

Recitation 4: Survey Design

(a dash “-“ indicates student responses)

Survey Design and taking measurements

I hope you have prepared for class today.

Do you wake up thinking about measurement in surveys? Does it not make you jump out bed?

Today, we will write survey questions. Sit next to someone.

Can how a question is phrased influence the response?

How could we influence the prediction - if bush or Kerry will be elected?

Don't sit in the last 4 rows, as we agreed

Here is what I want you to do:

Make up a survey question to ask anything you want to know about MIT students. Do not use a y/n format. Write down your question and the response scale.

Only limit: not y/n

(waits a couple of minutes.)

What is your question and the response scale?

-Do you feel you are able to balance your academic and social life?

-Strongly disagree Disagree Neutral Agree Strongly agree

Turn to your neighbor and present your questions to each other. Tell them why you chose your question and your response scale

(late person walks in)

We were just discussing things that embarrass us, it is your turn...

Lecture

3 steps to answer survey Questions:

Interpret the question

Retrieve info and form judgment

Map judgment onto response scale

File Drawer view:

Attitudes are stable dispositions stored in long term memory, and you retrieve them

Constructive view:
have to create info
attitudes are constructed on the fly and computed when necessary from whatever
information comes to mind

Interpretation

What brand of soft drink do you usually buy?
A simple question to interpret, no?

All of your life? Summer and winter? Recently?
You?
Friends you buy for?
Diet Coke and Coke the same brand?

Can be interpreted in many ways.

Different people think differently about the question = variance

Questions about action are the most open to interpretation

Retrieve

How many ounces of alcohol did you consume last year?

hard to answer, not accurate

What would be a better question to ask?

Mapping

How successful in life are you 1-10? What is 10? Is 10 the valedictorian?

- Compare to bill gates
- happy self is 10
- it is where you set your expectations for yourself
- top 10% of population would be a 10

This is a very tricky topic

To design a good question, you must be certain people can:

1. Interpret the question in the way you want them to
2. Access the relevant information

How much wind have you experienced in the past week? Not a reasonable question, you won't remember.

3. Map their response onto the scale in a meaningful and consistent way within a person and across people

Scale formats

How about this (slide)
How successful have you been in life?
0 to 10
-5 to 5

-nobody wants to be negative

Negative 5 implies failure
How about 0? Should we have a 1 to 11 scale?

The response scale provides cues for the "normal" levels of behavior.

TV (slide)
How many hours a day do you spend watching TV?
Real data, 2 response scales

Difference – almost double in the >2.5 category

If you take a bathroom break in the middle, do you subtract that time?
If you eat while you are watching TV, does that count too?

The scheme is very simple, but not consistent
Why the difference?

-search to classify activities as tv

Use scale to establish a range
If I think I am slightly above average, I might choose the second category

Example:

Psychologists were given a description of a mental patient and asked the likelihood that the mental patient would commit a crime again? They were given a scale of 1%-9% or 9%-100%

Both groups answered in the middle of the range.
These were professional psychologists!

Floss (slide)

How many times in a day, 1-10?

How many times in a year, 1-10?

How likely are you to develop gum disease?

How much would you pay for a bottle of scope mouthwash?

If you answer on the left end of the scale, do you feel you need to go to the dentist?

Does the top or bottom scale affect your answer?

-top scale 10x a day not reasonable, ridiculous

But the general effect is true for the scales

Schwartz example:

Same scale, but question: how often do you masturbate?

Then asked, how happy is your love life?

To change your own interpretation of your love life is profound. You should be familiar with your own love life.

They replicated the experiment in Germany, where there are less strict guidelines

The surveyor offered her phone # if asked - those who answered that they were unhappy with their love lives asked for the number.

Reading into it, construct #s

Imagine questions that, after answering them, you are more pro Bush or pro Kerry

Surveys can create preferences, not just learn them

Actual Bush supporter Question:

How would you feel if you learned that McCain had a child by a black prostitute?

It was not true, but later a paper showed him with his adopted black child, and people took it as evidence that it was true.

Effects of scales (slide)

In many cases, it makes people reinterpret their own behavior

Importance of context (slide)

1. If jaywalk, rate how bad

2. If kill Professor, rate how bad

What do you think would happen to question 2?

-compare to question 1 badness

What is very bad is already determined by the first one.

Scale not only based on the question's scale, but also previous questions

S.O.'s (slide)

List 10 reasons you love X

Or List 3 reasons you love X

Is there a difference?

-condition 1 higher, more reasons

-condition 2 higher, can't think of enough to fill list

For most 10 is hard, people run out

Follow up: how much do you love your S.O.?

Condition 1 gave lower answers.

The process implies you should be able to come up with 10 reasons

Say I wanted a higher evaluation at the end of semester. What could I ask to change the class rating?

-list 3 reasons you love this class

-compare to a class you know they hate

-list 10 reasons you don't like this class, and they will run out

As you can see, there are a lot of possibilities for application

Another – if want people to buy BMWs

Question 1 or 2?

Vote.

2 is the answer

Constructive view of preferences

Many examples suggest people don't know their preferences

Only when you ask does it materialize.

If you ask, they give an opinion – if you stop to ask for directions, people will give directions, sometimes even if they don't know them.

Sometimes people learn about themselves from their own answer

Question Order

(Slide)

People think question 2 is correlated with the weather. Why?

-think weather, then answer
-life more positive if bad weather

Q1 actually correlated.

Interpretation of the question based on what they think you are asking

People think you would not be asking the same question a second time, that you are asking for new information

Question Order II (slide)

1st correlated, 2nd uncorrelated

Response language

People think in terms of discussion

Where are you from?

-Virginia

How is it there, scale of 1-10?

If I say 1st, “summer is coming,” you assume I want to visit

Extracting sensitive information

The more people feel they cannot trust a situation, the less likely they will give sensitive information.

Money experiment in hallway at MIT - free money: \$1, or \$5, or \$10, or \$50

The bigger the amount, the more suspicious it is, and fewer people go for it.

How can we overcome this?

Have you done x? ... (slide)

I don't mean ecstasy ☺

Extracting sensitive Information I

2 made it acceptable

3 reporting other people is easier. If the answer is yes, it is easier for you to admit.

Lots of people are sensitive, embarrassed, don't want admit things

Extracting information II

Why is this interesting?

-could lie

-obligated to answer truthfully?

Embarrassed to admit I did x

But you don't know what question I answered, who I was.

Yes to 1 or 2?

Anonymous.

Coin flip: Heads, answer y, tails answer truth.

This protects the individual response, but gets the general population answer by extracting the information statistically.

This way helps people hide, but the population level response is intact

We can backtrack the answer

Most information we ask for is sensitive

So we use workarounds

(Passes out survey),

Please look and answer as quickly as you can.

Fresh Samantha paradox

Read the readings, know them well

Types of measurement will be on the exam.

next wednesday will be a recitation.