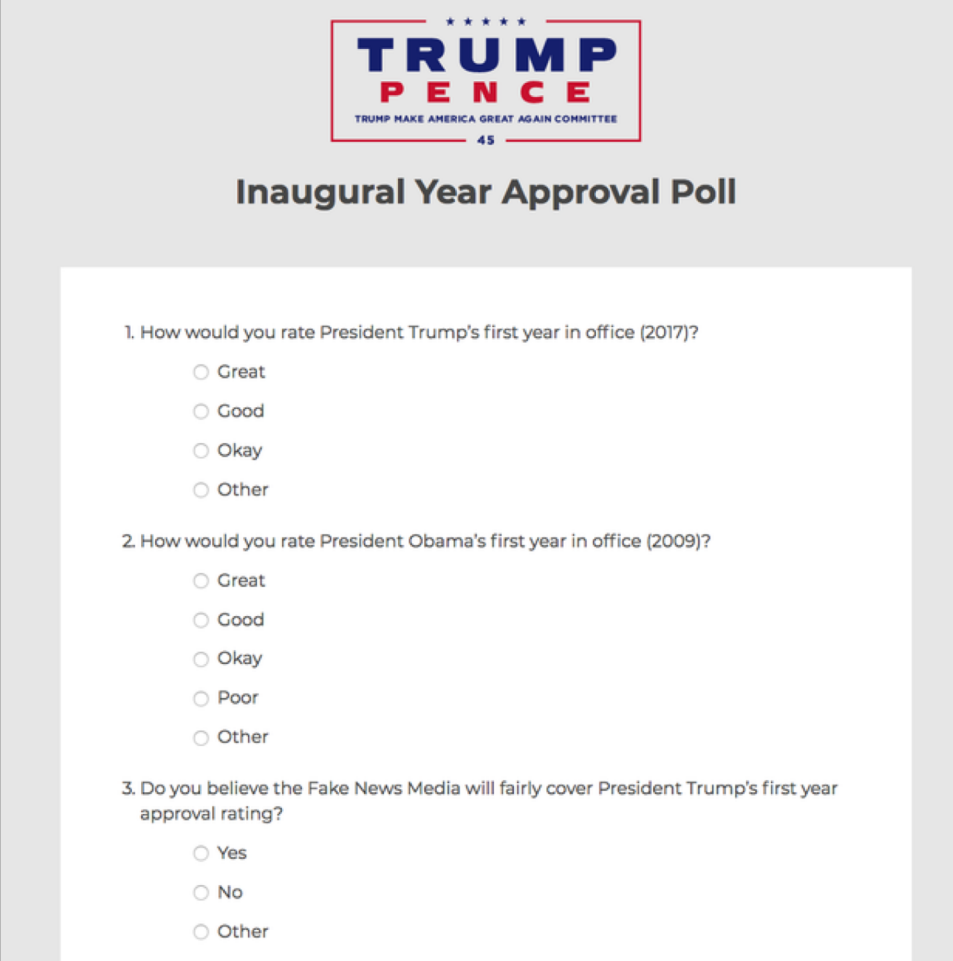


# Designing better surveys

*From Zero to Hero*

# What is wrong with this survey?



The image shows a survey titled "Inaugural Year Approval Poll" with the "TRUMP PENCE" logo at the top. The survey contains three questions, each with four radio button options. The first question asks for a rating of President Trump's first year (2017). The second question asks for a rating of President Obama's first year (2009). The third question asks if Fake News Media will fairly cover President Trump's first year approval rating.

**TRUMP PENCE**  
TRUMP MAKE AMERICA GREAT AGAIN COMMITTEE  
45

### Inaugural Year Approval Poll

1. How would you rate President Trump's first year in office (2017)?

- ☐ Great
- ☐ Good
- ☐ Okay
- ☐ Other

2. How would you rate President Obama's first year in office (2009)?

- ☐ Great
- ☐ Good
- ☐ Okay
- ☐ Poor
- ☐ Other

3. Do you believe the Fake News Media will fairly cover President Trump's first year approval rating?

- ☐ Yes
- ☐ No
- ☐ Other

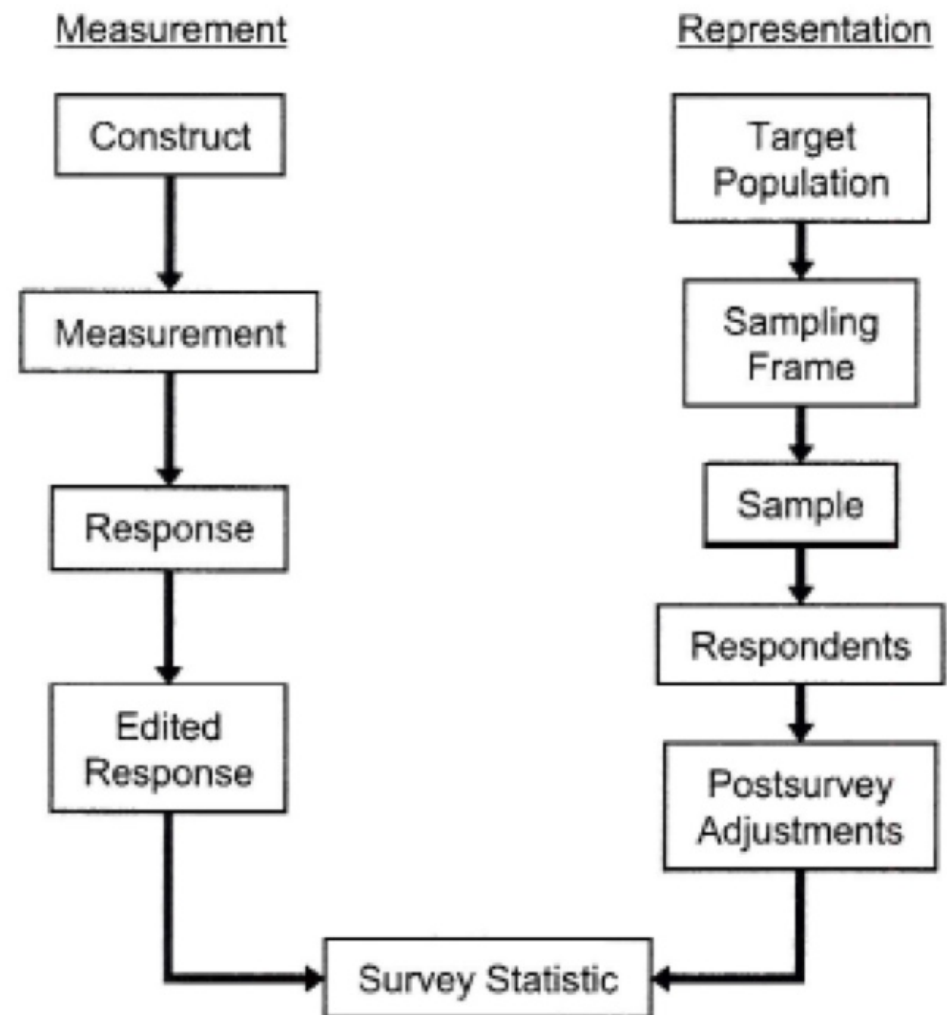
# Learning objective: less worse surveys



What I'm hoping you will leave with:

- Understand some common ways surveys can go wrong
- Introduce conventional wisdom
- Introduce fundamental principles
- Appreciate where you might need help
- Share some resources

**What we will cover and  
what we won't cover  
today**

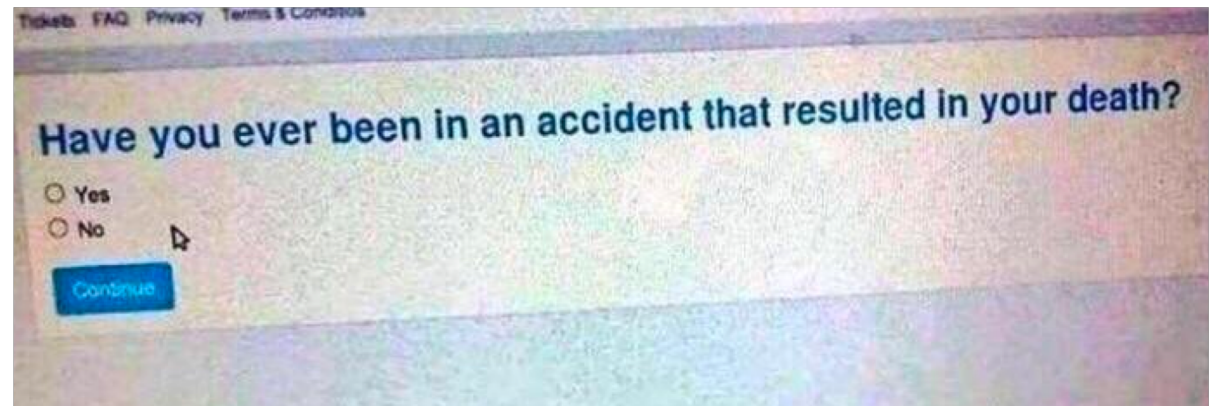




# An exercise: “Bad” survey questions

## SAMPLE QUESTIONS:

1. That day, when did you go to the cinema?  
☐ The morning, before noon  
☐ The afternoon, between noon and 5PM  
☐ The evening, between 6PM and 8 PM  
☐ The night, after 8PM
2. How do you feel about the following statement? We should not reduce military spending.  
☐ Strongly agree  
☐ Agree  
☐ Disagree  
☐ Strongly disagree
3. Where do you get most or all of your information about current events in the nation and the world?  
☐ Radio  
☐ Newspapers  
☐ Magazines  
☐ Internet
4. How useful was the conference for you?  
☐ Excellent  
☐ Very good  
☐ Fair  
☐ Poor
5. On which issues does the mainstream media do the worst job of representing Republicans?  
☐ Immigration  
☐ Economics  
☐ Pro-life values  
☐ Individual Liberty
6. How often do you exercise?  
☐ Regularly  
☐ Occasionally
7. How many cigarettes do you smoke a day?  
☐ None  
☐ 5 or less  
☐ 5-25  
☐ 25 or more
8. Do you do physical exercise, such as cycling?  
☐ Yes  
☐ No
9. People grow up in all different types of families. What type of family did you grow up?  
☐ Mum as a single parent  
☐ Dad as a single parent  
☐ Both Mum and Dad
10. How often do you visit the AES website?  
☐ This is my first time  
☐ About once a year or less  
☐ About once a month  
☐ About once a week  
☐ About every day



*Designing better surveys*

## What's wrong with these survey questions?

- Ambiguous questions
- Leading
- Double barrelled questions
- Misaligned rating scales
- Scales not mutually exclusive, comprehensively exhaustive
- Response options not aligned to question stem

5. On which issues does the mainstream media do the worst job of representing Republicans?

- ☐ Immigration
- ☐ Economics
- ☐ Pro-life values
- ☐ Individual Liberty

# How we can introduce error

- Design of questions
- Design of questionnaire
- How it is administered and to whom

Source	Bias	Source	Bias
<b>1. Question Design</b>		<b>Flawed questionnaire structure</b>	skipping question
<b>Problems with wording</b>	ambiguous question complex question double-barrelled question (two questions in one) short question technical jargon uncommon word vague word	<b>3. Administration of Questionnaire</b>	
<b>Missing or inadequate data for intended purpose</b>	belief vs behavior (hypothetical question, personalized question) starting time data degradation insensitive measure	<b>Interviewer not objective</b>	interviewer nonblinding
<b>Faulty scale</b>	forced choice (insufficient category) missing interval overlapping interval scale format	<b>Respondent's subconscious reaction</b>	end aversion (central tendency) positive satisfaction (positive skew)
<b>Leading questions</b>	framing leading question mind-set	<b>Respondent's conscious reaction</b>	faking bad (hello-goodbye effect) faking good (social desirability, obsequiousness) unacceptable disease unacceptable exposure unacceptability underlying cause (rumination)
<b>Intrusiveness</b>	reporting (self-report response) sensitive question	<b>Respondent's learning</b>	learning hypothesis guessing
<b>Inconsistency</b>	case definition change of scale change of wording diagnostic vogue	<b>Respondent's inaccurate recall</b>	primacy and recency proxy respondent (surrogate data) recall telescope
<b>2. Questionnaire Design</b>		<b>Cultural differences</b>	cultural
<b>Formatting problem</b>	horizontal response format juxtaposed scale (questionnaire format) left alignment and right alignment		
<b>Questionnaire too long</b>	no-saying (nay-saying) and yes-saying (yea-saying) open question (open-ended question) response fatigue		

# Conventional wisdom - part 1 (Krosnick 2009)

- Use simple, familiar words (avoid technical terms, jargon, and slang);
- Use simple syntax;
- Avoid words with ambiguous meanings, i.e., aim for wording that all respondents will interpret in the same way;
- Strive for wording that is specific and concrete (as opposed to general and abstract);
- Make response options exhaustive and mutually exclusive;
- Avoid leading or loaded questions that push respondents toward an answer;
- Ask about one thing at a time (avoid double-barrelled questions); and
- Avoid questions with single or double negations.

# Survey Principles

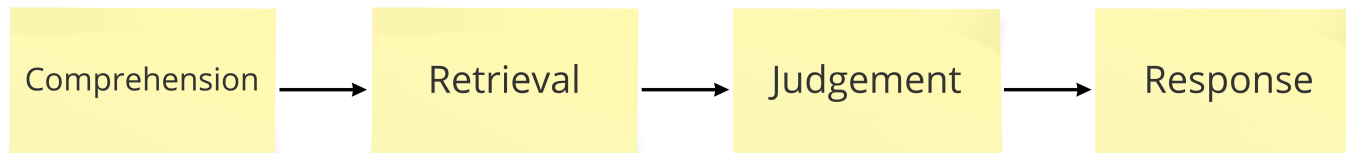
1. Surveys are imperfect instruments
2. Surveys – an ethical contract between you and respondents

# **The survey as a social contract**

- **An imperfect option**
- **Our role**
- **Respondents roles**
- **An obligation...**

# The challenge

What our respondents need to do to answer our questions



**Comprehension:** Interpret what we are asking and understand its intent

**Retrieval:** search our memories/experience for the relevant bits of info

**Judgement:** translate our memories/experience into a judgement

**Response:** Provide a response – potentially from a suite of options - that best reflects their judgement

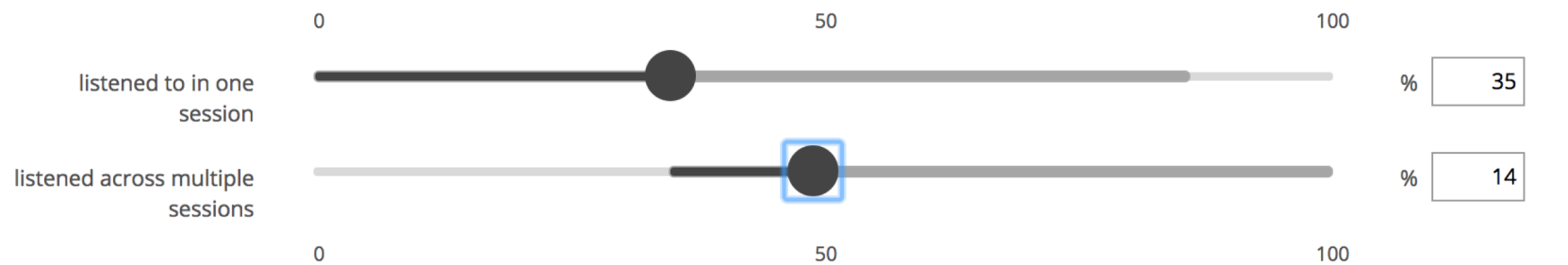
Torangeau et al (2000) *The Psychology of Survey Response*. Cambridge University Press

*Designing better surveys*

**The challenge**



\* What proportion of the podcast episodes that you **listened to last week** and listened to in its entirety did you listen **across multiple sessions** i.e listening to one podcast episode over multiple listening sessions, instead of listening to the end in one session?



Total Amount Used: %49/100

*You must use the entire amount*

Next >

**What can happen when we make it too “hard”?**

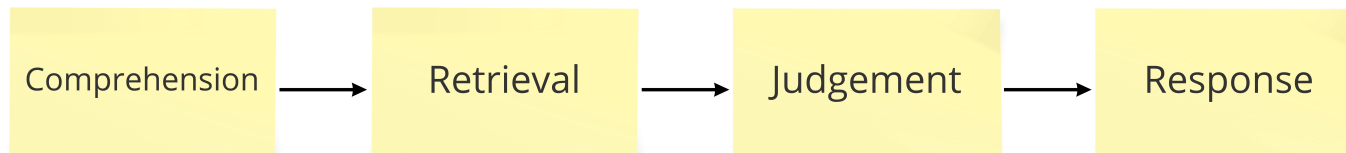
**Satisficing:** the tendency to give acceptable but not optimal answers

**Acquiescence:** the tendency to give positive answers

# The Ideal Respondent

The screenshot shows a web browser window displaying a survey titled "The Ideal Respondent". The survey is presented in a Microsoft Internet Explorer window. The survey content includes a question: "Which one quality listed below would you say is the most desirable for a child to have?" followed by a list of 12 qualities, each preceded by a radio button. The qualities are: "that he is interested in how and why things happen", "that he is considerate of others", "that he is responsible", "that he always has parents call", "that he gets along well with other children", "that he acts like a big kid (he lets his big kid)", "that he has self-control", "that he has good common and sound judgement", "that he is neat and clean", "that he is honest", "that he tries hard to succeed", and "that he has good manners". At the bottom of the list, there are two buttons: "No opinion" and "Please go on". The survey is part of a larger questionnaire, as indicated by the "Previous question" and "Next question" buttons at the bottom of the page.

Conrad & Kreuter,  
Questionnaire Design for  
Social Surveys.  
Coursera online training



**Comprehension:** Interpret what we are asking and understand its intent

**Retrieval:** search our memories/experience for the relevant bits of info

**Judgement:** translate our memories/experience into a judgement

**Response:** Provide a response – potentially from a suite of options - that best reflects their judgement

Torangeau et al (2000) *The Psychology of Survey Response*. Cambridge University Press













*Designing better surveys*

**The challenge**

# Constructing survey questions


Developing your survey questions

# Types of questions

Intermediate	 Slider	 Star Rating Grid
Basic	 <b>Radio Buttons</b>	 Radio Button Grid
	 Dropdown Menu	 Checkboxes
	 Textbox	 Essay / Long Answer
	 Email	 Date
	 Image (multi select)	 Image Heatmap

# Survey Questions:

Question stem: 1. Do you own or rent your home?

Response options:  ☐ Own  
☐ Rent

- Response options need to match the question stem
- Its got to make sense!

# The agree/disagree scales

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
The level of detail is right for me	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have learnt a lot so far	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The information on the flier was clear	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

## Why they are liked?

- Quicker (2/3)
- Respondents like them
- An easy go-to option

## Why they are problematic?

- Can be double barreled
- Respondents more likely to be agreeable (acquiescence)
- Can be hard work (satisficing)
- Midpoints can be ambiguous



	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
The level of detail is right for me	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have learnt a lot so far	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The information on the flier was clear	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

# Exercise

With thanks to Duncan Rintoul from Rooftop Social!

Why they might be problematic?

How might we can redesign them?

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
The level of detail is right for me	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Is the content...

- ☐ Too detailed
- ☐ Just right
- ☐ Not detailed enough

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
The level of detail is right for me	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have learnt a lot so far	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**UNIPOLAR**

How much have you learned so far?

- ☐ A great deal
- ☐ A fair bit
- ☐ A bit, but not much
- ☐ Nothing

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
The level of detail is right for me	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have learnt a lot so far	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The information on the flier was clear	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**UNIPOLAR**

How clear was the information on the flier?

☐ Very clear

☐ Fairly clear

☐ Not particularly clear

☐ Not at all clear

**BIPOLAR**

How clear was the information on the flier?

☐ Completely clear

☐ Fairly clear

☐ A little confusing

☐ Very confusing

# How to develop your survey questions

- Align response options with the question stem
- Decide how many response categories you need
- Make a decision between a unipolar or bipolar scale
- See if you need a mid-point, neutral, don't know or N/A option (if that makes sense)

**Avoid agree/disagree scales!**

# Survey Principles

1. Surveys are imperfect instruments
2. Surveys – an ethical contract between you and respondents
3. Your survey should be purposeful, effective, efficient and economical

# ***Your survey should be purposeful: effective, efficient and economical***

- **Effective:** clearly link to your purpose/evaluation questions
- **Efficient:** get the most from your respondents' input at the least cost to them
- **Economical:** it should be as short as possible

# The tension: interest and relevance





# How to pull it together

Ordering your survey

## Survey ordering:

Yes Minister  
Series 1 Episode 2:  
“The Ministerial Broadcast”  
BBC 1986



# Assimilation effects - Two questions:

- Taking all things together, how would you describe your marriage: would you say that your marriage is very happy, pretty happy, or not too happy?”
- Taken altogether, how would you say things are these days: would you say that you are very happy, pretty happy, or not too happy?

Schuman & Presser (1981)

## Order effects:

- General question first: 52.4% very happy
- Marriage question first: 38.1% very happy
- General question affected by order – the specific question is not!

# Survey order: things to think about

- Your introduction – your social contract & opportunity
- Chunk it into logical sections
- keep it as short as possible (Use software to help you do this)
- Demographics questions at the end (unless you need to filter up front)
- Don't forget to thank people!

# Survey Principles

1. Surveys are imperfect instruments
2. Surveys – an ethical contract between you and respondents
3. Your survey should be purposeful, efficient and effective
4. The respondent should be at the centre of your survey

# Other options to improve our surveys

Helping us make them less worse

# Options to help improve your survey

Should be easy for you to incorporate

- Robinson and Leonard (2019) checklist
- Cognitive interview

Might be out of reach (?)

- Expert review

Should YOU even be doing the survey?



## Checklists

Checklist Item	Yes	No	N/A	Notes
Question type is appropriate:				
Question type will result in the type of data needed given research question(s)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Researcher is prepared to analyze results from this type of question	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Question design is centered around respondents:				
Question asks for information respondent is likely to know, or respondent will have access to the information needed	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Question focuses on respondent and respondent experiences (and not what respondent thinks about others)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Researcher can anticipate how a respondent might answer the question	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	



# Survey testing and the cognitive interview

**Think aloud**

**“How might I word this in a way that makes sense to you”**

# Survey Principles

1. Surveys are imperfect instruments
2. Surveys – an ethical contract between you and respondents
3. Your survey should be purposeful, efficient and effective
4. The respondent should be at the centre of your survey
5. Good survey design – it might not happen overnight, but it will happen

# What next?

How you can improve

*Designing better surveys*

## Where to next to improve your skills

- Robinson and Leonard (2019) *Designing Quality Survey Questions*. SAGE publications
  - AEA eStudy
- Coursera: Questionnaire Design for Social Surveys
- AES short courses



# The message:

Tread gently