

Survey Design 101

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What if...

...there was a way to collect representative data from a large population to accurately evaluate programs and ideas?



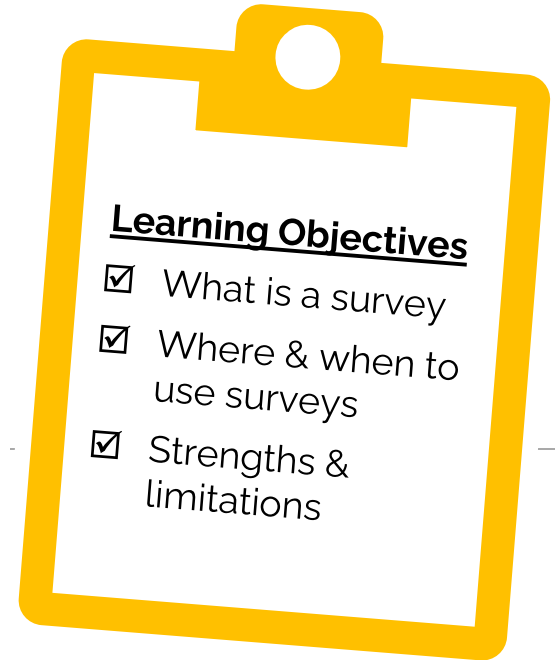
Agenda & Objective

Objective: Provide an introduction to when and where to use surveys, and share tips for best practices in survey design.

How to...	#
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How to Decide Whether to Use a Survey





What is a Survey?



A **survey** is a method of gathering information from a sample of people

The **goal of a survey** is to collect high-quality data that allows you to draw accurate conclusions/insights, often about a larger population



Surveys can be **conducted** face-to-face or over the phone, or **self-administered** with paper and pencils or online



When Should I Use a Survey?



When you want to learn more about a population's **beliefs, attitudes, and/or self-reported behaviours**

When you want to gain **broader insight** into how certain operations or groups work



When you want to **complement in-depth interviews** with insights from a larger population



What are the Strengths/Limitations of Using Surveys?

Strengths

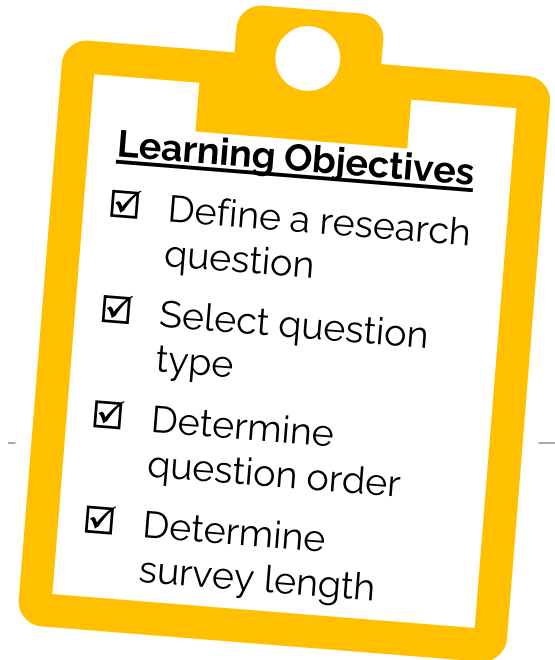
- ✓ Collect data from a large sample
- ✓ Capture broad trends
- ✓ Capture personal experiences, motivations, thoughts, etc.

Limitations

- × Self-report bias
- × Risk of poor data quality
- × Shallow insights

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How to Design a Survey



Define a Research Question.

Surveys are valuable research tools but are best suited to answering certain types of **research questions**, such as asking about preferences, amounts, frequencies, or self-reported experiences, motivations, and perceptions. Surveys are also useful for generating lists as answers to research questions (e.g., of potential services, barriers).

- The **research question** is the guiding question(s) that your survey seeks to answer
- Any question asked in your survey should support the research question
- Your survey should seek to answer your research question in the most direct and concise way possible

Research Question Examples

- What are the barriers that our clients face when completing this process?
- Why is uptake of this program lower than where we want?
- What are the values and preferences of the target population?

Select a Question Type

for collecting data on frequency, preference, etc. of pre-defined items.

Multiple Choice

What is your favourite colour?

Red

Blue

Green

- ✓ Very basic form of data collection
- ✓ Less data processing required

Multi-Select

What are your symptoms?

Runny nose

Cough

Headache

- ✓ Allows for selection of multiple pre-defined options
- ✓ Less data processing required

Matrix Table

Do these statements apply to you?

	Yes	No
I am employed	<input checked="" type="radio"/>	<input type="radio"/>
I work in Ontario	<input checked="" type="radio"/>	<input type="radio"/>
I am married	<input type="radio"/>	<input checked="" type="radio"/>

- ✓ Allows multiple related or similarly-formatted questions to be answered together

Common Mistakes

- × Leading/ambiguous language
e.g., How short was Napoleon?
- × Asking more than one question at a time
e.g., How happy are you with your pay and work benefits
- × Non-mutually-exclusive response options
e.g., How old are you? 20-30 years old, 30-40, etc.
- × Failing to cover all response options
e.g., No "None of the above" or "Other" options

Select a Question Type

for collecting responses on a graduated scale.

Rating Order

How satisfied are you with your experience?

Extremely dissatisfied	Somewhat dissatisfied	Neither satisfied nor dissatisfied	Somewhat satisfied	Extremely satisfied
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>

- ✓ Captures “in-between” and middle responses
- ✓ Captures more accurate and nuanced responses

Slider

Estimate what percentage of your social contacts have Facebook accounts.

Percentage of social contacts

0 10 20 30 40 50 60 70 80 90 100

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- ✓ Captures “in-between” and middle responses
- ✓ Intuitive format for numerical responses

Tips for Scale Points

- ❑ Fully label your scale
- ❑ Evenly space your scale points
- ❑ Provide a middle scale point
- ❑ In most cases, use 5-7 scale points

Select a Question Type

for more detailed responses/qualitative data.

Text Entry

How could your experience have been improved?

- ✓ Detailed, personalized responses
- ✓ Qualitative data (limited)
- ✗ Time-consuming and difficult to code and analyze qualitative data, especially if you have a large sample
- ✗ Participants may not provide detailed or clear answers – no opportunity to follow-up



Text entry questions in surveys can provide some supplementary qualitative data, however surveys are designed to collect more straightforward information from a larger population. **In certain situations, in-depth interviews may be more appropriate.**

Determine Question Order.

Question Order Bias: respondents may answer questions a certain way depending on how they are ordered.

Bias	Effect of Question Order	Example	Solution Examples
Consistency Bias	Respondents try to provide answers that seem fair, even, and consistent	<ol style="list-style-type: none">1. Does [your school's] sports team deserve more funding?2. Does [your rival school's] sports team deserve more funding?	<ul style="list-style-type: none"><input type="checkbox"/> Be aware of these biases<input type="checkbox"/> Demographic questions at the end to avoid priming bias<input type="checkbox"/> Ask for self-reported behaviours before attitudes, beliefs, etc.<input type="checkbox"/> Randomize questions (including response options) where appropriate
Interpretation Bias	Respondents interpret a question's meaning a certain way	<ol style="list-style-type: none">1. How often do you go to the doctor?2. How well do you take care of your health?	
Priming Bias	Respondents are pre-disposed to answer a question in a particular way.	<ol style="list-style-type: none">1. What is your gender?2. Do you have an interest in math and sciences?	

Determine Survey Length.

Respondents' willingness to take a long survey is influenced by:



Motivation



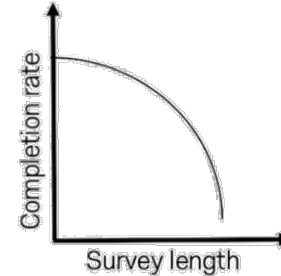
Incentives



Question type

Surveys that are too long can result in:

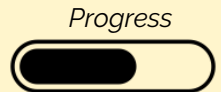
- Respondent drop-off
- Inattentive responses



To encourage survey completion:



- **Be transparent** about survey length in the welcome page/survey introduction and during participant recruitment
- **Include a progress bar** to prevent participants from getting discouraged and to motivate them to “finish what they started”



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How to Recruit Survey Participants



Recruit Participants.

Consider recruiting a **randomized representative sample** from your population by sending emails via trusted messengers, posting advertisements, etc.

In government, survey research can be done with participants who have an existing relationship with the program/service owner (e.g., partner ministry), or participants may be recruited from the general population:

Within government

- Feedback within government may not require compensation, but may require approvals (e.g., to survey program contacts, etc.)

General Population

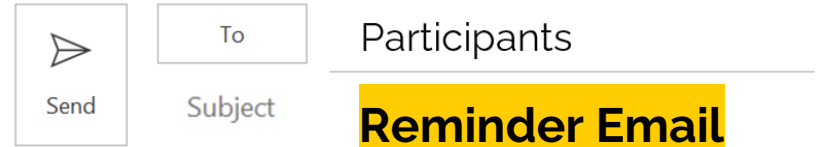
- **Paid panels** can be accessed via survey providers and can help capture data from targeted populations of interest
- Other recruitment methods may also entail **compensating participants**

Administer Survey.

Consider recruiting a randomized representative sample from your population by **sending emails via trusted messengers, posting advertisements, etc.**



- Send via trusted messenger
- Explain purpose/benefit of survey
- State survey length, deadline, and incentives
- Include accessible, salient survey link
- Keep the email short and bold important information



- If responses are low, send a reminder email after a week or two, or closer to the deadline*
- Restate benefit of survey/participation
 - Restate length, deadline, and incentives
 - Include accessible, salient survey link
 - Short and clear instructions

End Data Collection.



Determine a response “**deadline**” for when you want respondents to have completed the survey – make this deadline salient when administering the survey

Regularly monitor responses – if you are not on track to collect enough responses, you can send reminder emails and/or extend the deadline



End data collection once you have obtained the desired number of responses

4

How to Plan for Your Results



Data Considerations.

The kind of data analysis required often depends on the questions types you use.

Response Type	Data Type	Analysis	Result Outcome
Multiple choice or numerical	Quantitative	High level trends can be deciphered quickly using averages and statistical tests	Generalizable to the larger population
Open-text	Qualitative	More time is required to code open-text fields individually before analysis	Provides detail/insight into individual experiences



Graphs and visuals can offer high level summaries for multiple choice/multi-select questions. Visuals should be accompanied by a narrative or a few sentences describing the trend.



Pre-test your survey on a handful of colleagues and look at the sample dataset so you can see how data outputs will be formatted etc.

Quantitative Dataset Example.

How would you rate your understanding/knowledge of surveys?	Do you use surveys in your work?	What types of surveys do you administer as part of your current work?	What types of surveys are you looking to administer as part of your future work?
2	Yes	Program and operations evaluation; Client satisfaction and feedback;	Client satisfaction and feedback; Program and operations evaluation;
3	Yes	Program and operations evaluation; Client satisfaction and feedback; Event or program administration;	Unsure;
3	Yes	Event or program administration;	Unsure;
3	No		Unsure;
3	No		Program and operations evaluation; Event or program administration; Unsure;
	Yes	Event or program administration;	feedback; Program and operations evaluation;
3	Yes	Program and operations evaluation;	Program and operations evaluation; Client satisfaction and feedback;



Interpret quantitative data by calculating **averages** or the **frequency** of different responses. It is sometimes useful to transform data into numerical information (e.g. No = 0, Yes = 1). In more complicated surveys, an understanding of different **statistical tests** will often be necessary (e.g. to calculate statistical significance of results).

Quantitative Data Visualization Examples.

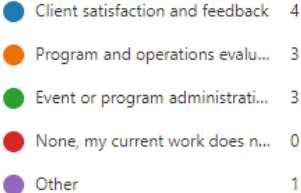
2. Do you use surveys in your work?

[More Details](#)



3. What types of surveys do you administer as part of your **current** work?

[More Details](#)



4. What types of surveys are you looking to administer as part of your **future** work?

[More Details](#)

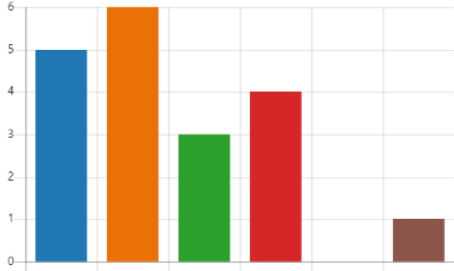
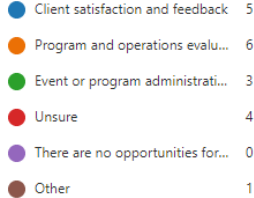


Figure 1. For each presented survey type/answer option, this figure depicts the number of people who selected each option.



Quantitative data can be presented in visual formats using pie charts, bar graphs, line graphs, etc. Make sure to include a legend, title, short description, and any other important descriptive information.

Qualitative Data Example.

What do you hope to learn from this Introduction to Survey Design session?

- Respondent 1: *"Common survey mistakes"*
- Respondent 2: *"I'd like to learn best practices for phrasing questions and answers to ensure valuable data can be derived from the survey"*
- Respondent 3: *"how to make the design for any survey and how to collect the survey results at the end to summary the overall finding"*



Qualitative data requires coding of each individual response in order to identify **common themes** in relation to what you are asking.

- For example, common themes in the answers above may be coded as *"survey design," "data collection,"* and *"common mistakes."* After coding, researchers can determine how often different themes appear in qualitative data.

Qualitative data can be used to **identify gaps** in your survey/data and to see how people are framing information for themselves.



Next Steps



Get Started with you Own Survey!

- **What questions do you think surveys can help you answer?**
- For simple surveys, consider a free survey builder like [Microsoft Forms](#)
 - These survey builders have limited capabilities but are effective for collecting simple data through shorter surveys
- For more complex surveys, paid services may be more appropriate



Thank you

