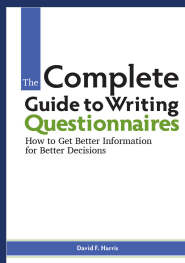


Writing Better Questionnaires:

How to Identify and Fix Biases and Communication Errors in Your Surveys

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How to Get Better Information for Better Decisions"*

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The Framework for Writing Questionnaires

PLAN RESEARCH TO SUPPORT DECISION
MAKING

CONDUCT QUALITATIVE RESEARCH

PLAN THE QUESTIONNAIRE

MAKE QUESTIONS CLEAR

MAKE QUESTIONS
ANSWEARBLE

MAKE QUESTIONS EASY

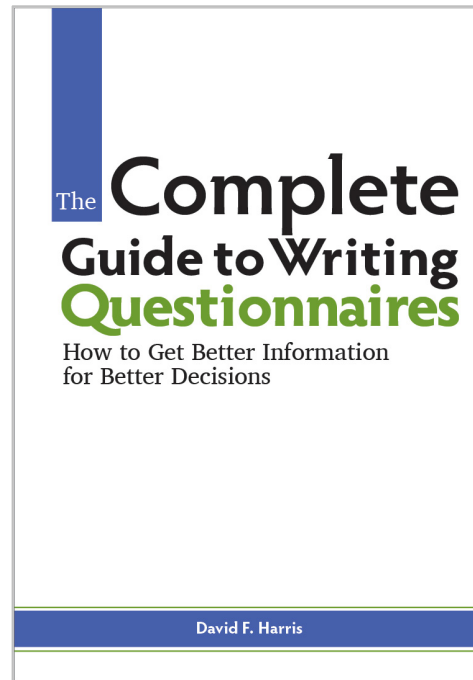
MAKE QUESTIONS UNBIASED

PRESENTING LISTS

PRESENTING RATING SCALES

ASKING OPEN-ENDED QUESTIONS

PRETESTING THE QUESTIONNAIRE



Make Questions Clear

1. State the unit of measurement.
2. Use the vocabulary of respondents.
3. Use precise words and phrases.
4. When using the word “you,” make sure respondents know to whom you are referring.
5. Make sure the question is really asking only one question.
6. When asking for percentages, make sure the base is clear.
7. Make sure the question stem and the answer choices match each other.
8. Use bold, underlining, italics, and/or capitalization to highlight key words and phrases.

Framework for Writing Questionnaires



Write a Questionnaire Plan

Background:		
Decisions: We will decide _____.		
Information needed	How to ask the question	Analysis Plan
Screeners		
Information Category 1		
Information Category 2		
Information Category 3		



Conversational norms

How many cars do you own?

1. Did you, yourself take an aspirin within the past 7 days?
2. How many vitamin bottles are in your household?

Q: Which of the following best describes your role in purchasing food for the family?

- ☐ I am the primary shopper for food
- ☐ I share the responsibility equally with another person in the household
- ☐ I purchase food from the store but less frequently than others household members
- ☐ I am not involved in food shopping

Q: Who does most of the grocery shopping for your household?

- ☐ You
- ☐ Someone else in your household
- ☐ You and someone else in your household share equally in grocery shopping

1. When writing questions, say the question out loud as if you were talking to someone.
2. Make the question stem and the answer choices match each other.
3. Properly pretest your questionnaires (real cognitive interviewing)

Avoid “Questionnaire Design Speak”

“What percent of your most recent purchases of individually packaged food items are your priority choice?”

“In the past 30 days, how many times have you frequented a fast-casual restaurant?”

“Is your dog a vegetarian?”

Client says, “Have them rate on a scale of 1 to 10...”

Client says, “We don’t need to pre-test the survey. The questions are pretty straightforward.”

Q: Please rate your loyalty to Mr. Fleming's Pickle Relish.

- ___ Extremely loyal
- ___ Very loyal
- ___ Somewhat loyal
- ___ Not loyal

INSIDE THE MIND OF THE CONSUMER



I DON'T SEE OUR BRAND OF PICKLE RELISH ANYWHERE.

INCONCEIVABLE, THIS IS A "BRAND LOYALIST."

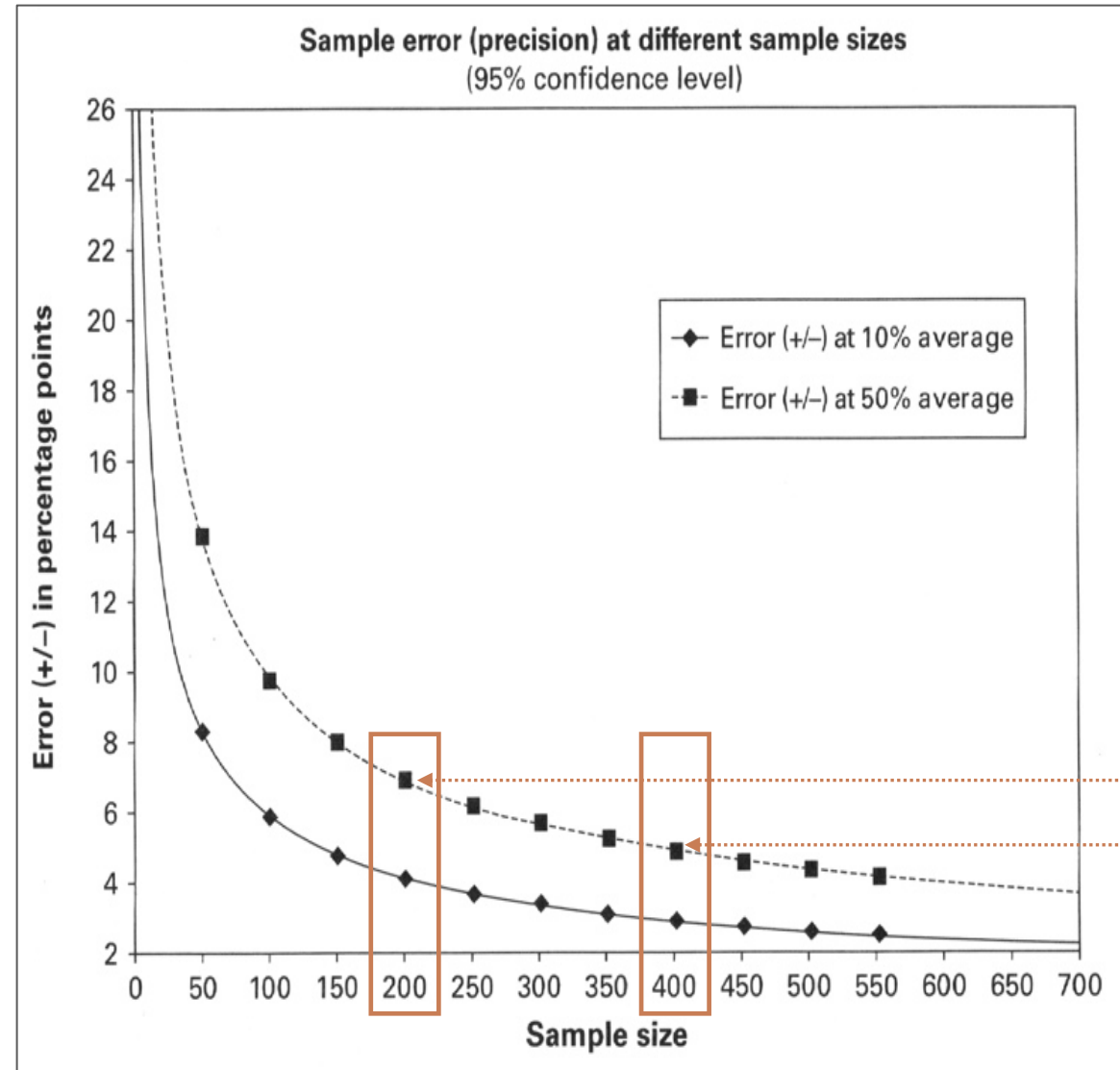


TOM
FISH
BURNE

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Writing a questionnaire is one of
the most difficult forms of writing

Sampling Error



6.9%

4.9%

2.0% reduction in
sampling error

Conduct Experiments to Improve Our Knowledge of How to Write Questionnaires (Collaboration with Ted Pulsifer, Market Cube)

We randomly assigned 1,200 people:

Group A
n=400

Group B
n=400

Group C
n=400

Experimentally Testing Question Format

Group A
(n=400)

Agree / disagree

Group B
(n=400)

How well does each
statement describe
you?

Group C
(n=400)

Forced-choice: Which
statement describes
you better

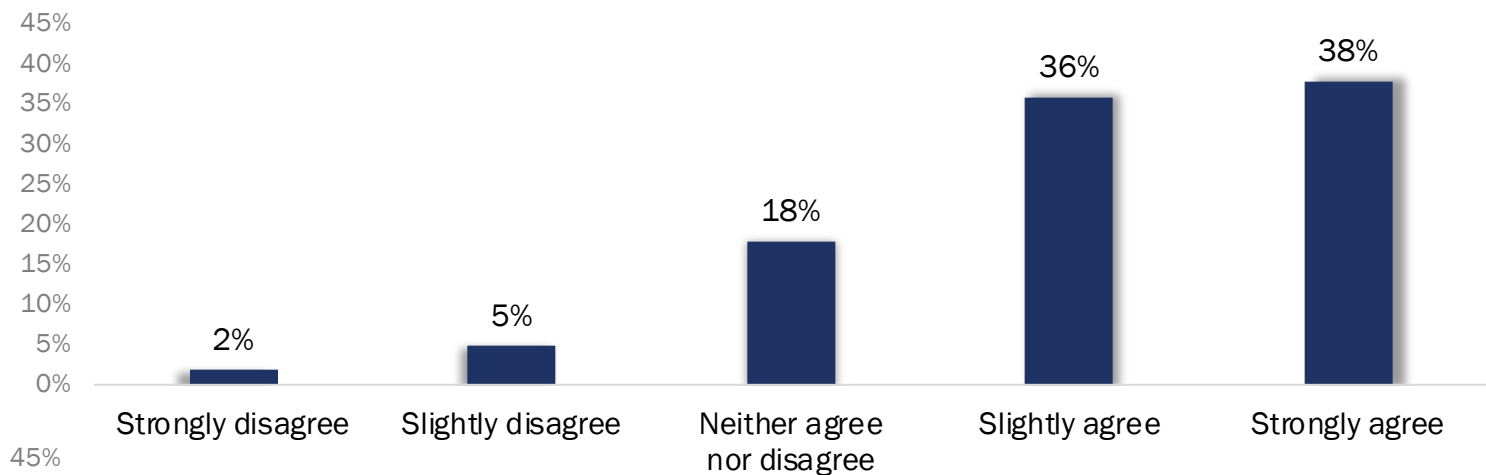
I always look for the lowest priced option when I shop

Agree/Disagree versus “How Well” Scale

I always look for the lowest priced option when I shop

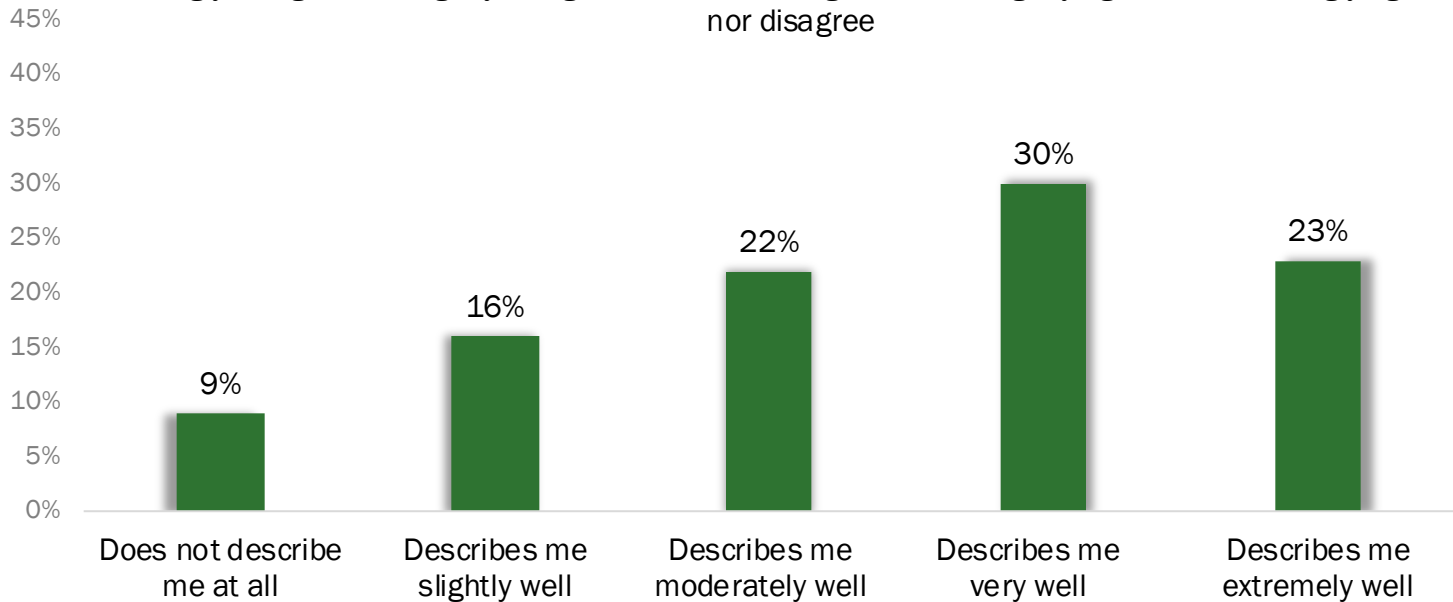
Group A

How much do you agree or disagree with each of the following statements?



Group B

How well, or not well, do each of the following statements describe you?



Agree/Disagree versus Forced Choice

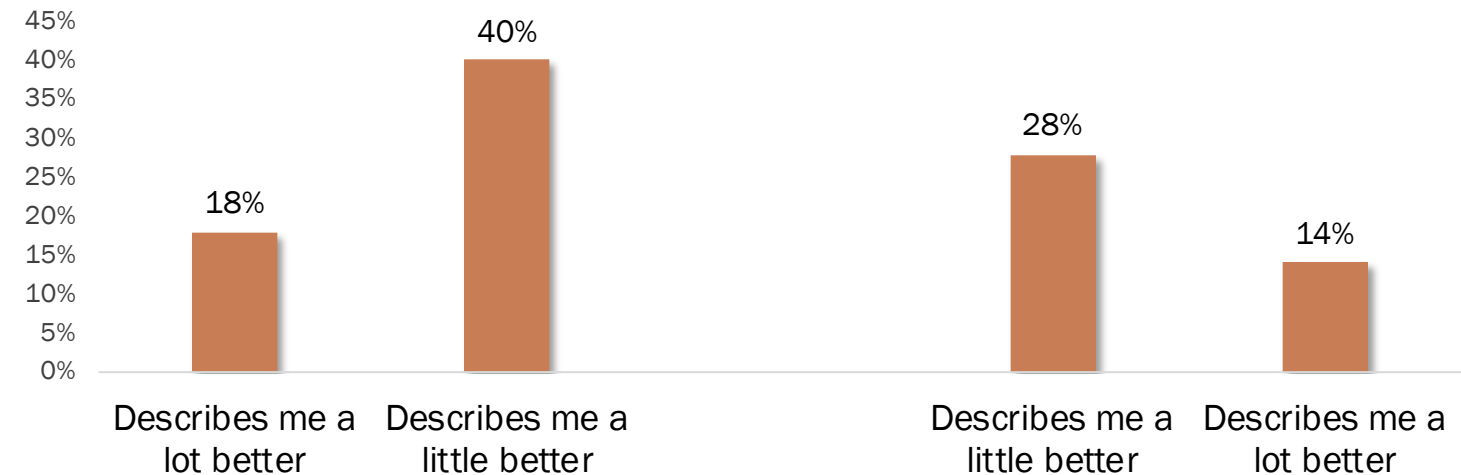
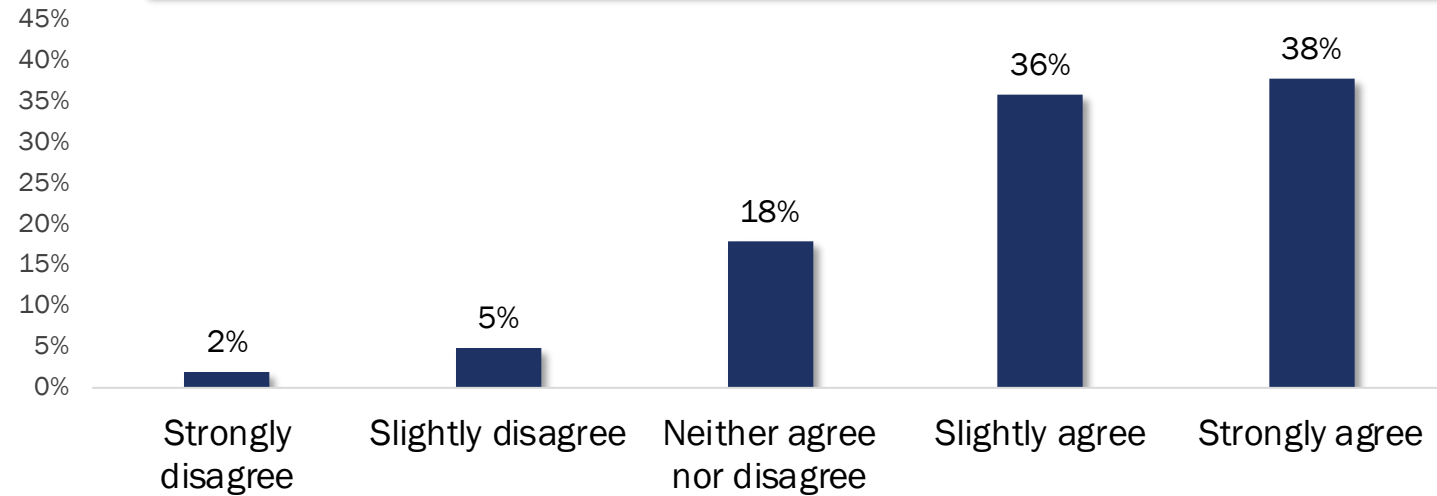
Group A

How much do you agree or disagree with each of the following statements?

Group C

Below are pairs of statements that may or may not describe you. Please indicate how much better one statement describes you compared to the other statement.

I always look for the lowest priced option when I shop



I would rather pay more for quality

I always look for the lowest priced option when I shop

Agree / Disagree format

The best way to ensure peace is
through military strength

55% agree

42% disagree

Forced Choice

The best way to ensure peace is
through military strength

33% agree

OR

Diplomacy is the best way to
ensure peace

(55% agree)

Replace Agree Disagree Scales Less-Biased Question Formats

	Does not describe me at all			Describes me very well
	1	2	3	4
I worry about climate change	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I support recycling	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	Describes me a lot more	Describes me a little more	Describes me a little more	Describes me a lot more	
I worry about climate change	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	I do <u>not</u> worry about climate change
I support recycling	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	I do <u>not</u> support recycling

Effect of Range of Numeric Categories

Q: About how much have you spent on organic produce (fruits and/or vegetables) in the past 30 days?

Group A
Low Range

Less than \$5	12%
\$5 to less than \$10	23%
\$10 to less than \$15	21%
\$15 to less than \$20	18%
\$20 or more	26%
26%	

Group B
High Range

Less than \$20	47%
\$20 to less than \$30	23%
\$30 to less than \$40	15%
\$40 to less than \$50	5%
\$50 or more	11%
53%	

Group C
Open-ended

Please enter a dollar amount and do not add cents.	
Less than \$5	4%
\$5 to less than \$10	5%
\$10 to less than \$15	9%
\$15 to less than \$20	9%
\$20 to less than \$30	15%
\$30 to less than \$40	6%
\$40 to less than \$50	7%
\$50 or more	45%
74%	

Which of the following best describes the state you are at, when it comes to shopping for a lawn mower?

- ☐ I am thinking about what I need and what's out there (that I should consider)
- ☐ I know what's important to me and am narrowing down to a few options
- ☐ I have a short list of options that I am evaluating and comparing
- ☐ I've decided on the brand/model I want and am getting ready to buy

Q: How involved were you in selecting your car?

- ☐ I was the sole decision-maker
- ☐ I shared the decision-making responsibility with someone else
- ☐ I was not at all involved in the decision-making

Q: Who was the decision-maker in selecting your car?

- ☐ I was the sole decision-maker
- ☐ I shared the decision-making responsibility with someone else
- ☐ I was not at all involved in the decision-making

- Use precise words and phrases.
- Make sure the question stem and the answer choices match each other.

I routinely read the labels for packaged food items to know the ingredients.

I am concerned about my health, so I often take vitamins.

In the past 4 weeks, did your medical condition prevent you from living as you wanted by causing swelling in your ankles?

I enjoy athletic activities.

➤ Make sure the question is really asking only one question.

I enjoy athletic activities

Better to task separately:

- I enjoy watching athletic activities
- I enjoy participating in athletic activities

- Make sure your question is really asking only one question.
- Make sure concepts are clear and concrete.

Group B (n=400)

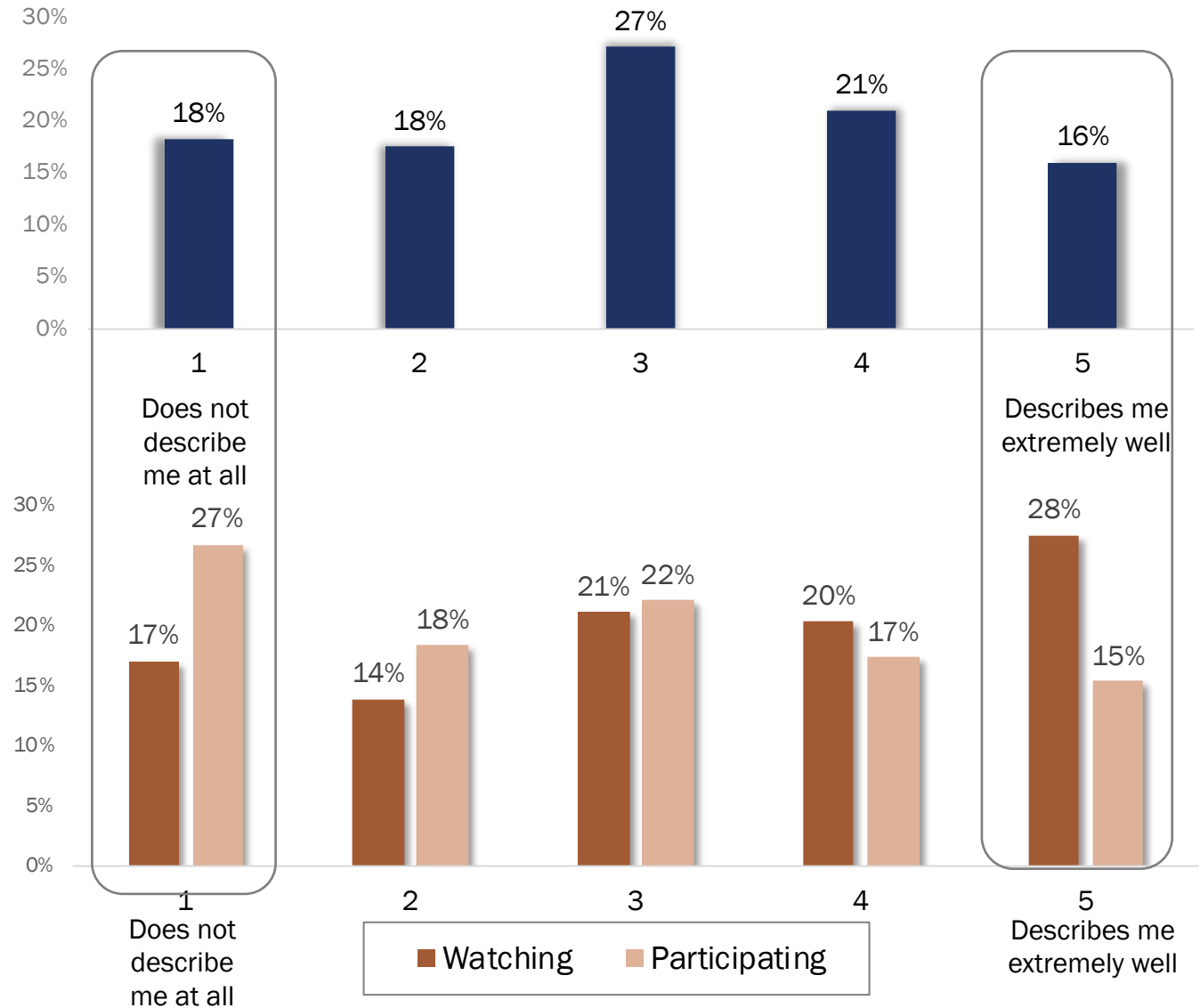
How well, or not well, do each of the following statements describe you?

- I enjoy athletic activities

Group C (n=400)

How well, or not well, do each of the following statements describe you?

- I enjoy watching athletic activities
- I enjoy participating in athletic activities



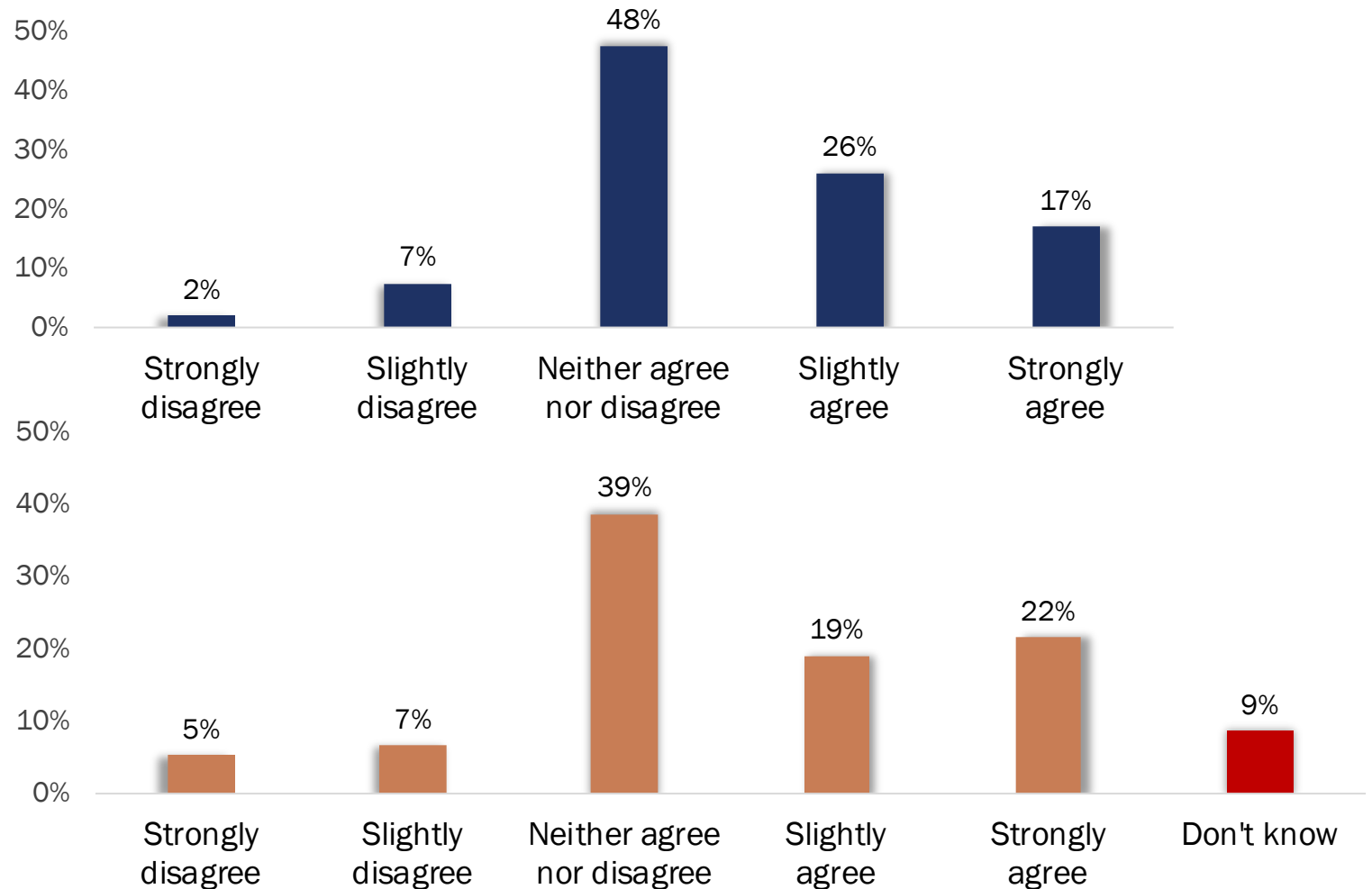
Group A

How much do you agree or disagree with each of the following statements?

Group C

How much do you agree or disagree with each of the following statements?

I support hydroponic growing of fruits and vegetables



- Don't ask people to rate things they don't know anything about.
- Screen people into, or out of, knowledge questions.

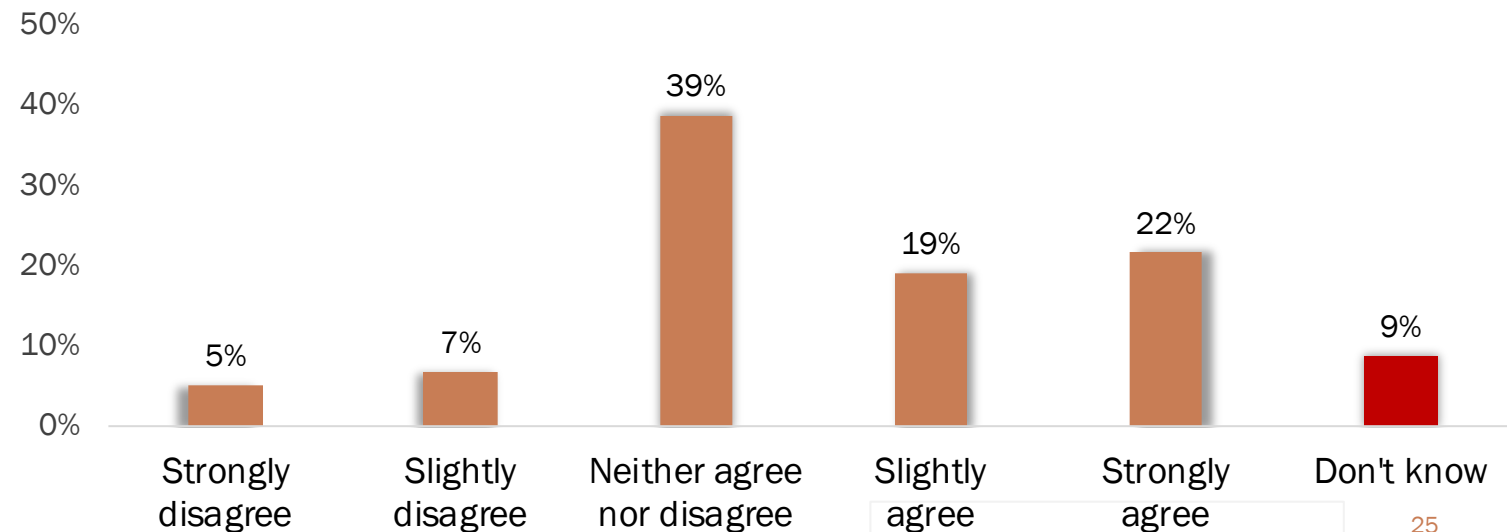
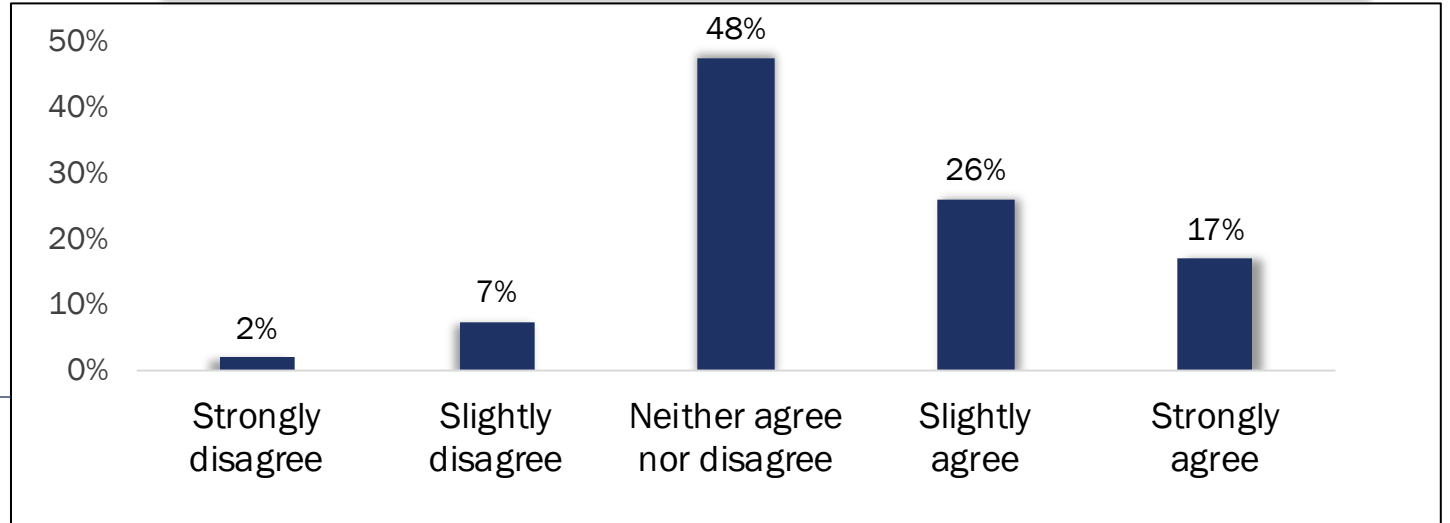
Later in survey, we asked:

Group A (n=400)

Do you know what the phrase, "hydroponic growing of fruits and vegetables," means?

Yes 57%
No **43%**

I support hydroponic growing of fruits and vegetables



Group A (n=400)

Full Filter

In the past 30 days, have you purchased any organic produce (fruits and/or vegetables)?

Yes	54%
No	46%

Group B (n=400)

Partial Filter

Thinking about the produce (fruits and/or vegetables) you have purchased in the past 30 days, about what percent was organic?

None	24%
Less than 25% of my purchase	39%
25-50% of my purchase	26%
51-75% of my purchase	8%
76-99% of my purchase	2%
100%	0%

➤ Know that full filter and partial filter questions will give different answers.

If “Not sure” is a Legitimate Answer Choice, Offer it as an Option

Group A (n=400)

Do you plan to purchase any organic produce (fruits and/or vegetables) in the next 30 days?

Yes	66%
No	34%

Group B (n=400)

Do you plan to purchase any organic produce (fruits and/or vegetables) in the next 30 days?

Yes	50%
No	21%
Not sure	29%

- Make sure the list includes all possible answer choices.
- When using a full-filter question, add “Not sure” when appropriate.

V1. Which of the following best describes your mindset for the type of truck you are shopping for?

- ☐ I am only shopping for a new truck
- ☐ I am primarily shopping for a new truck but considering a used truck
- ☐ I am primarily shopping for a used truck but considering a new truck
- ☐ I am only shopped for a used truck
- ☐ Not sure

V2. Are you shopping for a...

- ☐ Used truck only
- ☐ Used truck but will consider a new truck
- ☐ New truck but will consider a used truck
- ☐ New truck only
- ☐ Not sure

More conversational,
direct, easier

- Ask the question as if you were talking to someone
- Make the question as easy as possible.
- Use the question stem to point to the answer choices.

Q: How would you rate your health?

- ☐ Excellent
- ☐ Very good
- ☐ Good
- ☒ Fair
- ☐ Poor

Make sure bipolar scales are balanced.

Improved option A:

Q: How would you rate your health?

- ☐ Very good
- ☐ Good
- ☒ Fair
- ☐ Poor
- ☐ Very Poor

Improved option B:

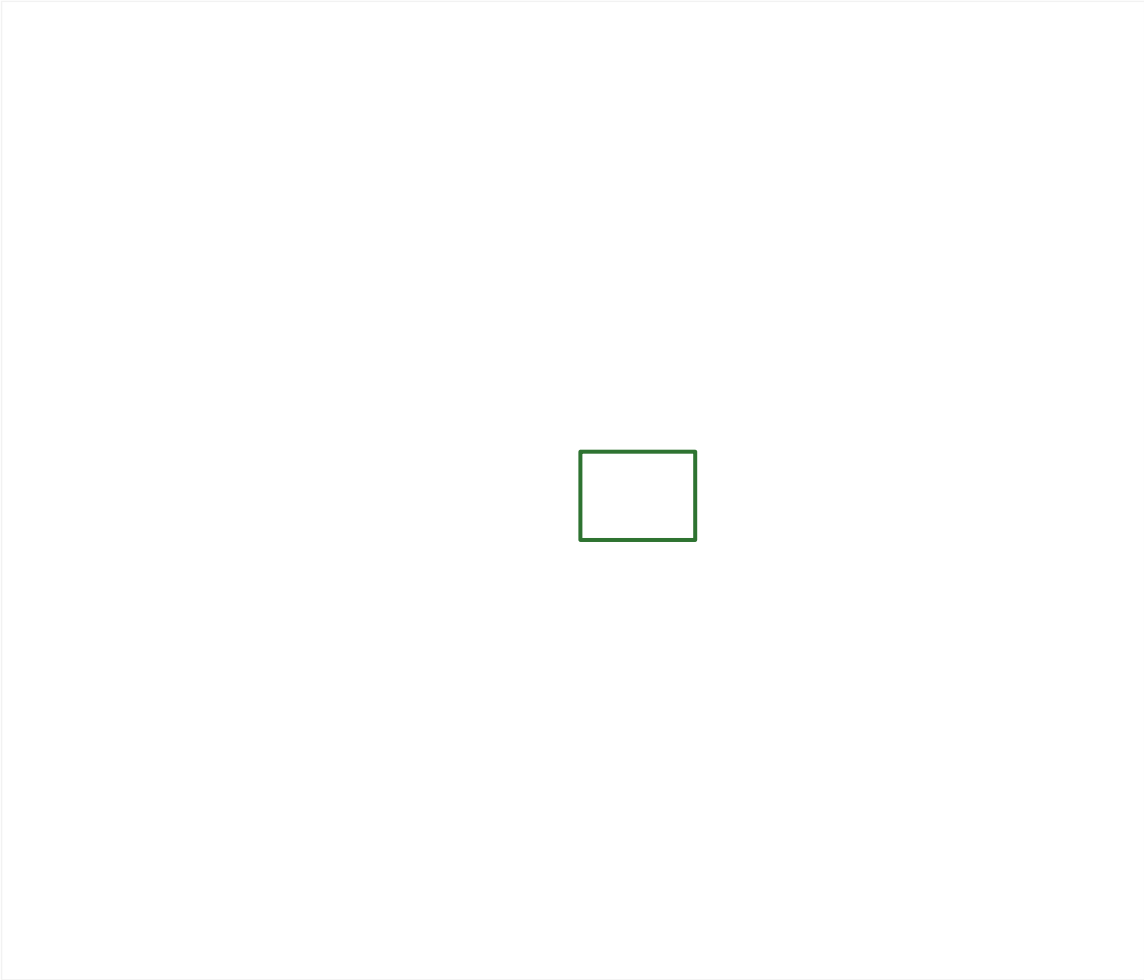
Q: How would you rate your health?

- ☐ Extremely good
- ☐ Very good
- ☐ Good
- ☒ Fair
- ☐ Poor
- ☐ Very poor
- ☐ Extremely poor

Use balanced scales

Q: How would you rate the quality of healthcare in the United States?

Unbalanced Scale Group A (n=400)	
Excellent	2%
Very good	16%
Good	37%
Fair	32%
Poor	13%



How satisfied were you with this purchase experience, where 1 = Not at all satisfied and 7 = Very satisfied.

1. Not at all satisfied
- 2.
- 3.
4. Neutral
- 5.
- 6.
7. Very satisfied

1. Not at all satisfied
2. Slightly satisfied
3. Somewhat satisfied
4. Moderately satisfied
5. Satisfied
6. Very satisfied
7. Extremely satisfied

How satisfied or dissatisfied were you with this purchase experience, where 1 = Very dissatisfied at all and 7 = Very satisfied.

1. Very dissatisfied
2. Dissatisfied
3. Somewhat dissatisfied
4. Neutral
5. Somewhat satisfied
6. Satisfied
7. Very satisfied

Effect of Items on the List

Q: Which of the following reasons, if any, best captures why you purchase organic produce?
Please select all that apply.

reasons	Group A n=400	Group B n=400
No pesticides	58%	--
Healthier	55%	--
Non-GMO	42%	45%
No hormones	42%	43%
To avoid artificial ingredients	41%	50%
Fresher	39%	39%
Support local farmers	35%	42%
Taste better	34%	36%
More nutritious	31%	39%
Better for environment	30%	34%
Sustainable	16%	18%
They are reliably inspected	14%	15%
Recommended by my doctor	3%	4%
Other (Please specify)	4%	4%

Open or Closed-ended Questions?

Q: There have been a lot of national and world events and changes over the past 50 years...Would you select/mention one or two such events or changes that seem to you to have been especially important?

	Closed-ended	Open-ended
World War II	23%	14%
Exploration in space	16	7
Assassination of J. F. Kennedy	12	5
Invention of the computer	30	1
The Vietnam War	14	10
All other responses	5	52
Don't know	0	11
	100	100

Sources: University of Michigan Survey of Consumer Attitudes, July and August, 1986
Schuman, Method and Meaning in Polls and Surveys, 2008

Closed-ended Questions

We have respondents *focus their “attention on specific responses chosen by the investigator”*

Open-ended Questions

We ask respondents to write down what is *readily available in their minds* *

Cognitive Probes

Cognitive Probe	Example
Comprehension / Interpretation	What does the term <i>outpatient</i> mean to you?
Paraphrasing	Can you repeat the question in your own words?
Confidence Judgment	How sure are you that your health insurance covers drug and alcohol treatment?
Recall Probe	How do you remember that you went to the doctor five times in the past 12 months?
Specific Probe	Why do you think that cancer is the most serious health problem?
General Probes	How did you arrive at that answer? Was it easy or hard to answer? I noticed that you hesitated. Tell me what you were thinking.

Source: Gordon B. Willis, *Cognitive Interviewing: A Tool for Improving Questionnaire Design* (Thousand Oaks, CA: Sage Publications Inc., 2005).

Cambridge Pulmonary Hypertension Outcome Review (CAMPHOR)

Please read each statement carefully and decide if it applies to you today.

I feel completely exhausted	Yes	No
I often feel anxious	Yes	No
I rarely feel happy	Yes	No

“I am often anxious, but not today.
How do I answer this question?”

“I was happy today, but that is unusual. I checked
”no” because I thought you wanted to know how I
usually feel.”

Pretesting the Questionnaire

people your age
Do you think ~~young people~~ who smoke cigarettes have more friends?

- ☐ Definitely yes
- ☐ Probably yes
- ☐ Probably not
- ☐ Definitely not

Who has more friends?

- ☐ People your age who smoke cigarettes?
- ☐ People your age who do not smoke cigarettes?
- ☐ People your age who smoke cigarettes and those who do not smoke cigarettes have the same number of friends?

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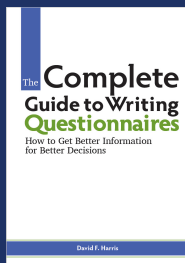
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