Survey Design Workshop

Yale StatLab

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(with much credit to Betsy Levy Paluck and Melinda Manley)

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This workshop will help you learn the fundamentals of designing a survey. We will cover:

Overview of the survey process
  - Why survey?
  - The preparation phase
  - Design and conceptualization phase
  - Sampling
  - Piloting
  - Data collection and logistics

How to write questions
  - Writing questions
  - Constructing response scales
  - Formatting
  - Pitfalls

At the end of this handout are a number of references for you to follow up with specific issues within this enormous subject area.

Please ask questions along the way!
1. WHY SURVEY?
Collect data from individuals to answer research questions
- Measure the effect of a program or treatment
- Attitudes—direct measures vs. indirect measures; vignettes
- Behavior
- Survey experiments

Units: usually survey individuals, but sometimes groups can be surveyed as well

Types of data you can collect through surveys: hard data, attitudes, behavior, knowledge

Settings vary: Field, lab, over phone, face-to-face, internet, etc.

2. PREPARATION PHASE

Check for existing surveys and survey items
- Validity and reliability of the existing surveys strengthens your own data collection
- What are other people in your small area of research finding? Check for what to expect in terms of response rates, effect sizes, sample sizes.
  - This is useful information for doing power calculations

Sampling: collecting data from a subsample of the population
- Target population. Probability and non-probability samples.

Think about:
- types of survey: cross-sectional, longitudinal, experimental—your research question will differ.
- participant burden: how long can you make the questionnaire and reasonably expect them to fill it out?
- your research question: really hammer out what you are interested in (variables) and how you will measure them.
- Human subjects approval: you must get approval from Yale’s institutional review board for any research you do that involves human subjects (even undergraduates must get it). For a summary and how-to, see: http://www.yale.edu/hsc/Investigator/Student_projects.pdf

3. DESIGN AND CONCEPTUALIZATION

Write your model: what is your dependent variable (outcome variable)? What are the independent variables? What are all the possible mechanisms through which the independent variable “causes” changes in the dependent variable? Alternative explanations for your hypothesis? How might you measure each of these variables?
Outline your survey content and question objectives
Or… What information do you want to report and what sorts of tables/graphs do you want to display?

E.g.: Purpose of survey: Survey investigates positive community relations. We think positive community relations are likely to be a function of the following:

- Cooperation
- Open communication
- Trust

Within these categories, measurement objectives include:

- Cooperation
  - Assistance with taking care of children in village
  - Helping out with fieldwork when there is a need
  - Contributing to public goods like schools and roads
  - Protecting community goods like wells
- Open communication
  - Frequency of community meetings
  - Attendance at community meetings
  - Discussions in public areas
  - Visitations to neighbor houses (social network) (etc)

But don’t data-mine: Be careful about asking a million questions. You will find a statistically significant effect, 1 out of 20 times, by chance (at alpha = .05) even when the true effect is zero. When reporting results, must report results for ALL questions you ask.

Envision your eventual database: this will help you to define and clarify variables and to figure out what kinds of measurement tools (response scales, categorical answers, etc) you want. Generally, continuous variables are easiest to work with once you get to data analysis.

Identify method of data collection: Specify mail vs. person vs. phone vs. internet forms

4. SAMPLING

Choosing a sample design
1. Determine your target population
2. Determine your sample frame
   a. Sampling frame is the list of the target population from which the sample will be drawn (E.g. a list of seniors enrolled in city high schools at the end of the school year)
      - May not be the same as the target population: not all elements in the population may be represented in the sample frame (telephone numbers of voters versus door-to-door canvassing of voters)
      - Should be representative—makes your survey generalizable
   b. Inclusion/Exclusion criteria based on who you are hoping to sample. (E.g. not interested in adults, may require respondents be seniors at the city high schools and have transcript data available and be enrolled in a certain number of classes)
3. Choose your design
   o Probability vs. Nonprobability
   o 4 basic types of probability sample designs:
     ▪ *Simple random sample (SRS)*: selected by a procedure that gives every element in the population an equal chance of being included in the sample.
       • Simple to analyze, minimizes bias
       • May not be very efficient or capture certain groups of interest.
     ▪ *Systematic random sample*: researcher picks a random starting point and systematically selects cases from the sampling frame at a specified interval (E.g. list of households, start with the 3rd household on the list and sample every 5th household).
       • Sometimes more simple that randomization, representative geographically
       • Can be biased if there is a pattern in the ordering of the sampling elements, same problems as SRS.
     ▪ *Stratified sample*: Entire sampling frame is divided into groups of interest (e.g. racial/ethnic groups) and then use SRS or systematic random sampling within each strata
       • Can be more efficient, more representative, answer more specific questions about subgroups in population.
       • Requires knowledge of population in advance and may introduce more complexity in data analysis.
     ▪ *Cluster sample*: Divide sample into clusters (e.g. schools) and randomly sample the clusters. Then can use SRS, systematic, or stratified sampling within the sampled clusters.
       • Logistically more feasible in large surveys
       • Complex data analysis.

**Sample Size Estimation**
You need to make sure you have enough people to detect a significant difference between your groups of interest, if a difference really exists. This is known as statistical power. Calculators are available online that take into account your study design and analyses. [http://calculators.stat.ucla.edu](http://calculators.stat.ucla.edu).

Additionally, free software is available (such as the Optimal Design software from University of Michigan).

**5. PIOTING**

**Pilot tests are crucial.** Traditionally, you start with interviews, progress to focus-groups, then individual surveys.

▪ Open-ended interviews prior to the survey can help you better understand what to measure
▪ Logistics for interviewees: number of interviewees per day, per interviewer, interviewer fatigue and mischief
▪ How long does the survey take?
▪ Check for variation in survey response, consistently skipped questions
▪ Cognitive interview: ensure understanding, find out how people go about answering the question, put questions in the vernacular
▪ Compare alternatively worded questions (95% employment v. 5% unemployment)
▪ Compare against other data sources (ask villagers for number of households in village, compare against census data).
6: DATA COLLECTION LOGISTICS

Who will conduct the interview?

- Who interviews and potential biases this introduces in response to questions and sampling
  - E.g. race/ethnic group of interviewer, urban interviewer in rural settings, male interviewers unable to interview women in conservative settings, etc.
- You, a team you hire, or a survey firm?
  - Be present for or conduct the training sessions.
  - Interviewers should practice on real, non-sample individuals
  - Depending on context and survey complexity, this process can take 2 days or 2 months. Allow adequate time!

Backchecks and monitoring: Not optional.

- Used to ensure interviewers are following sampling and interviewing protocol
- Backchecks: Re-interview a small random sample of individuals that were interviewed.
- Monitoring: In field settings, send monitors out to small samples of interview areas to observe interviewing in real time.

Response rate issues: what to expect, how to shoot for it. Based on expectations, remuneration, recruitment methods

General tips

- Label questionnaires. Do not rely on interviewers to fill in identifying information such as individual name or village. These should be prefilled to eliminate headache later. (e.g. need to later match village name on surveys to state voting data, but interviewer spells the village name differently than it is spelled on the voting data)
- Number and date questionnaires
- Data-entry. How to do it if you don’t outsource.

7: WRITING QUESTIONS

Preliminary Considerations:

Write questions with respondent sample in mind. Use plain language and avoid technical terminology or unnecessary complexity and jargon.

Consider a logical order of questions by subject matter as well as degree of difficulty or sensitivity.

Theory, Method of Analysis, Sources of Measurement Error

These three aspects of research are interrelated, and you should consider each factor before you design your survey.

  - Theory: What are you really trying to measure? What information would you like to have if there were no constraints placed upon your inquiry? What aspects of the desired information can be measured or approximated through survey responses? Which information cannot directly be obtained through a survey, and what is the next best survey approximation of such items?
Method of Analysis: What kind of information are you going to want available for analysis? Consider the analysis you will eventually run.

- Responses as dependent variables: If you plan on using regression analysis to analyze your data, consider the implications of using responses as dependent variables.

- Consider variables through latent variable framework for the purpose of theory and analysis. Is your response measure a good proxy for the latent variable?

- Anticipate your full model: Remember to get information not just on variables that immediately interest you, but also on confounders, variables that are known to be associated with your independent and dependent variables. Look to the literature to find out what other people control or adjust for and operationalize those variables in your survey.

- Several types of response measures, variables:
  
  - Open ended: respondent is not presented with options.
    - Can be useful as starting points in new areas of research or may be desirable in extended format surveys.
    - Are used in some instances to avoid priming subjects or recall cues.
    - Offer content for qualitative analysis and can be coded by relevant attributes for the purposes of quantitative analysis.
  
  - Close Ended: Respondent is offered a series of options.
    
    1. Continuous
       E.g. what is your age? Respondent enters number.
    2. Categorical: discrete groups.
       E.g. what is your age? Respondent chooses category 18-24, 25-34, 35-44
    3. Dichotomous: yes/no or presence/absence
       E.g. do you own a pet?
    4. Ordinal: Type of categorical variable where there is a natural ordering to the response categories.
       E.g. Political ideology - most to least liberal
    5. Nominal: No natural ordering to categories
       E.g. Race/ ethnicity
    6. Rated: respondents indicate how closely their attitudes correspond to statement.
       E.g. Likert scale – Global warming is a serious problem facing the country.
       
       1 2 3 4 5
       Strongly disagree Strongly agree

  7. Nominal: No natural ordering to categories. E.g., race/ethnicity.

Sources of Measurement Error: Anticipate possibility of bias stemming from context effects, order effects, framing, priming, etc....
Matching questions to objectives

  o Make the objective specific

  Objective: Alcohol consumption

  Q: How many alcoholic drinks did you have yesterday?
  Q: How many alcoholic drinks did you have in the last seven days?
  Q: How many alcoholic drinks do you have on an average weekday?
  Q: How many alcoholic drinks do you have on an average weekend?
  Q: On days when you drink alcohol at all, how many drinks do you have on average?
  Q: At a meal when you drink alcohol, how many drinks do you have?

  Objective: Distance from hospital

  Q: How many miles are you from the hospital?
  Q: How much time does it take you to travel to the hospital? (Think of bus transportation, vs. people who own cars, vs. city dwellers, etc.)

  (Objective needs to specify what kind of information)

  All questions above are associated with different kinds of uncertainties and will be understood and answered in different ways by individuals (why we must pilot, see below)

What’s a good question? Some principles and pitfalls to look out for.

Principles: to write a good question or a good survey...

1. Design questions that mean the same thing to all respondents. All the terms should be understandable or defined, time periods specified, complex questions asked in multiple stages.

   E.g., Including your visits to psychiatrists, ophthalmologists, and any other professional with a medical degree, how many times have you seen or talked with a medical doctor in the past two months?

   *It is important to specify the meaning of “doctor” because some people may exclude doctors like psychiatrists.

   E.g., How often do you feel tired during the day—always, usually, sometimes, rarely, or never?

   *To what day are you referring? My answer will drastically change depending on whether I’m thinking of a workday, vacation day, or I’m doing some weird calculus to try to mash all these days together.

   E.g., “In your household, how are the responsibilities divided up?”

   *This is a pretty complex question. Not all respondents will remember to touch upon finances, cooking, inside chores, outside chores, shopping, etc etc. Best to split up the responsibilities and ask about them separately.
Or the classic: “What is your income?”

*Formal income? From all jobs? Including stocks, mutual funds, income from other family members? Best to specify and give a rule for rounding, specifying, etc.

*How many times have you eaten butter this week?

*Even the term “butter” can be too broad: When it is: “How many times have you eaten butter, excluding margarine, this week?” the answers changed significantly (Fowler, 1992)

“How many times were you hospitalized this year?”

*The term is not understandable or is confusing (you’d be surprised at the number of words that confuse people):
Correction: “How many times were you admitted to the hospital as a patient overnight or longer this year?”

Piloting your questions ahead of time helps to identify what is clear and to test alternative wordings (see below, piloting), but you should strive to be extremely clear and focused from the start. Always, if you can, use multiple questions for one complex concept.

2. Design all aspects of data collection to minimize possibility that any respondent will feel his or her interests are best served by giving an inaccurate answer to a question. (More on social desirability bias below.)

3. Make clear, and standardize the response task. Clearly define the dimension or continuum respondents are to use in their rating task, give them a reasonable way to place themselves on a continuum, or make clear how long or short of an answer is desired or expected in an open ended question. (More on response scale construction below.)

Q: When did you move to New Haven? _____________________
Potential answers:
• 1978
• When I became a grad student
• After I graduated from college

Instead:
Q: In what year did you move to New Haven?
• 19__
• 200__

Note that some people won’t respect the number of lines you give them for an open ended question (they’ll use the back, ask for another page) but some will respect them too much (they’ll cut their answer short if the line on the page is short.) Give as many lines as you expect length of ideal answer to be. Know that some will go over and under, but the lines communicate your expectation for how much to write.
4. Asking several questions to get at one concept increases the “validity” of measurement (actually measuring the concept in question.)

_E.g., asking questions about the same thing, just in different ways._

_Overall, how satisfied or dissatisfied are you with the way democracy works in Ghana?_

1 = very dissatisfied;
2 = somewhat dissatisfied;
3 = neutral;
4 = somewhat satisfied;
5 = very satisfied

Choose the statement you agree with more:
A. In Ghana today, we enjoy a real choice among different political parties and candidates.
B. This country is well on its way to becoming a single-party state without real political choice

But be aware that using different kinds of response categories can make it difficult to combine answers into an index. See more below on scales.

5. Questions should ask for firsthand experiences (if accuracy is the objective): beware of asking for secondhand knowledge, hypothetical questions, asking about causality, or asking about solutions to complex problems.

_E.g.: hypothetical questions:_ women who have delivered a baby are better at estimating their probability of using anesthesia than women who haven’t delivered a baby.

_E.g., causality:_ we are notoriously bad at explaining our own behavior. See Ross & Nisbett, 1977. Or see the entire field of social psychology circa 1960-2010.

6. Ask one question at a time!! Avoid asking 2 questions, imposing unwarranted assumptions, or hidden contingencies.

_“Would you like to be rich and famous?”_

*This question confuses people who would like one thing and not the other.

_“Since the Iraq war isn’t going well, do you think it’s a good idea to send more troops?”_

*This question is “double barreled” or impose an assumption: It asks people to accept the premise that the war is going badly before they respond vis-à-vis the troops. This question is unfair to people like Dick Cheney and Karl Rove. It can also be confusing.

_“Are you unhappy with the way you budget your expenses?”_

*You are assuming I have a budget. I may be unhappy with the way I spend my money, but if I don’t have a budget, I don’t know how to answer this question.

_“In the past month, did you agree to do something your husband asked because you were afraid of __________”_
him physically?”

*This question has a hidden contingency: She may have refused to do what he asked, but still been afraid. Or he may not have asked her to do anything.

7. **Ask the ultimate question LAST, so it sticks in the mind. Define terms first, and give the response choices last.**

**NOT:**

“Would you say you are not likely, somewhat likely, or very likely to get a job after you graduate?”

“If there was an election today, do you think you would be more likely to vote for Senator Obama or Senator Clinton, considering what’s happened with their campaigns up to this point?”

**INSTEAD:**

“Which of these categories describe how likely you think you are to get a job after you graduate: not likely, somewhat likely, or very likely?”

“Considering all that has happened with the 2008 presidential campaign up to this point, if there was an election today, do you think you would be more likely to vote for Senator Obama or Senator Clinton?”

People should have the possible answers presented to them right at the end of the question.

8. **Measurement is better to the extent that people answering questions are oriented to the task in a consistent way**

Generally—the introduction to the survey is delivered in the same manner. Specifically, an introduction to a question is clear and consistent, e.g., CHOOSE ONE or CHOOSE ALL THAT APPLY. Note that people often ignore directions to “choose all that apply” and think that they are supposed to choose only one. People are bad at reading directions. Make directions stick out or make the choices obvious from the way you format. See formatting below.

**8. RESPONSE SCALES**

- **Response categories**
  - Make them logical and meaningful:
    **NOT:** Many......Some......A Few......Very Few......None
  - Arrange them well in space:
    **NOT:**
    
    Very helpful       Not very helpful
    
    Somewhat helpful   Not at all helpful
• **Likert scale**
  o Strong scales are clear and provide meaningful gradations:
    1. *Strongly disagree*
    2. *Moderately disagree*
    3. *Mildly disagree*
    4. *Mildly agree*
    5. *Moderately agree*
    6. *Strongly agree*

  OR
  1. *Completely true*
  2. *Mostly true*
  3. *Equally true and untrue*
  4. *Mostly untrue*
  5. *Completely untrue*

To have a neutral midpoint or not? An ongoing debate between people who say that some people are too likely to give “non-opinions” or otherwise lazily fill out a questionnaire and those on the other side who say it is not good to “force” people onto one side or the other when they are truly neutral. You should choose which side you agree with based on your research question (e.g., is neutral a meaningful and important category of response?)

  o **Semantic differentials**
    E.g., *Rate economists: (mark an “x” your place on the scale)*
    Kind ________ ________ ________ ________ ________ ________ ________ Mean
    Honest ________ ________ ________ ________ ________ ________ Dishonest
    
    *Rate lawyers: (mark an “x” your place on the scale)*
    Kind ________ ________ ________ ________ ________ ________ ________ Mean
    Honest ________ ________ ________ ________ ________ ________ Dishonest

  o **Thermometers and visual analogues**
    How warm do you feel toward women?
    Very warm ____________________________ Very cold
    
    How bad was your pain?
    No pain at all ____________________________ Worst pain I ever experienced

**Combining questions into scales**
  o Ask multiple questions to get at one “complex concept”—e.g., “empowerment” or “reconciliation” (again, check to make sure that a scale for this complex topic does not already exist—that is, one that is reliable and valid according to previous research.)
  
  o This allows for factor analysis, scale development following the survey.
  
construction, and reliability. In H.T. Reis and C.M. Judd (Eds.), Handbook of research methods in social and personality psychology (pp. 339-369). New York, NY: Cambridge University Press.

**Question ordering**
- Ask intimate and demographic questions at the end, after the respondent has “warmed up” to the questionnaire and answered most of the questions

**Link your questionnaire to other datasets** (GIS, and census, archival datasets)
- Think about what “linking data” you need for each individual or community, and collect it: e.g., zip code, address, GIS parameters. Check with Human Ethics committee first to see if you can retain identifying data.

9. POSSIBLE SOURCES OF BIAS

**Biasing effect: memory.** Thumbnail rules for asking questions that draw on memory:

- Memory for daily, mundane events: Recall deteriorates even after 24 hours. When asked for mundane behaviors over longer period of time, (1 week, 1 month, etc) people average, estimate, guesstimate. *Ask for recall of very short period, or ask to keep diary*

- Memory for salient events: e.g., visits to doctor: recall deteriorates within six months.

- Some tips for stimulating memory:
  - Ask multiple questions. *A way of saying “try again”*
  - Ask over the course of two interviews; preview questions for next interview to stimulate reflection
  - Ask related questions. *For asking about doctor’s visit, also ask “Have you bought any medications recently? Have you had to file insurance?”*
  - Provide memory aids, or place them in time. *“think of last spring. Were you at the hospital when it was warm outside? Here is a calendar you can look at to help you.”*

**Biasing effect: Social Desirability - avoiding looking bad, trying to look good, preserving self image.**

E.g.: voting and having a library card is overreported; drunk driving is underreported.

- Assure confidentiality of responses, communicate this to respondent that protection is in place

- Communicate the priority of response accuracy. Some people have asked respondents to verbally or in writing make a commitment to giving accurate answers; interviewers stress “there are no right answers” “we need to know this because of X goal of research”

- Reduce role of interviewer in data collection process

- Use a preamble that minimizes the sense that certain answers will be negatively viewed: “We have found that many people did not vote in this past local election, for many reasons. Did you vote in this past election?” *But be careful; do not create a reverse bias against a positive answer!*

http://www.yale.edu/statlab
o Allow the respondent to provide perspective on the meaning of the answer using ordering of questions

Q: Did you go to the doctor in the past two weeks?
Q: Did you go to the doctor in the past month? (Loftus, et al., 1991)

People are likely to overreport visits “in the past two weeks” because they want to be seen as “a person who goes to the doctor.” When you allow them a larger time frame first: did you go to the doctor in the past month and then ask the question of interest: did you go to the doctor in the past two weeks you are likely to get a more correct answer.

Q: In general, would you say you drink more than your friends, less than your friends, or about the same amount as your friends?

Q: Think about the friend you know who drinks the most. About how many drinks would you say that person has?

Q: And how about you? On days when you have any alcoholic drinks, about how many drinks do you usually have? (Sudman & Bradburn, 1982)

Here you’ve allowed the person to give context for their answer (e.g., I run with a heavy/non-drinking crowd)

o Provide a scale that shows acceptance of any answer that is potentially viewed negatively:

Q: How many sexual partners would you say you have had? None, one, two, three, four, five to ten, eleven to twenty, twenty one to thirty, more than thirty?

Not, obviously, “one, two, three, more than three?” Or, leave the line blank, make it open-ended. But note that while broader categories (e.g., thirty to fifty partners) are less informative, they are also less stressful for respondents. More on scale below.

o Ask “list” questions:
“Risk” questions: National Health Interview Survey:

Q: Is any of these statements true for you?
  a. You have hemophilia and have received clotting function concentrates since 1977.
  b. You are a native of Haiti or central East Africa who has entered the U.S. since 1977.
  c. You are a man who has had sex with another man at some time since 1977, even one time.(etc.)

o “Random response” method:
  a. Have you used marijuana in the last month?
  b. Is your mother’s birthday in June?

(Subtract % yes responses to unrelated question from % yes responses to all questions, and you have an inferred yes response to the target (sensitive) question, then you can repercentagize
responses to target question.)

Or:

*Q. Take the number of days in the past week in which you have used any marijuana at all and add to that the number of working television sets you have in your home now. What is that sum?*

*Q. How many working television sets do you have in your home now?*

Obviously, these approaches only gather population rate

**Biasing effect: positive and negative bias**
Some people see the questionnaire half full and some see the questionnaire half empty. To avoid measuring people’s personal tendencies to answer “yes” or “no” to questions, try to pose roughly half of your attitudinal questions with a positive slant and half with a negative slant.

*E.g., Please rate your agreement with each statement:*
*“There is a great deal of trust in my community”*
*“I don’t trust many people.”*

If the respondent is going to answer consistently, she will have to agree AND disagree using these two questions. The benefit of this method is that it can also pick up on random answerers—if she agrees to both, you know she is answering randomly (i.e., all yes, all c’s, etc.)

**Biasing effect: Ordering bias**
Sometimes there are distinct sections to your questionnaire, and you think that one may affect the way answers are given to another. For example, one part of my survey asks questions about your mother, and the other asks questions about your romantic partner. Thinking about your mother first may change your responses toward your romantic partner.

*Advice: switch ordering for half of respondent sample; test to see if the responses vary with the order.*

## 10. FORMATTING

(from Aday and Cornelius, 2006) More formatting tips:

<table>
<thead>
<tr>
<th>Do</th>
<th>Don’t</th>
</tr>
</thead>
<tbody>
<tr>
<td>1a. Assign numbers to each question.</td>
<td>Don’t leave off the question number.</td>
</tr>
<tr>
<td>1b. Use letters to indicate subparts of a question when it has more than one part. 1a. Do you own a pet? Yes……………………………………1 No……………………………………2</td>
<td>Don’t leave off the letter for subparts of a question.</td>
</tr>
<tr>
<td>Number:</td>
<td>Don’t leave off the letter for subparts of a question.</td>
</tr>
<tr>
<td>2. Use a vertical response format for closed-end responses.</td>
<td>Don’t list them horizontally: White …1 Black …2 Other …3</td>
</tr>
<tr>
<td>White……………………………1</td>
<td>Don’t list them horizontally: White …1 Black …2 Other …3</td>
</tr>
<tr>
<td>Black…………………………….2</td>
<td>Don’t list them horizontally: White …1 Black …2 Other …3</td>
</tr>
<tr>
<td>Other…………………………….3</td>
<td>Don’t list them horizontally: White …1 Black …2 Other …3</td>
</tr>
<tr>
<td>3. Use numerical codes for closed-end responses</td>
<td>Don’t use alphabetic codes or blank lines to place X or check on, for closed-end responses.</td>
</tr>
<tr>
<td>4. Use consistent numerical codes and formats -e.g. 1 always indicates ‘yes’ on yes/no items, 2 indicates ‘no’, and 8 indicates ‘don’t know’.</td>
<td>Don’t use different codes and formats for comparable responses to different questions; keep it the same!</td>
</tr>
<tr>
<td>5. Align response codes:</td>
<td>Don’t vary alignment of response codes on a page.</td>
</tr>
<tr>
<td>Yes …………………1</td>
<td>Don’t vary alignment of response codes on a page.</td>
</tr>
<tr>
<td>No……………………2</td>
<td>Don’t vary alignment of response codes on a page.</td>
</tr>
<tr>
<td>Don’t Know…………8</td>
<td>Don’t vary alignment of response codes on a page.</td>
</tr>
<tr>
<td>White……………………………1</td>
<td>Don’t vary alignment of response codes on a page.</td>
</tr>
<tr>
<td>Black…………………………….2</td>
<td>Don’t vary alignment of response codes on a page.</td>
</tr>
<tr>
<td>Other…………………………….3</td>
<td>Don’t vary alignment of response codes on a page.</td>
</tr>
<tr>
<td>6. Provide clear instructions for open-ended items:</td>
<td>Don’t just leave a space with no instructions for the answer.</td>
</tr>
<tr>
<td>What was your blood pressure the last time you had it checked? RECORD HIGH VALUE: _______ (systolic reading) RECORD LOW VALUE: _______ (diastolic reading)</td>
<td></td>
</tr>
<tr>
<td>What was your blood pressure the last time you had it checked? RECORD HIGH VALUE: _______ (systolic reading) RECORD LOW VALUE: _______ (diastolic reading)</td>
<td></td>
</tr>
<tr>
<td>7. Provide clear special instructions</td>
<td>Don’t have instructions in the same typeface and format as the question.</td>
</tr>
<tr>
<td>-------------------------------------</td>
<td>------------------------------------------------------------------</td>
</tr>
<tr>
<td><em>(Ask males only):</em></td>
<td>Ask males only:</td>
</tr>
<tr>
<td>Did you use a condom?</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>8. Provide clear skip instructions.</th>
<th>Don’t leave out explicit skip instructions.</th>
</tr>
</thead>
<tbody>
<tr>
<td>8a. Do you smoke cigarettes?</td>
<td>Skip patterns reduce respondent burden!</td>
</tr>
<tr>
<td>Yes <em>(Ask Q. 8b)</em> ..................1</td>
<td></td>
</tr>
<tr>
<td>No <em>(Skip to Q 9)</em> ..................2</td>
<td></td>
</tr>
<tr>
<td>8b. How many cigarettes do you smoke per day on average?</td>
<td></td>
</tr>
<tr>
<td>RECORD NUMBER OF CIGARETTES: _____</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>9. Phrase full and complete questions.</th>
<th>Don’t simply use words or headings.</th>
</tr>
</thead>
<tbody>
<tr>
<td>What is your age? _____</td>
<td>Age? _____</td>
</tr>
</tbody>
</table>

| 10. Use a forced-choice format for a list. | DON’T use a “check all that apply” or “circle all that apply” format. |
| Should an employer be allowed to require job applicants to be medically tested for … *(circle answer for yes or no to each.)* | |
| Yes | No |
| a. Sexually transmitted diseases (STD’s) .. 1 2 | |
| b. Using illegal drugs? ..................1 2 | |
| c. High blood pressure? ..................1 2 | |

| 11. Use a column format for a series with the same response categories. | |

<table>
<thead>
<tr>
<th>12. Use a column format for a series with comparable skip patterns.</th>
<th>Don’t fail to clearly link a series of questions to subsequent dependent items.</th>
</tr>
</thead>
<tbody>
<tr>
<td>13. Put all parts of the question on the same page.</td>
<td>Don’t split a question between pages.</td>
</tr>
<tr>
<td>14. Allow plenty of space on the questionnaire.</td>
<td>Don’t crowd the questions and space for recording the answers.</td>
</tr>
<tr>
<td>15. Carefully consider the overall appearance of the questionnaire.</td>
<td>Don’t just start the questions on page 1 without introducing the study, identifying the sponsoring organization, and so on.</td>
</tr>
<tr>
<td>16. End the questionnaire with a thank you to the respondent.</td>
<td></td>
</tr>
<tr>
<td>17. Consider how the data will be processed</td>
<td></td>
</tr>
</tbody>
</table>
References


Morgan, David L. 1997. Introduction; Focus Groups as a Qualitative Method; and The Uses of Focus Groups, Ch. 1-3 in Focus Groups as Qualitative Research. Thousand Oaks, CA: Sage Publications.


Tourganeau, Roger. 1999. Context Effects on Answers to Attitude Questions, Ch. 8 in Monroe G. Sirken et al. (Eds.) Cognition and Survey Research. New York: John Wiley and Sons, Inc.
