

BROADEN THE HORIZONS SURVEYS AT NATIONAL AND INTERNATIONAL SCALE

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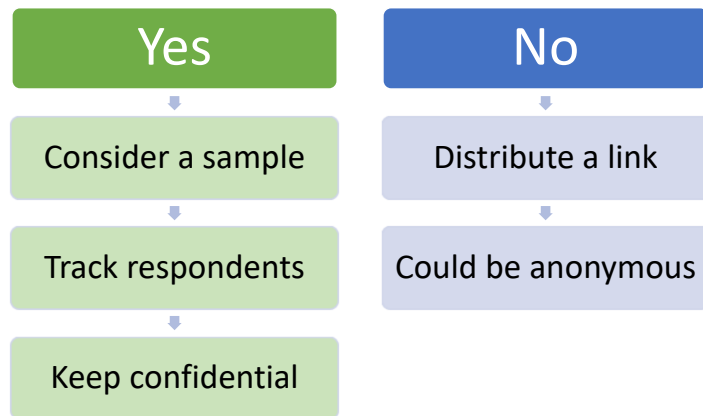
AIP | American Institute of Physics

AAPM
July 29, 2021

Contracts that AIP has done recently

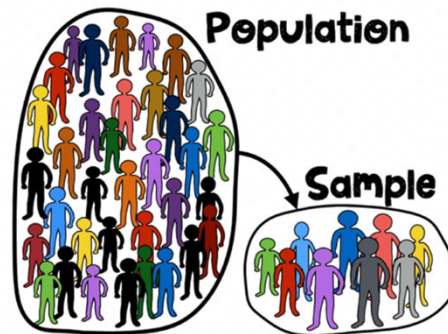
- AAPM Professional Information Survey
- AAPM Climate Survey
- AAPM Diagnostic Workforce Survey

Do you have an e-mail list?



Samples

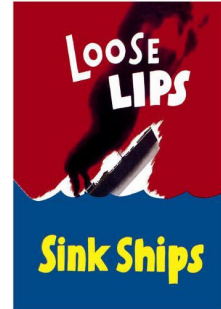
- Mathematically, if people are randomly chosen from the population, the resulting sample is representative of the population.
- There is no need to send survey to everyone to have generalizable results.
- Don't overburden people with surveys.



Politically, you may wish to have everyone see it.
Instead, you can distribute the results to everyone.
Don't overburden people with surveys.

Confidential vs. anonymous

- A survey is only anonymous if it collects NO identifying or potentially identifying information.
 - Name, e-mail, IP address
 - Certain combinations of answers can be identifying
- Otherwise, take steps to insure confidentiality.
 - Explained on the questionnaire & in cover letter.
 - Don't report $n < 5$.
 - Make sure data are stored securely.
 - Don't distribute data set without confidentiality agreements.



The quickly shrinking cell size

- Although your overall group may be large, some groups may be small.



Not these cells

Number of Respondents to the first question.

```
##      Cell Contents
##  -----|
##  |                      N |
##  |-----|
##
##  |      No |      Yes |
##  |-----|-----|
##  |      X |    2405 |
##  |-----|-----|
```

What is your primary field of study?

```
##      Cell Contents
##  -----|
##  |                      N |
##  |-----|
##
##  =====
##      Country$q2.0Tgt
## Country$q5.0Tgt  Astronomy  Biological and Related Sciences  Chemistry  Computer Science and Technology  Histor
## -----|-----|-----|-----|-----|
## Female          55          175          36          25
## -----|-----|-----|-----|-----|
## Male           134          219          59          51
## -----|-----|-----|-----|-----|
```



<https://www.freestock.com/free-photos/group-graduate-students-standing-outdoors-smiling-28177510>

What is your race/ethnicity?

The double whammy: What is your gender? What is your race/ethnicity?

Guidelines for asking about small number demographics

- These include, but are not limited to
 - Disability status
 - Sexual orientation
 - Gender
 - Race and ethnicity
- Avoid asking if number of potential respondents is small
- Only do so if essential to your research questions
 - Some people may want to self-identify
- Collapse answers into broad categories
- It may be better to use focus groups or interviews

Current AIP standards for asking gender and ethnicity for US citizens and permanent residents

What is your gender identity?

- ☐ Woman
- ☐ Man
- ☐ Another identity - *Please specify if you wish* _____

☐ Prefer not to respond

Which of the following racial or ethnic designations best describes you? *Please check all that apply.*

- ☐ American Indian or Alaska Native
- ☐ Black or African American
- ☐ Native Hawaiian or Other Pacific Islander
- ☐ Asian
- ☐ White
- ☐ Hispanic or Latinx
- ☐ Other - *Please specify* _____

☐ Prefer not to respond

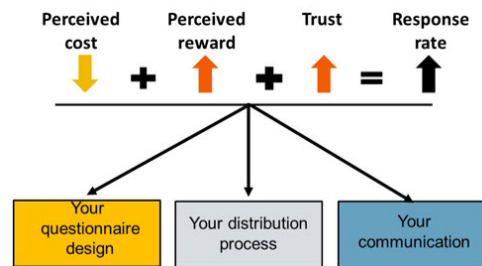
These questions should be preceded
by a citizenship question.
*Are you a US citizen or permanent
resident? Yes/No*

Other international considerations

- Check your questionnaire: Are there questions that apply only to US citizens? If so, international respondents should not see these.
- Salary: Difficult in international context
- Types of workplace vary across countries
 - Ex: research institutes and government labs may be the same thing

How to increase response rates

- Social Exchange Theory
- How can I make this easier and less time-intensive for the respondent? (Lower cost)
- How can I make this a more rewarding experience for the respondent? (Increase reward)
- How can I reassure the participants that it is safe to share information? (Increase trust)



<https://news.nnlm.gov/neo/2017/10/16/social-exchange-theory-and-questionnaires-part-1-questionnaire-design/>

Decrease cost



- Only ask questions that help you achieve the goals of the survey.
- Make questions easy to answer. Put easier questions at beginning. Therefore, put open-ended questions toward the end of the questionnaire.
- Make questionnaire visually appealing. (Don Dillman's books)

From the list below, choose the best way of decreasing the perceived cost of completing a questionnaire

- A. Make the questionnaire short
- B. Combine questions so that there are fewer numbered questions
- C. Ask questions that help you achieve the goals of the questionnaire
- D. Intersperse open-ended questions throughout the questionnaire

5. Excluding postdocs or grad students, on March 1, 2020, how many of the physic

	Number of Men	Number of Women	Number of Another gender identity	Number of Unknown gender identity
Full professors	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Associate professors	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Assistant professors	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Instructor/Adjuncts	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Other	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

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Assistant professors	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Instructor/Adjuncts	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Other	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

Increase trust

- Assure respondents that you will keep responses confidential and secure.
- State your intention to share results with the respondents.
- Do not ask questions unless you can act on the results.
- Send a pre-notice, stating purpose and links to previous results, project site, if available.



Increase reward

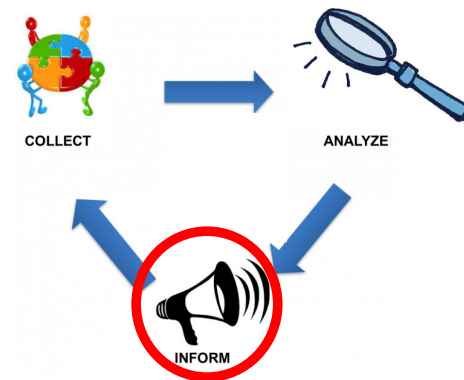
- Ask interesting questions that the respondent will want to answer. Therefore, demographic questions are at the end.
- Consider an incentive. Advance tokens of appreciation work better than raffles or drawings.
- Write a cover letter that tells respondents how answering is important to them.

How to write a cover letter

- Personalize.
- Do not start with “Researcher at prestigious institution is conducting a survey.”
- Instead “We are inviting you to help measure the health of the job market.”
- Tell respondents how the answers will be used, so they feel that by answering the question they are being helpful (for example “Results will be used by graduate students as they search for jobs.”)
- Minimize number of links. Ideal is only one link--to questionnaire.
- Give contact information in case of questions.
- Use subsequent cover letters to address questions that have come up.
- State that it’s confidential and voluntary.
- Show appreciation: Thank you.

Reporting

- Should follow naturally from the goals you set for the survey.
- Researchers should be accountable to the respondents.
- Without informing respondents, data collection will ultimately not succeed.





THANK YOU!

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