

Survey design in health promotion

William Lai, Strategic Research Officer

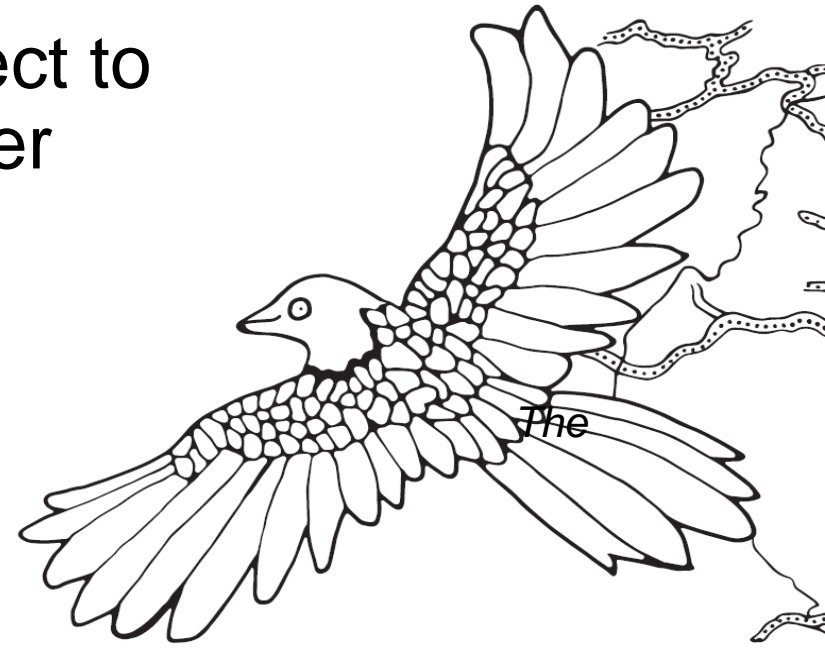
Jacinta Martin, Community Projects Officer

Acknowledgment

Moonee Valley City Council respectfully acknowledges the traditional custodians of this land - the Wurundjeri people of the Kulin Nation, their spirits, ancestors, elders and community members past and present.

Council also extends this respect to Elders and descendants of other Aboriginal peoples here today.

Artwork: Judy Nicholson
Myth of the Rainbow, 2015



Introduction

Topics

- Preparation
- Sampling
- Data collection methods
- Survey design
- Analysis and reporting
- Questions

Introduction

Why conduct a survey?

Good for collecting information about:

- Behaviours
- Needs
- Attitudes
- Opinions
- Awareness

Preparation

Guiding questions

- What do you want to know?
- Why do you want to know this information?
- What are you expecting to find out?
- How will this research link to broader objectives?
- How will you use the information?
- Are there any existing data sources?

Preparation

Other sources of data – publicly available

- Pre-existing sources:
 - [Victorian Population Health Survey](#)
 - [VicHealth Indicators Survey](#)
 - [AODStats from Turning Point](#)
 - [Australia's Health Tracker \(AHPC\)](#)
 - [Public Health Information Development Unit \(PHIDU\)](#)
 - [Australian Bureau of Statistics](#)
 - [Community Indicators Victoria](#)

Preparation

Other sources of data – internal sources

- Program data
 - Enrolment
 - Attendance
- Focus groups
- Interviews
- Observations
- Spatial data
- Other previous research

Preparation

Other things to consider

- Introduction/cover letter
- Background information
- Privacy legislation
- Ethical considerations
- Reminders
- Incentives

Sampling

Questions

- Who are you going to survey?
 - Who is your population?
 - Who is the sample?
- What methods are you going to use?
- How likely are people to respond to your survey?

Sampling

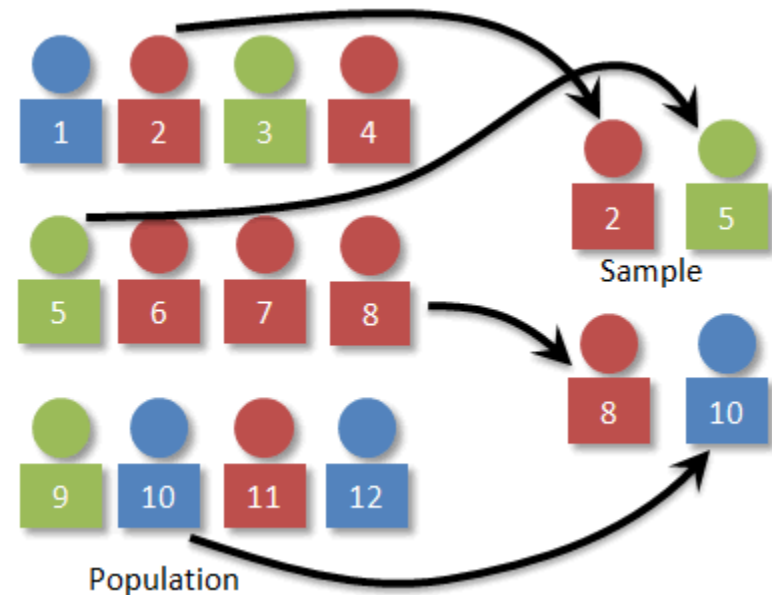
Common sampling methods

- Random
- Systematic
- Stratified
- Self-selection
- Snowball

Sampling

Random

- Same probability of being selected
- Need a list of people or addresses



Sampling

Systematic

- Similar to random, but spread along list

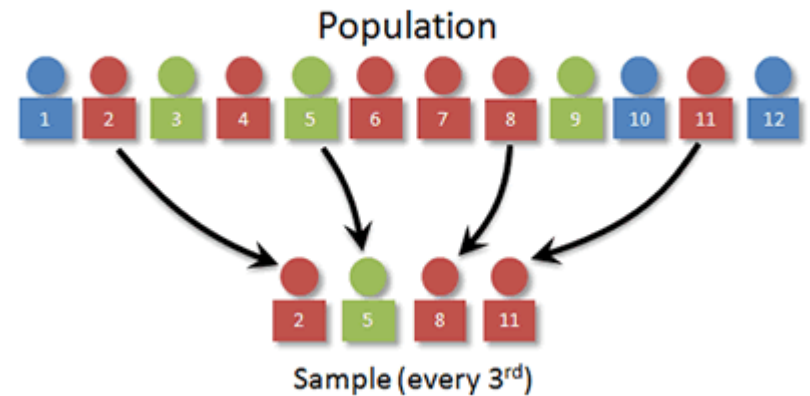
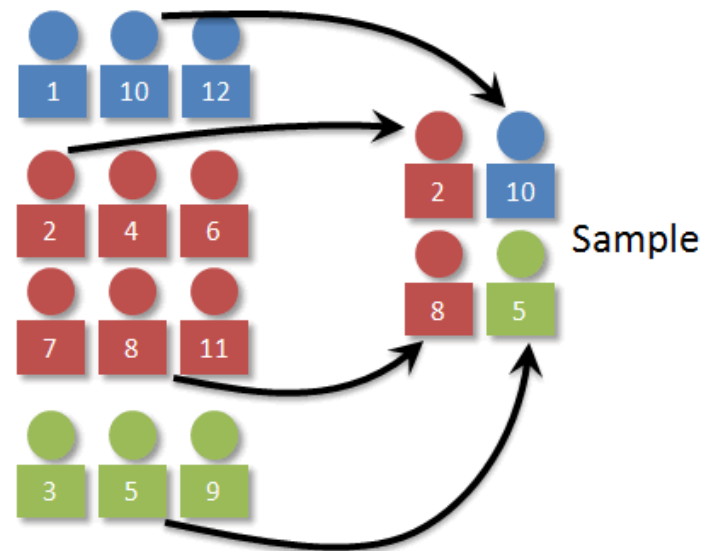


Image: <https://faculty.elgin.edu/dkernler/statistics/ch01/1-4.html>

Sampling

Stratified

- Based on attributes e.g. age, gender, language
- Includes groups that might otherwise be missed
- Need to know composition of groups



Sampling

Self-selection

- Self-chosen e.g. on public online survey
- People are more willing to provide information if interested
- Not necessarily representative

Sampling

Snowball sampling

- Survey by referral
- For groups that are difficult to identify.
- Not necessarily representative.

Data collection methods

Distribution

What is the most appropriate method to choose for your particular research method?

- Face to face
- Telephone
- Post
- Online

Data collection methods

Face to face

- More opportunity to explain research
- Higher response rate
- Resource intensive
- Data entry

Data collection methods

Telephone

- Quicker and cheaper than in person
- Clarify questions
- More likely to have refusals
- Need telephone lists – mobile phones
- Data entry

Data collection methods

Post

- Lower response rate
- Larger sample required
- Cover letter to explain purpose
- No control over responses
- Data entry

Data collection methods

Online

- Lower response rate
- Lower cost
- Use of social media to target
- Automatic data entry
- Flexible design – logic

Survey design

What to have

- Specific questions
- Plain language
- Start with higher interest questions

Survey design

Things to think about

- Need to know v want to know
- Question type
- Question order
- Relevance of questions
- Don't assume that everyone has an answer



Survey design

Quantitative questions

- Fixed choice
 - radio button
 - checkbox
 - dropdown
- Ranking/scale questions

Radio Button

1. Are you a US citizen?

- Yes
 No

Check Box

2. Please check the applications you are proficient in:

- Word
 Excel
 PowerPoint
 Photoshop
 Illustrator
 WordPress
 Google Analytics

Drop Down

3. Which social media sites do you manage?

Likert Scale

4. How satisfied are you with your current work/life balance?

Very Dissatisfied Dissatisfied Neutral Satisfied Very Satisfied

Image (and guide): https://cdn2.hubspot.net/hubfs/2310514/WWW_Form_PDF_Downloads/SurveyGizmo_Ebook_Quantitative_Questions_Guide.pdf

Survey design

Quantitative - Fixed choice

- Set answers (possibly with 'other' option)
- Easy to analyse
- May miss important information

Survey design

Quantitative - Ranking (e.g. Likert scale)

- E.g. rank from 'very good' to 'very poor' or scale from 1-5.
- How many choices?
- Make sure that the scale matches the question
- Use of 'neutral' choice
- Use of 'Can't say' choice
- Best suited to measuring attitudes

Likert scale examples:

<http://www.marquette.edu/dsa/assessment/documents/Sample-Likert-Scales.pdf>

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4126910/>

Survey design

Qualitative questions

- Open ended (also fixed choice with 'other' option)
 - Text boxes
 - Essay

Survey design

Qualitative

- Opportunity to express in own words
- Can be difficult to interpret or analyse
- Responses may provide new directions for research
- Responses usually reported on by theme

Survey design

Demographic questions

- Do you need identifying information?
- What will you use it for?
- Grouping v specific
 - e.g. What is your age?
 - Age group (0-17, 18-24, ...)
 - 20

Survey design

Specific questions

- Have you had soft drink recently?
- Have you had soft drink in the last seven days?

Survey design

Leading questions

Bad:

- Are you doubtful that the government's targets for daily fruit and vegetable consumption can be achieved?

Better

- What do you think of the government's targets for daily fruit and vegetable consumption?

Survey design

Double barrelled questions

Bad:

- Is your nose sore and congested?

Better

- Is your nose red?
- Is your nose congested?

Survey design

More considerations

- Specify unit (e.g. kg, number of drinks, minutes)
- Space for responses (correct question format)

Survey design

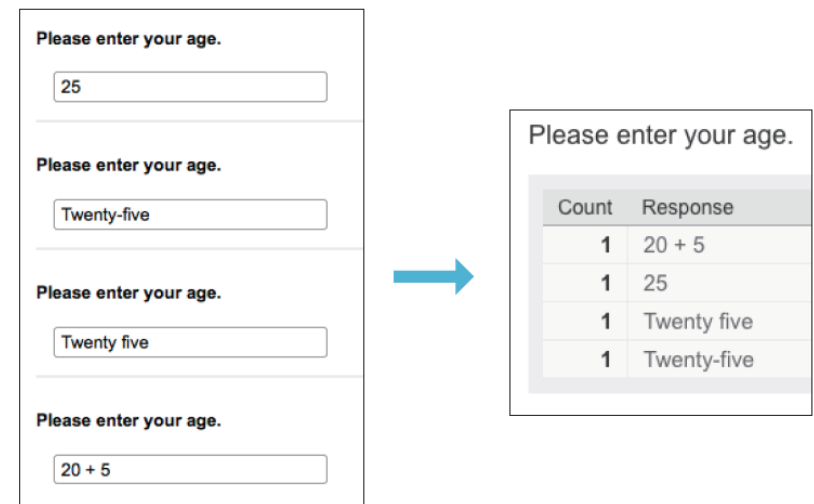
Other considerations

- Question logic
- Time to complete
- Aesthetics
- Compulsory or optional questions
- Data validation
- Translation if needed

Survey design

Sources of error

- Planning and interpretation
- Sample selection
- Survey methods
- Questions and questioning
- Respondents
- Processing
- Calculations



Info: <http://www.qgso.qld.gov.au/about-statistics/survey-methods/index.php#link4>

Image (and guide): https://cdn2.hubspot.net/hubfs/2310514/WWW_Form_PDF_Downloads/SurveyGizmo_Ebook_Quantitative_Questions_Guide.pdf

Survey design

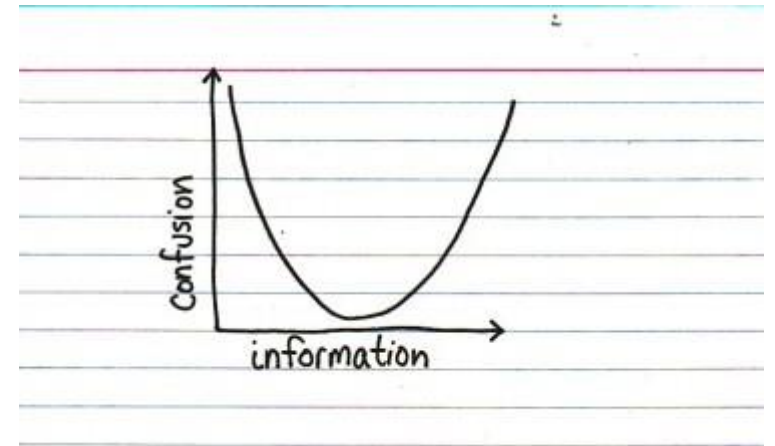
Testing

- Test your survey
- Send it to others to test
- Make changes where required

Analysis and reporting

Considerations

- Who is your audience?
- What is important?
- What formats will you use?
- How will you provide feedback to those who completed the survey?



Analysis and reporting

Preparation

- Close off the survey to new respondents
- Keep track of undelivered surveys (if any)
- Data cleaning

Analysis and reporting

Analysis

- How will you analyse the data?
- Missing data
- Quantitative data
 - Central tendency (mean, median, mode)
 - Percentages (e.g. 67 per cent agreement)
- Themes for qualitative data

Analysis and reporting

Response bias

- Only those who attended
- Only those who were happy/angry
- Only those who have email addresses
- People who complete the survey only to win the prize
- Untruthful responses

Analysis and reporting

Reporting

- Report
- Infographics
- Maps
- Interactive visualisations
- Word clouds

Analysis and reporting

Report

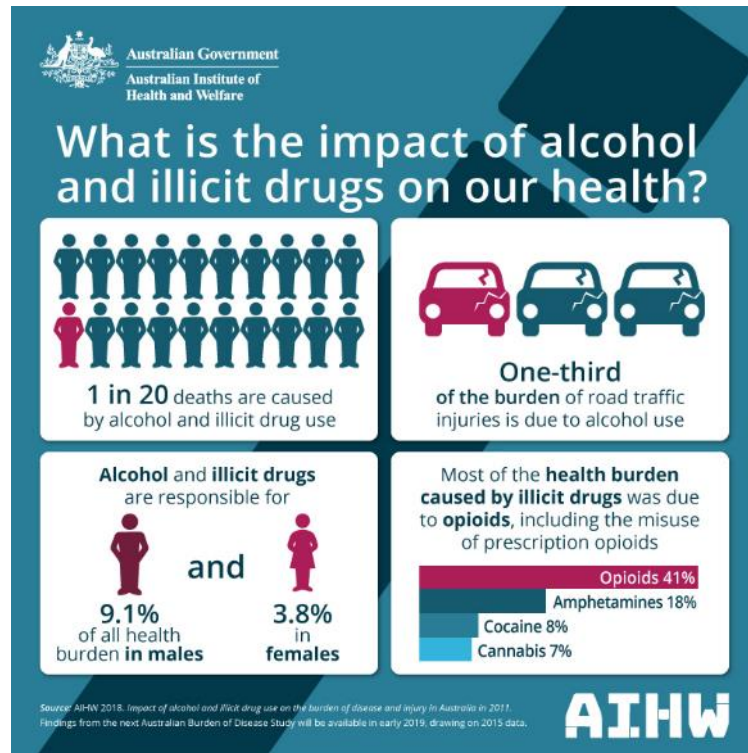
- Plain language
- Correct terminology (e.g. significance)
- Consider margins of error (e.g. Should you use 'more than half' for 51 per cent)
- Using percentages
- Comparing sub-groups
- Close the 'feedback loop'

<http://www.qgso.qld.gov.au/about-statistics/presentation/presenting-survey-results.pdf>

<http://stephanieevergreen.com/why-no-one-is-reading-your-report/>

Analysis and reporting

Infographics



<https://www.aihw.gov.au/reports-statistics/behaviours-risk-factors/alcohol/resources>

<https://www2.health.vic.gov.au/public-health/population-health-systems/health-status-of-victorians/survey-data-and-reports/victorian-population-health-survey>

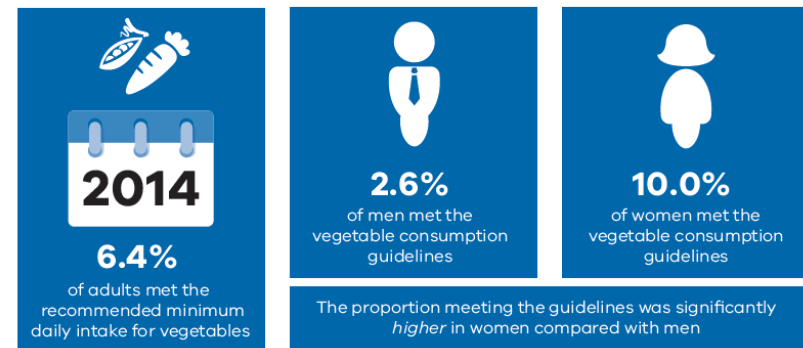
Summary of findings

The following is a summary of results from the Victorian Population Health Survey 2014.

Smoking



Vegetable intake



Summary

- Plan your survey
- Look at your target population
- Review your questions
- Collect appropriate data
- Report on findings

Additional reading

Survey methodology journal articles – open access

- <https://doi.org/10.1093/cid/cit005>
- <https://doi.org/10.1093/intqhc/mzg031>

Questions?