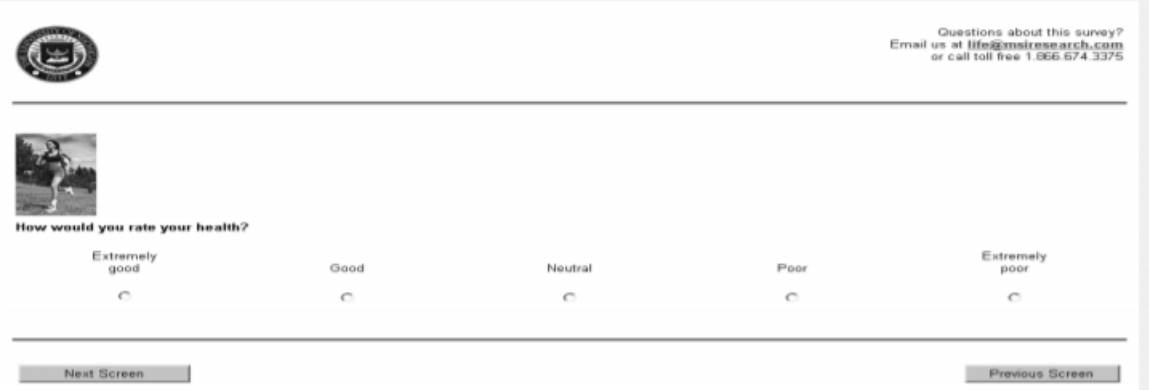
- Reducing the error of misunderstanding words:
  - Use simple language
  - Clear grammar
  - Use definitions:



The ordering of questions

- (R) are usually influenced by the context of the questionnaire
- Using the right order of questions can have significant impact on the understanding of the question
- E.g.
  - To which extent are you satisfied with your partner?
  - Wo which extent are you satisfied in your life?
- When (R) first thought about their marriage life they then evaualated their life in the light of it and thus there was high correlation 0.67. When the questions were revered the connection between the two faded and the correlation reduced to 0.32.

The influence of a visual stimuli

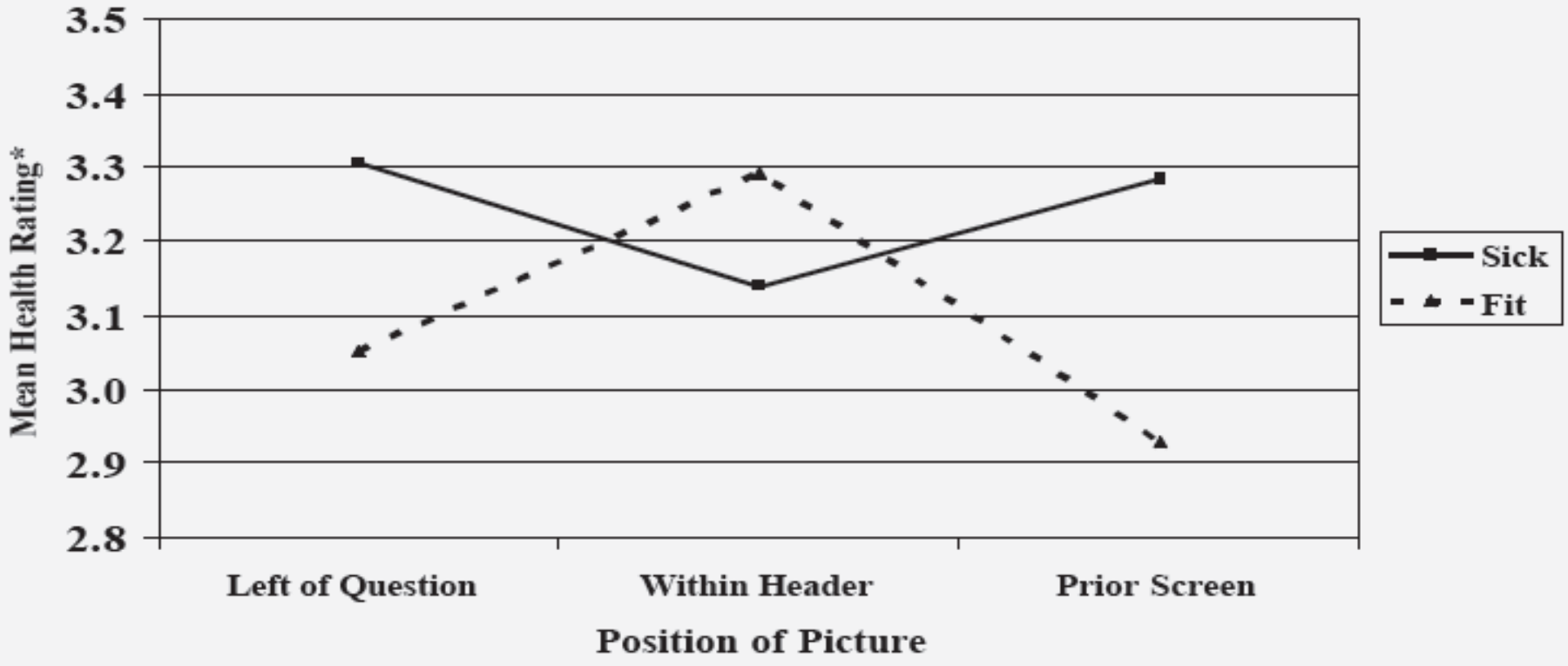


Healthy woman above question

Sick woman in header

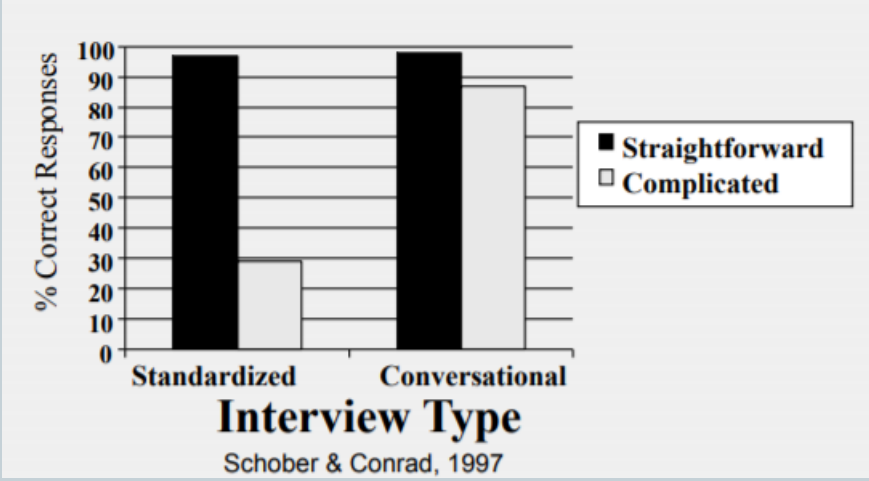
The influence of a visual stimuli

- What would happen if you include a photo within your survey?



Semantic Processes

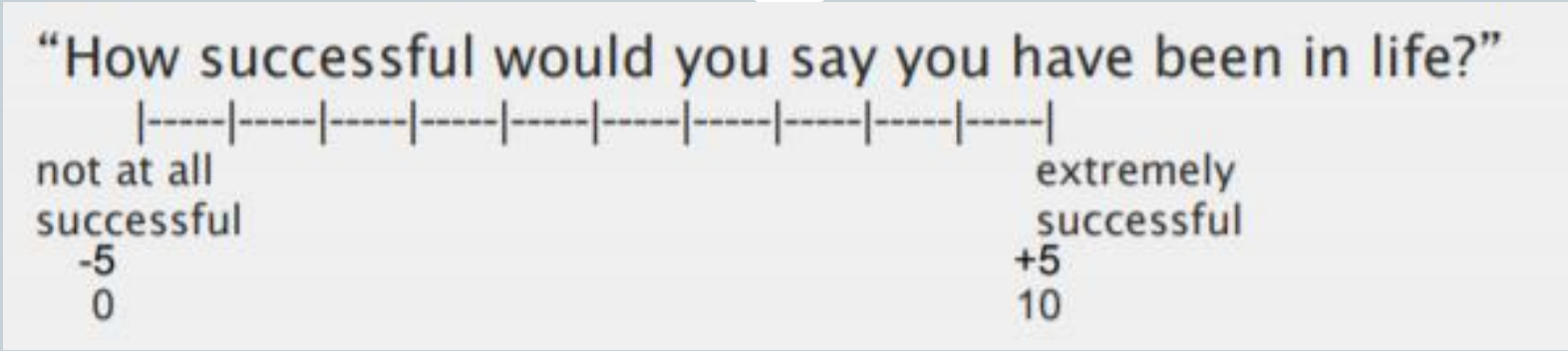
- Key issue for R is determining how survey concepts correspond – or map – to his/her circumstances
  - Have you purchased or had expenses for household furniture?
  - I purchased a floor lamp. Does that count as household furniture?
  - R knows what words mean but not how they map to his/her situation
  - In standardized interviewing, it would not be possible to directly answer the respondent's question



Pragmatic Inferences

- • Grice's Cooperative Principle (CP) allows listeners (including Rs) to infer speakers' intended meaning: – Based on four sub-principles (called maxims):
  - Quantity: say as much, but no more, than necessary
  - Quality: do not say what you believe to be false
  - Relation: be relevant
  - Manner: avoid obscurity and ambiguity
- Assuming speaker is following CP, what could she have meant by her utterance
  - e.g., "Can you pass the salt" is not about my ability to pass the salt – she already knows that I can; must be request for salt
  - Speaker would not say something if she did not intend to inform me, so I'll include that information in my interpretation

Pragmatic Inference



- 34% of 0 to 10 group responded in lower half (0 to 5)
- 13% of -5 to +5 group responded in lower half (-5 to 0)
- zero scale anchor combined with label: □absence of success
- negative scale values combined with label: □presence of failure

Implications for Questionnaire Design

- Lexical issues:
  - Try to use terms that most people interpret the same way; will require pretesting
- Semantic issues:
  - Provide (clickable) definitions or train interviewers to offer definitions as needed
- Pragmatic issues:
  - Try to block Rs' unintended inferences, e.g., avoid gratuitous design features

Retrieval

- After R understands question, and task being asked to perform, will need to recall relevant information
- This is true whether Q is factual or subjective
  - If factual, generally needs to recall an event or >1 event – If subjective (opinion)
  - Needs to recall already-formed opinion,
    - Or, if R does not currently hold opinion, recall opinions on similar topics or relevant considerations

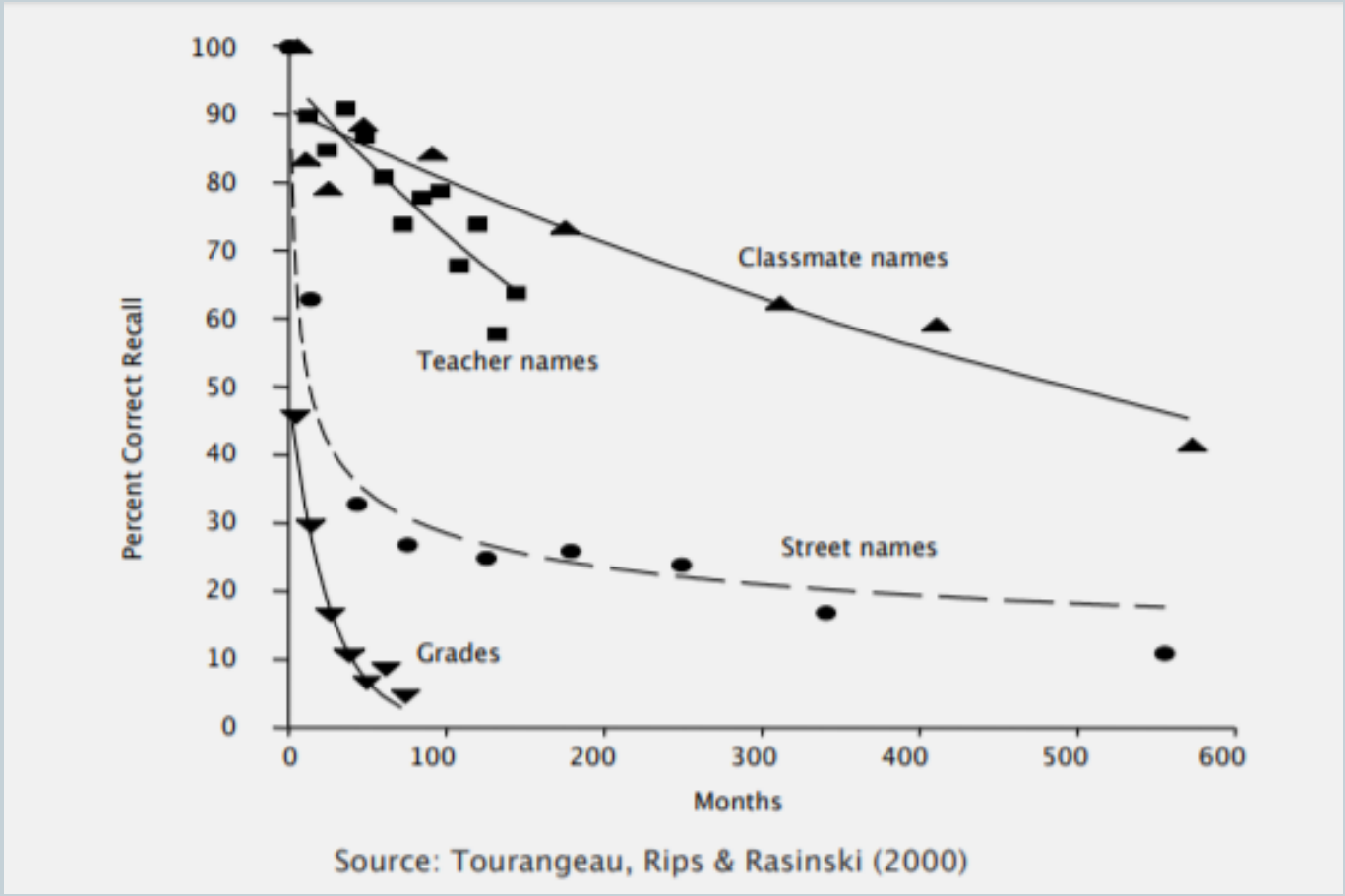
Different Kinds of Memory

- Working (or Short Term) versus Long Term Memory (LTM)
  - Working memory: temporary storage system of limited capacity
  - Store words of a sentence (question) as they arrive
  - Store partial results, e.g. when counting up recalled episodes
  - Store spoken response options – LTM is relatively permanent (though forgetting occurs over time)
- Types of LTM
  - Episodic memory: events in one's life, e.g. I ate Ethiopian food on Saturday
  - Semantic: knowledge about the world and oneself, e.g. Trees have leaves, I teach every Tuesday
  - Procedural: doing things, e.g. riding a bike, navigating through a computerized survey questionnaire

Forgetting from Episodic (Autobiographical) Memory

- Interference –
  - The longer the time period in question (e.g. 1 year vs. 1 month) the more likely other similar events will have occurred
  - Hard to distinguish details of one event from others
  - Tend to blend into single generic memory •
- Decay –
  - The more time that has passed since events occurred, the weaker the memory
  - Forgetting most rapid in period immediately after event experienced
  - Forgetting continues after as many as 50 years(!)

Forgetting

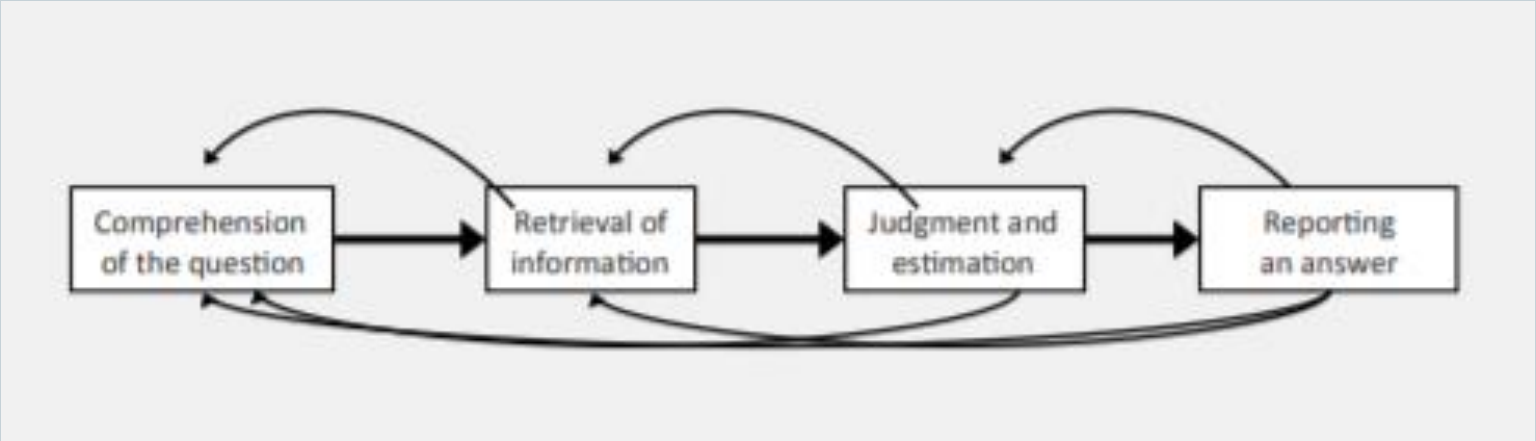


Source: Tourangeau, Rips & Rasinski (2000)

Retrieval Cues

- Cues can remind people of events:
  - NCVS item on shopping lists: drug, clothing, grocery, hardware and convenience stores.
  - Open question whether Rs search only for matches to cues or use cues to define broader conceptual space
- Cues can affect what events come to mind:
  - Couper, Tourangeau & Kenyon (2004) asked questions like How many sporting events have you attended in the past year? and presented images (in web survey)
  - Images were either low frequency (major league ball park) or high frequency (little league game)
  - Low frequency images led to lower reports than high frequency images
  - When context of exposure/encoding and retrieval match, memory better than when difer

Judgment and Estimation



Estimation and Judgment

- • Compensating for imprecise or incomplete memory: two examples
- 1. Availability Heuristic
  - People can infer frequency or probability on basis of retrieval difficulty (Tverksy and Kahneman)
  - I cant recall many instances of the event so it must be rare
- 2. Frequency estimation when recall is not possible or involves more effort that Rs willing to invest

Availability Heuristic

- • Tversky & Kahneman, 1974:
  - People sometimes use the ease with which examples come to mind as an indication of their frequency or probability of occurrence
  - Easier to retrieve words starting with r than words whose 3rd letter is r; former judged more frequent even though latter actually is
  - Easier to recall famous than less famous names; when list had more famous females than males, former judged more frequent even though equal numbers males and females

Availability in Survey Context

- Schwarz, et al., 1991:
  - Asked Rs to list either 6 or 12 situations in which were assertive
  - Then asked to rate own assertiveness
  - Rs who listed 6, rated selves more assertive than Rs who listed 12 instances
  - Presumably, easier to bring few instances to mind so Rs conclude more likely

Frequency Estimation

- In the past 2 years, how many times did you donate blood?
- For someone who donates every 8 weeks in the same workplace location, there is little to distinguish one donation from the next so it's hard to recall and count up each one
- To supplement memory, Rs may estimate on basis of a
  - Rate
    - I donate every time there is a blood drive which seems to be about every 8 weeks which is two months so I will say 12 times in the last two years.
  - Qualitative Impression and Convert to a Number
    - I do this a lot so I'll say 10 times in the last year.
- If one can recall and count the events, no need to estimate

Estimation Problems: Behavioral Frequency Questions

- At least three broad strategies, each leading to diferent type of error
  - Recall and count: underestimation
    - More likely to forget than invent an event
  - Rate-based estimation: overestimation
    - For regularly occurring events, rates can be quite accurate except when Rs fail to take exceptions into account (e.g., not doing the behavior) –
  - Impression-based estimation: overestimation
    - Translation of impression to number cannot be any lower than 0 but is unbounded on the high end

Mapping and Reporting

- Assigning a judgment into an answer category
  - Result of judgment and estimation stage •
    - May not be expressed precisely
    - May not match a response option (if closed question)
  - requires judgment to be transformed into
    - a number (if a vague quantity)
    - one (or more) of the options provided
  - Transformation can introduce error

Spacing of Response Options

- Conceptual vs. Visual Midpoint
  - Rs' mental representation of scale when presented visually involves underlying concept and visual appearance
- Tourangeau, Couper & Conrad (2004) compared endorsement of middle option when scale spaced evenly vs. unevenly
  - Uneven spacing made scale points on right side (conceptually) look more central

Spacing of Response Options

Even spacing

During the next year, what is the chance that you will get so sick that you will have to stay in bed for the entire day or longer?

Certain	Very likely	Probable	Even chance	Possible	Unlikely	Impossible
o	o	o	o	o	o	o

58% *Rs* selected from right side

Uneven spacing

During the next year, what is the chance that you will get so sick that you will have to stay in bed for the entire day or longer?

Certain	Very likely	Probable	Even chance	Possible	Unlikely	Impossible
o	o	o	o	o	o	o

64% *Rs* selected from right side

Primacy Effects with Visual Presentation

- Krosnick & Alwin (1987) embedded experiment in General Social Survey:
  - *R*s select qualities of children most desirable for their children
  - Presented visually, on show cards, in FTF interviews
  - For 1/3 of *R*s, order reversed

1.... has good manners (MANNERS)
2.... tries hard to succeed (SUCCESS)
3.... is honest (HONEST)
4.... is neat and clean (CLEAN)
5.... has good sense and sound judgment (JUDGMENT)
6.... has self-control (CONTROL)
7.... he acts like a boy or she acts like a girl (ROLE)
8.... gets along well with other children (AMICABLE)
9.... obeys his parents well (OBEY)
10... is responsible (RESPONSIBLE)
11... is considerate of others (CONSIDERATE)
12... is interested in how and why things happen (INTERESTED)
13... is a good student (STUDIOUS)

Primacy Effects with Visual Presentation

- When options appeared early, selected substantially more often than when late – *primacy effect*

Quality	Standard order	Reversed order	Difference
	%	%	%
Manners	26.4	10.1	16.3
Success	19.1	14.6	4.5
Honest	65.7	48.4	17.3
.	.	.	.
.	.	.	.
.	.	.	.
Considerate	24.9	39.5	-14.6
Interested	17.9	24.9	-7.0
Studious	6.5	16.4	-9.9

- Krosnick & Alwin ('87) call this "survey *satisficing*," i.e., tendency to select first item that is "good enough

Rounding

- Questions requiring (open) numerical responses may exhibit distortion in mapping stage
- Visible example is prototypical or rounded reports
  - may indicate imprecision in underlying representation
  - may simplify mapping task by creating categories
  - may signal uncertainty
  - may signal embarrassment

	Number Responses	% Total
Clinton		
Multiples of 10	1907	78.9
15, 85	310	12.8
All other values	199	8.2
Bush		
Multiples of 10	1948	79.3
15, 85	412	16.8
All other values	98	4.0

Miscellaneous Topics

MEMORY AND RECALL
SENSITIVE QUESTIONS

Memory and Recall

- Specific events
  - Did it occur?
  - When did it occur?
- Counts of activities
  - How many?
  - Frequency.

Since January 2013, have you looked for a job?

- Ask …
  - about a specific event (comprehension).
  - about past behavior (recall).

What age did you first try a cigarette?

- Ask …
  - about a specific event (comprehension).
  - about past behavior (recall)
  - a date when something occurred (recall)

Memory and Recall

- Specific events
  - Did it occur?
  - When did it occur?
- Counts of activities
  - How many?
  - Frequency.

Since January 2013, how many times have you stayed in the hospital overnight?

- Ask...
  - about a set of specific events (comprehension)
  - about past behavior (recall)
  - to aggregate across events (estimation)

When you were growing up, how often did you attend religious services?

- Ask....
  - about a set of specific events (comprehension).
  - about past behavior (recall).
  - to aggregate across events (estimation)

What is Related to Recall Error?

- Encoding, storage and retrieval.
- Length of reference period.
- Estimation or reconstruction
- Comprehension retrieval

Encoding Information

- Information has to be considered “salient” or “distinctive” to enter long term memory.
- Salience is individually defined.
  - How important is it to the respondent?
  - Does it stand out from other activities?
- Deeper encoding affects accessibility.
  - Not encoded=>not in memory at all
  - Impact: Underreporting
  - Implications for Questionnaire Design:
    - Using alternative data sources instead • Shot card, bills, receipts

What Affects Retrieval? Forgetting

- What affects forgetting
  - The older the event, the more likely to forget
  - The less salient or the more mundane the event, the more likely to forgot
  - The more repetitive/routine, the more likely to forget individual event
- Implications for Questionnaire Design:
  - Give more time on task
  - Use examples or cues
  - Use shorter reference period
  - Use event history calendar
- Takes advantage of structure of autobiographic structure