

Questionnaire Design for Social Surveys

Week 4 Measuring Attitudes

4.1. Attitude Questions

Attitude Questions: Attitudes

Attitudinal Questions

- Not verifiable by external observation or records (at least in theory)
- Asking about subjective psychological state
 - attitudes (evaluative component)
 - beliefs (cognitive component)
 - behavioral intentions (behavioral component)
 - in the next 6 months, how likely is it that you will buy a car?

Traditional Views on Attitudes

- “An attitude is an enduring positive or negative feeling about some person, object, or issue” (Petty and Cacioppo, 1981, p. 7)
- “A psychological tendency that is expressed by evaluating a particular entity with some degree of favor or disfavor” (Eagly & Cahiken, 1993; 2007)
 - The inclusion of direction (“valence”): Positive versus negative
 - The singular expression: A “feeling”, implying uni-dimensionality
- Attitudes are Pre-Existing
- Retrievable (“File-Drawer” by Wilson and Hodges, 1992)
 - automatic activation of attitudes (Fazio 1982)
- Stable
 - context independent
 - time independent
- Predictive of behaviors
- Resistant to persuasion

Problems with Traditional Views

- 56% say the US should not allow public speeches in favor of communism
v.s. 39% say the US should forbid public speeches in favor of communism
- 25% say the federal government is spending too little on “welfare”
v.s. 65% say the federal government is spending too little on “assistance to the poor”

Alternative View

- “Making it up as you go along”
 - title of John Zaller (1992) chapter
- “individuals do not typically possess ‘true attitudes’ ... rather, they construct ‘opinion statements’ on the fly....based on whatever considerations are momentarily salient” (Zaller, 1992)
- “Construal models conceptualize attitudes as **evaluative judgments, formed on the spot**, rather than as trait-like dispositions” (Schwarz, 2007)
- People don’t have stable summary evaluations stored in memory
 - ask for one, and people construct them on the fly
 - top of the head responses based on whatever happens to cross a person’s mind
 - tomorrow you’ll get a different answer
 - slightest change in wording or question order and you’ll get completely different response
 - they’ll report “attitudes” about things that don’t even exist

Resolving These Divergent Views (Rasinski’s Way)

- Distinguishing between attitudes (unobservable, global evaluations of objects) and attitude expressions (specific response to a specific question asked at a particular time in a particular way)
- Any single attitude measure will be an imperfect reflection of the underlying attitude

- some attitude expressions: almost entirely constructed on the spot (like Zaller says!)
- other attitude expressions: retrieved, almost entirely intact, from memory
- MOST attitude expressions: some combination
 - constructed but a chief “ingredient” in the construction is a fairly stable overall summary evaluation retrieved from memory (a.k.a., an attitude)

Resolving these divergent views: Schwarz’s way (2007)

- No attitudes, but contextualized construction of evaluations/judgements on the spot drawing on what is available to R
- Stable attitudes → similar evaluations arising from R drawing on similar inputs or the same chronically accessible information
- Strong attitudes → R drawing on highly accessible information
- Context effects → R drawing on contextual information when constructing evaluations
- Non-attitude → same number of conflicting information accessible to R at the same time

Implications for Questionnaire Design

- Watch out for context effects due to
 - question wordings
 - prior/later questions
 - SAQ: presentation of questionnaire
 - IAQ: interviewer’s characteristics, behaviors, introduction of survey
 - External factors such as weather, mood
- Other issues
 - specific evaluations or global evaluations
 - agree-disagree scales
 - filtering out R who don’t know much?
 - hypothetical questions

Attitude Questions: Context Effects

Types of Context Effects

- Context will influence response when it affects what enters into consideration when comprehending a question and forming judgement and evaluations
- Many aspects to the context of a survey
 - subject of questionnaire
 - interviewer
 - interview setting
 - instructions
 - pictures that accompany the question
 - wording of the question
 - response options
 - question order

Context Effects: Comprehension

- Assimilation effects: Rs include prior questions in interpreting/understanding the current item
 - “Do you favor or oppose passage of the Monetary Control Bill?” (Tourangeau and Rasinski, 1988)
 - 27.5% reported “favor” when following questions on inflation
 - Monetary Control Bill is related to anti-inflation
 - 12.5% reported “favor” when following neutral questions
- Contrast effects: Rs exclude prior questions in interpreting and understanding the current item
- Implications on questionnaire design
 - avoid ambiguous, vague terms
 - be specific about attitude object (BSW 2004)

Context Effects: Retrieval

- Context prompts the accessibility or retrieval of certain considerations (=> assimilation) or exclude the retrieval of

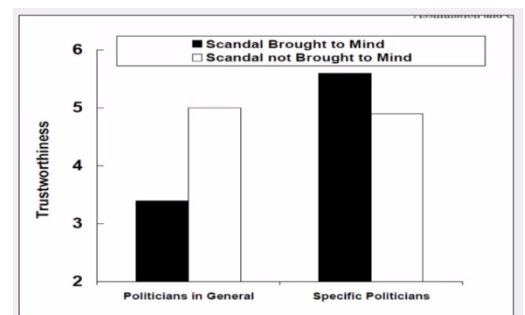
certain considerations (=> contrast)

Context Effects: Judgment (Schwarz and Bless 1992 Model)

- The inclusion / exclusion model
- Constructing targets and standards
 - retrieve information and apply an evaluative standard
 - both depend on elements accessible in memory
 - chronically accessible
 - temporarily accessible (context dependent)
- Representation of target
 - information activated by context is included in representation of target → assimilation effects
 - information activated by context is excluded from representation of target → subtraction-based contrast effects
- Representation of standard
 - information activated by context is included in representation of standard → comparison based contrast effects

Context Effects - Example

- Context: trustworthiness of Richard Nixon
 - low rating because of scandal
- Target 1: Trustworthiness of politicians
 - low rating of politicians due to assimilation effects
 - Nixon is incorporated into representation of politicians
- Target 2: trustworthiness of Newt Gringrich
 - high rating of Newt Gringrich due to contrast effects
 - Nixon is incorporated into representation of standard (which lowers the bar)



Context Effects: Reporting and Mapping

- Assimilation effects
 - consistent responses to questions grouped together
- Contrast effects
 - Nixon is mapped as the anchor for “least trustworthy”
 - anchoring effect causes trustworthy rating for a specific politician to be pushed to the other side

Context Effects – Summary

- Comprehension: Content of preceding Q may influence respondent's interpretation of later Q
- Retrieval: accessibility of cognitive procedures – increase likelihood of similar procedure employed later on. Strategy for retrieval
- Judgement: information used to answer a preceding Q now more accessible in memory and used to construct
 - representation of target
 - representation of standard
- reporting
 - consistent reporting to questions grouped together
 - Anchor a rating scale
- Threat
 - impact on univariate and multivariate statistics; generalizability of findings, either substantive or methodological
 - impact of trend analysis
 - problem of maintaining context over time
 - even replicating context does not necessarily lead to same conclusions – meanings change over time
- Interaction with demographic characteristics
- Although context effects often focus on preceding questions, also should include interviewer, setting and historical context

What to do?

- Borrow questions when possible
- Lots of pretesting to uncover context effects!
- Lots of data checking during the field (behavior codings?)
- Lots of analyses to check for context effects!

- Build in variables mediating the impact of context effects (TRR, 2000)s
 - variables related to cognitive capacity and cognitive load
 - variables related to motivation
 - extremity of context questions, number of context
 - distraction and interruptions

Attitude Questions: Specific v.s. General Evaluations

Schuman and Presser (1981)

- “Taking all thing together, how would you describe your marriage: would you say that your marriage is very happy, pretty happy, or not too happy?”
- “Taken altogether, how would you say things are these days: would you say that you are very happy, pretty happy, or not too happy?”

Results from above study

- 52.5% reported being generally very happy when the general question appeared first
- 38.1% reported being generally very happy when the marital happiness question came first
- Only the general question was subject to question order effects and not the specific question
- R’s interpretation of the general question changed
- When general question goes first → unspecified, R can think of anything
- When specific question goes first
 - “**Aside from marriage**, how would you say things are these days: would you say that you are very happy, pretty happy, or not too happy?”
 - R applied **Grice’s quantity** maxim (Don’t be redundant) and subtract thoughts/evaluations on marriage

Attitude Questions: Agree Disagree Scales

Issues on Agree-Disagree Scales

- To what extents do you agree or disagree with the following statements?
 - Abortion should be legal
 - strongly agree
 - agree
 - neither
 - disagree
 - strongly disagree
 - I am certain of my views on abortion
 - strongly agree
 - agree
 - neither
 - disagree
 - strongly disagree
- Advantages with this format
 - ease of administration (Krosnick 2012)
 - Rs are about 2/3 faster to this format than other formats
 - Fewer “don’t know” than yes-no formats
 - Rs prefer this format
- Disadvantages (Converse and Presser 1981; Krosnick 2012)
 - Subject to “acquiescence” bias
 - R wants to appear polite and agreeable
 - R might defer to higher status
 - R adopts to satisficing strategy
 - Multi-barreled
 - “America is getting so far away from the true American way of life that force may be necessary to restore it”
 - Disagree end is ambiguous
 - “I am seldom depressed”

Agree-Disagree (To be avoided)	Construct-specific response choices (Recommended)
Abortion should be legal. Strongly agree, agree, neither, disagree, strongly disagree	Some people think that abortion should be legal but others think that abortion should not be legal. Which one is closest to your opinion? Legal Illegal
I'm certain of my views on abortion	How certain are you of your views on abortion? Very certain, somewhat certain, not very certain, not certain at all

- Krosnick's verdict: never, ever, ever (under any circumstances) ask a question with "agree, disagree," "strongly agree, agree, neither, disagree, strongly disagree"
- More examples for us to try out
 - the staff worked together as a team to coordinate my care
 - electrons are smaller than atoms
 - research results from industry scientists are less reliable than those from university scientists

Attitude Questions: Don't Know

Methods for offering "Don't Know"

- Full Filter – "Do you have an opinion on that?"
- Quasi-Filter – "Do you agree, disagree, or do you not have an opinion on that?"

Filtering Out Rs with No Knowledge?

- Issue: R provided an attitude for things they don't know much about but answered "DK"/No Opinion when DK offered
- Views of Converse and Presser (1986) ➔ offer a filter to filter out Rs who don't know much and thus can't have an attitude

Filters of Increasing Strengths

- Quasi-Filter: "... or don't you have an opinion on this?"
- Blunt Full Filter: "Do you have an opinion on this or not?"
- Justified Full Filter:
 - "Have you been interested enough in this to favor one side or the other?"
 - "Have you thought much about this issue?"
 - "Have you heard or read much about this issue?"

Krosnick's Views (2012)

- One cognitive Model DK responses: Optimizing
 - Interpret the Question – DK = meaning of question not clear
 - search memory – DK = No information found at all (for all reasons except this one, pushing people to offer opinions might yield meaningful responses)
 - integrate information into judgement – DK = ambivalence (conflict among information) = insufficient information to justify an opinion
 - translate judgment onto response alternatives – DK = Meaning of response alternatives not clear = No response alternative matches the judgement
- Another cognitive Model DK responses: Satisficing
 - some respondents sometimes look for cues in a question to allow them to skip all interpretation or retrieval yet justify an answer
 - most likely when respondent ability is low, respondent motivation is low, and cognitive demands of the question are significant
 - If pushed to offer opinions, these people would offer meaningful ones

Some Experimental Evidence: Comparing Offering Vs. Omitting DK

- McClendon & Alwin (1993), Krosnick & Berent (1993); Poe et al. (1988)
- No more unreliability in responses to unfiltered questions.
- Schuman & Presser (1981); Presser (1977); Sanchez & Morchio (1992)
- Filtering doesn't strengthen constraint correlations between attitudes on different issues.
- McClendon (1991)
- Filtering did not reduce acquiescence or response order effects.
- Krosnick et al., (1997)
- Equal responsiveness to price manipulation
 - Belief and attitude predictors of substantive responses are just as powerful

(Krosnick and Presser, 2010; Krosnick, 2012)

Krosnick's Verdict

- DKs are mostly not due to complete lack of information
- DKs are mostly due to ambivalence, unclear questions, intimidation, self-image protection and satisficing
- The best questionnaire design strategy appears to be omitting DK filters and telling respondents: **"I'll note that, but if you had to choose, would you say..."**
- The result will be collecting informative data from a larger proportion of your sample

Attitude Questions: Order Effects

Primacy: first more likely to be endorsed

Recency: last more likely to be endorsed

Desirable Qualities for a Child

- Which one of these qualities is the most desirable for a child to have?
 - that he has good manners
 - that he tries hard to succeed
 - that he is honest
 - that he is neat and clean
 - that he has good sense and sound judgment
 - that he has self-control
 - that he acts like a boy or she acts like a girl
 - that he gets along well with other children
 - that he obeys his parents well
 - that he obeys his parents well
 - that he is responsible
 - that he is considerate of others
 - that he is interested in how and why things happen
- ➔ Half of Rs will get questions in order A and the other half will get questions in order B (reverse of A) and they were asked to choose top 3 qualities
- Krosnick & Alwin (1987) observed primacy effect in both forward and backward orders
 - so not due to the items
 - visual (show card) presentation
 - 13 choices about child characteristics
 - choose 3 most important and, of these, most important
 - they found that primacy effect was only present for Rs with "low sophistication" – lower levels of education and score on vocab tests
 - argued that this group most likely to "satisfice" i.e. respond as soon as acceptable option encountered
 - under visual representation R's mind becomes cluttered after first few options
 - first few more likely to be endorsed
 - primacy effect
 - under auditory presentation earlier options are overwritten by later ones
 - last few more likely to be endorsed

- recency effect
 - actually has more to do with who administers the options than their mode but often confounded. R could request (from interviewer or computer) each spoken item and computer could control visual presentation)
- Response Order – Meta analysis
- Holbrook, Krosnick, Moore and Tourangeau (2007) examined 548 experiments in 149 Gallup pools (all involve dichotomous scales)
 - 19.2% showed significant recency; only 1.8% show significant primacy
 - Average Shift (= % picking option when second - % picking option when it's first): 2.2%
 - Effect:
 - largest predictor: question comprehension difficulty (average length of words, number of words per sentence, number of sentences)
 - response option length: also significant effect
 - position within questionnaire
 - Question type:
 - seemingly open-ended question: "How do you feel about president Bill Clinton? Is he trustworthy or dangerous?"
 - delayed processing question: "which of the following describes your view about president bill clinton – trustworthy or dangerous?"
 - Seemingly yes-no question: "Do you think that President Bill Clinton is trustworthy or dangerous?"
 - Effect of Question type:
 - seemingly open-ended **least prone** to recency effects; delayed processing questions **most prone** to recency effects
 - Education: Largest effects for low education groups

Response Order - Summary

- Response order effects common, can be large; Krosnik and Miller find them on actual election ballots
- Direction depends on order of processing:
 - Mode of presentation (auditory v.s. visual)
 - Pace
 - Type of item (scale v.s. unordered list)
- Magnitude depends on
 - processing capacity (age, education, interest, familiarity, item difficulty, fatigue)
 - motivation (interest, need for cognition, need for closure)
 - fuzziness (prior thought, prior items)

4.2. Response Options and Scales

All Questions: response Options and scales

Types of Response Options

- Open-ended questions asking for verbatim
 - what do you like most about living in AA?
- Open-ended questions asking for a numeric response
 - how many days during the past 12 months as this condition kept you in bed all or most the day?
- Closed-ends
 - have you ever used vitamins or minerals for your own health? ➔ Yes / No
- Frequency
 - during the past 30 days, how often did you use vitamins or minerals for your own health?
 - regularly, often, seldom, rarely
 - during the past 30 days, how often did you feel nervous?
 - all of the time
 - most of the time
 - some of the time
 - a little of the time
 - none of the time
- Attitudinal Questions
 - would you say your health in general is excellent, very good, good, fair or poor?
 - please say whether you agree or disagree with the following statement: On the whole, alternative therapies are safer

than conventional medical treatment

- agree
 - disagree
 - neither disagree nor disagree
 - compared to a few years ago, do you think we are more likely, less likely, or have about the same chances to get into a bigger war?
 - more likely
 - less likely
 - about the same chances
 - Which of the following magazines have you read in the past seven days? [Interviewers: Select all that apply]
 - time
 - Life
 - US news and reports
 - Sports Illustrated
-

Open Ended Questions

- This next question is on the subject of work. People look for different things in a job. What would you most prefer in a job?
v.s.
- This next question is on the subject of work. Would you please look at this card and tell me which thing on this list you would most prefer in a job?
 - high income
 - no danger of being fired
 - working hours are short, lots of free time
 - chances for advancement
 - the work is important and gives a feeling of accomplishment
- Pros
 - standard question
 - richer, deeper, fuller information sought
 - unique answers
 - suggesting no alternatives
 - free exchanges of ideas without bias
- Cons
 - expensive and time-consuming
 - harder to analyze (verbatim transcription)
 - coding is time-consuming, costly, prone to error
 - administration also takes more time
 - extensive interviewing training
 - interviewer / R typing
 - R thinking, expressing

Use of open-ended questions

Year	% of questions that were open-ended
1952	33%
1960	22%
1964	17%
1968	13%
1972	6%

Source: American National Election Studies
(Krosnick, 2012)

Frequency Scales

- Schwarz (1985)

- how many hours of television do you watch in the average day?

Low Options		High Options	
Response Options	% Reporting	Response Options	% Reporting
Up to ½ hr.	7.4	Up to 2½ hrs.	62.5
½ to 1 hour	17.7	2½ to 3 hour	23.4
1 to 1½ hours	26.5	3 to 3½ hours	7.8
1½ to 2 hours	14.7	3½ to 4 hours	4.7
2 to 2½ hours	17.7	4 to 4½ hours	1.6
> 2½ hours	16.2	> 4½ hours	0.0

Rating Scales

	Fully Labeled Unipolar	End Labeled Unipolar	Fully Labeled Bipolar	End Labeled Bipolar
1	Extremely Happy	Extremely Happy	Extremely Happy	Extremely Happy
2	Very Happy		Somewhat happy	
3	Somewhat Happy		Neutral	
4	Not very happy		Somewhat unhappy	
5	Not at all happy	Not at all Happy	Extremely Unhappy	Extremely Unhappy

Rating Scales - Design Decisions

- # of scale points

Evaluation Dimension	What we learned
Completion Errors	Longer better than shorter
Time	Longer greater than shorter
Reliability	Bipolar: 7 points Unipolar: 5 points
Correlational Validity	Bipolar: 7 points Unipolar: 5 points
Inter-rater agreement	Bipolar: 7 points Unipolar: 5 points
Object differentiation	Bipolar: 7 points Unipolar: 5 points
Context effects	Bipolar: 7 points Unipolar: 5 points
Natural discrimination	Bipolar: 7 points

- Inclusion of middle alternative

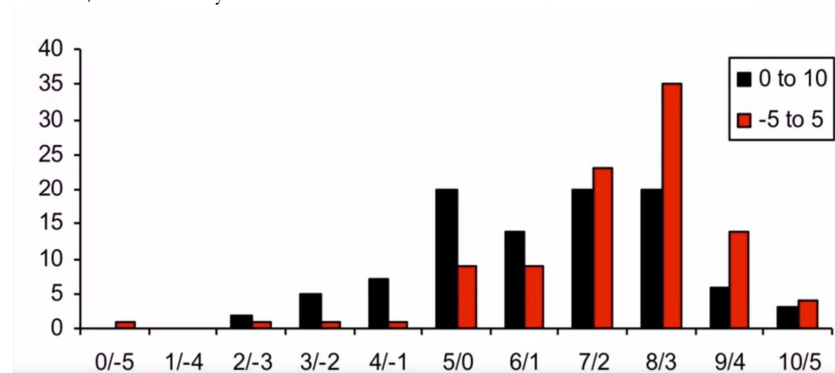
- Krosnik and Fabrigar (1997): NO → Satisficing
- BSW (2000): YES
- Krosnik and Presser (2010): YES
- recommendation: Include middle alternative in a bipolar scale

- verbal labeling

- unlabeled scale requires interpretation
- labeled scale requires reading and interpreting labels

Evaluation Dimension	What we learnt?
Respondent satisfaction	Fully labeled > End labeled
Reliability	
Correlational validity	
Divergent validity	
Inter-rater agreement	
Object differentiation	
Question order effect	

- numeric labeling
 - they can reinforce verbal labels or confuse maters
 - Schwarz (1991, Experiment 1)
 - 0 /-5 not at all successful
 - 1 /-4
 - 2 /-3
 - 3 /-2
 - 4 /-1
 - 5 /0
 - 6 /1
 - 7 /2
 - 8 /3
 - 9 /4
 - 10 /5 Extremely Successful



Ranking

- Full ranking of objects
 - below is a list of 18 values in alphabetic order. We are interested in finding out the relative importance of these values to you. Study the list carefully. Then place a 1 next to the value which his most important to you, place a 2 next to the value which is second most important etc. The value which is least important should be ranked 18 (Rokeach Terminal Values Measure)
- Partial Ranking
 - The qualities listed below may all be important, but which three would you say are the **most desirable** for a child to have (Alwin/Kohn Values Measure)
- Minimal Ranking
 - there are a lot of talk these days about what the aims of this country should be for the next 10 years. (Interviewer hands R show card A) on this card are listed some of the goals which different people would give top priority. Would you please say which **one** of these you, yourself, consider **most important**? (Inglehart Values Measure)

Attribute	Ranking	Rating		
Difficulty	Comparisons among many objects	One object at a time	Comparison Dimension	What we learnt?
Visual Display	Often needed	Usually not needed	Completion time	Ranking>Rating
Speed	Slow	Fast	Respondent satisfaction	Ranking<Rating
Cost	Expensive	Inexpensive	Completion	Ranking>Rating
Information Gain	Rank order	Rank order and absolute levels	Reliability	Ranking>Rating
Level of Data	Ordinal	Interval	Validity of factor structure	Ranking>Rating
Analysis	Difficult	Easy	Discriminant Validity	Ranking>Rating
Translation function	None	Potential clouding of between-individual differences	Correlational Validity	Ranking>Rating
Differentiation	Forced	Not forced		

Smyth (2006)

- Comparing mark-all-that-apply to a series of yes-no questions
- Findings

- the two formats are not comparable
- more response options endorsed with yes-no questions
- spent longer time answering yes-no questions
- didn't find acquiescence bias in yes-no questions
- did not find much item nonresponse in yes-no questions

Summary

- Open-ended questions taking verbatim
 - use sparingly
- open-ended questions taking numbers
 - recommended for sensitive behaviors
- close-ended questions with ordered response sets
 - 5-7 scale points
 - fully label all scale points if necessary
 - branching if necessary
- Close-ended questions with unordered response sets
 - use an order respondents expect
 - randomize response options if no expected order