Introduction to Survey Design

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Curio Research

Photo by Curtis MacNewton on Unsplash

Thank you for being here!

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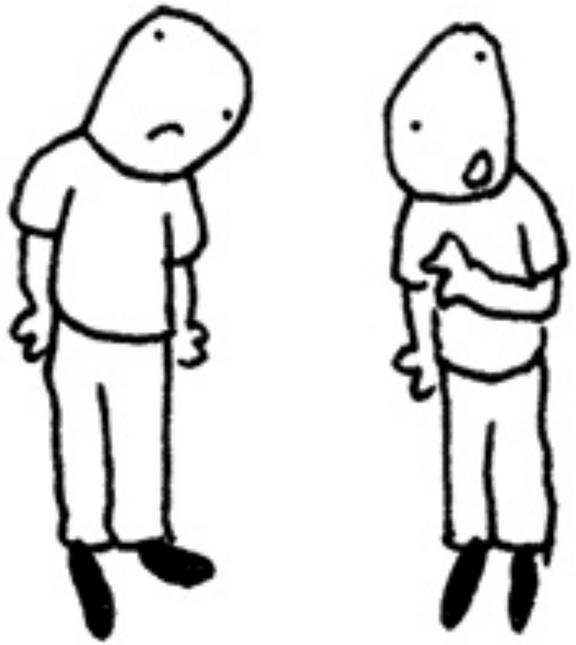


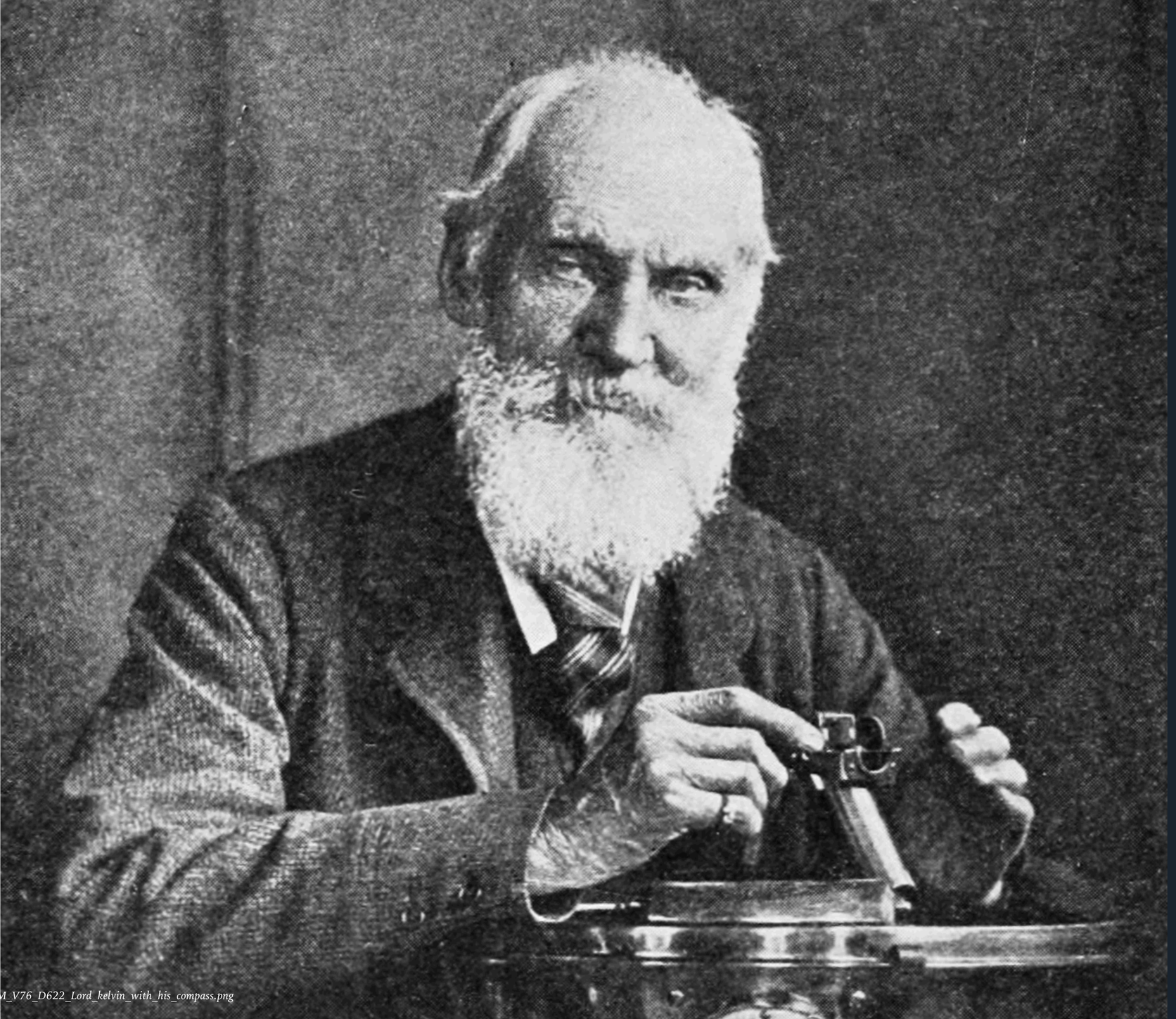
you can't call yourself a "polymath", if you only have two talents and one of them is being nervous

Photo by Ken Treloar on Unsplash

Surveys! What Are They Good For?

Absolutely Something

Photo by Nong Vang on Unsplash



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“

If you cannot measure it, you cannot improve it.

”

LORD KELVIN

easy

Google Consumer Surveys

Photo by Andre Hunter on Unsplash

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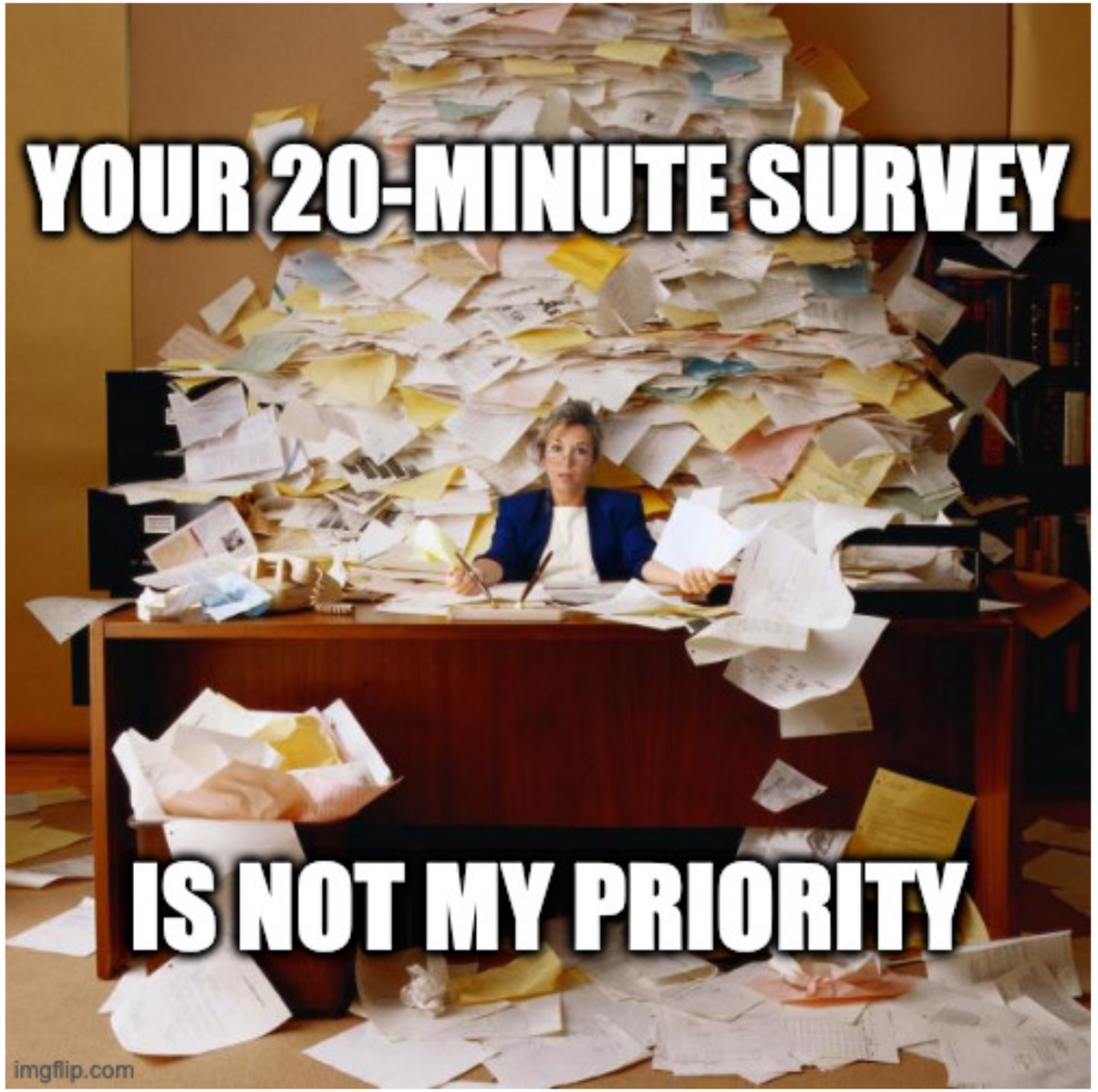
YOUR 20-MINUTE SURVEY
IS NOT MY PRIORITY
imgflip.com

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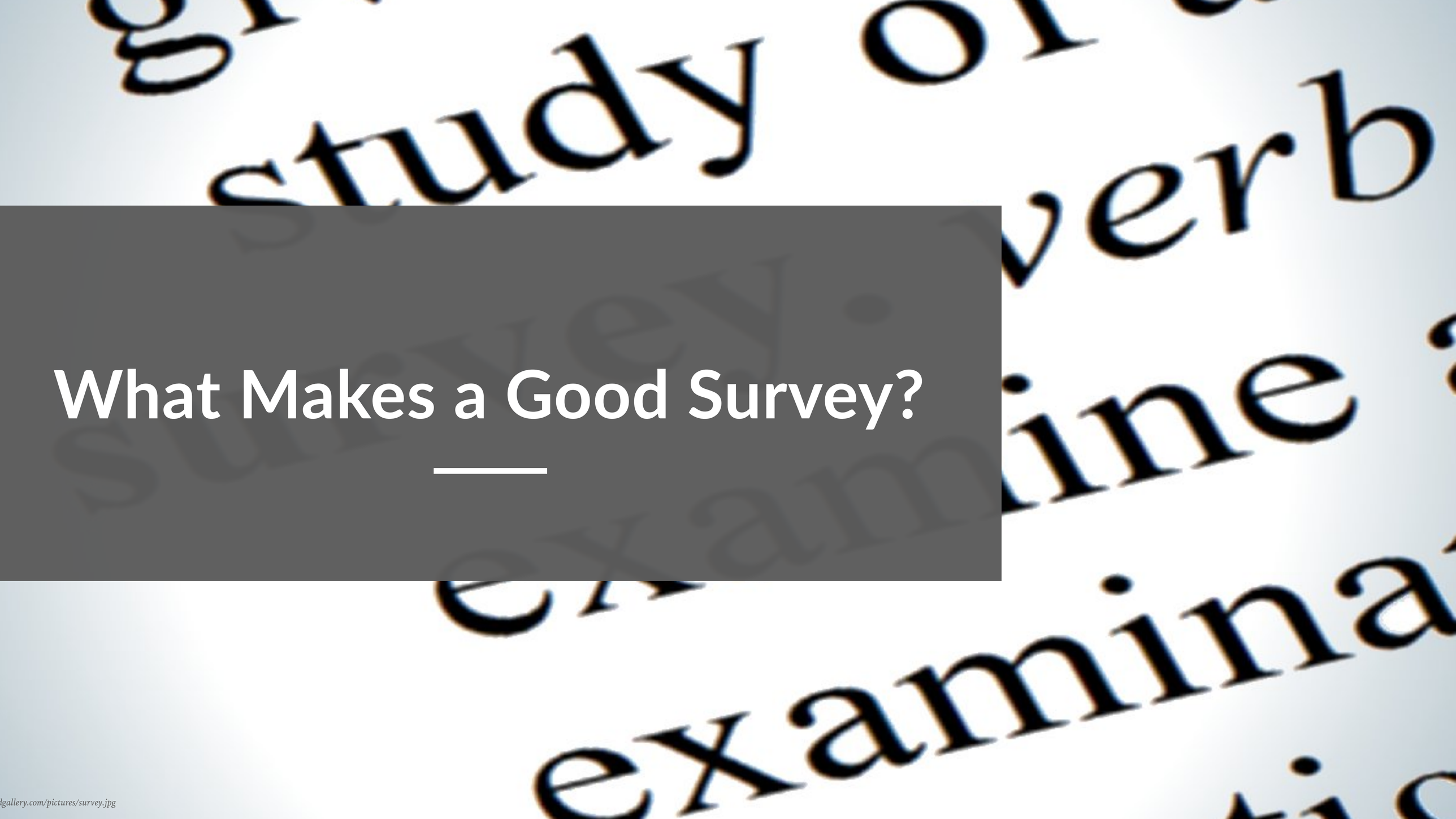
What Makes a Good Survey?



dgallery.com/pictures/survey.jpg

Keep it short

Photo by Meg Kannan on Unsplash

The shorter the better

Have a singular focus

Keep the number of research objectives to a minimum.

Use quantitative questions

Open ended text response questions make the survey longer and more taxing on the respondent.

No longer than 10-minutes to complete

Fewer Questions = More Responses + More Completes

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Mobile First

44% of SurveyMonkey surveys were taken on a mobile device in 2016*

*SurveyMonkey European Survey Research Association 2017 Presentation

Photo by Oliur Rahman on Unsplash

Do you really need to ask that? Really? Are you sure?

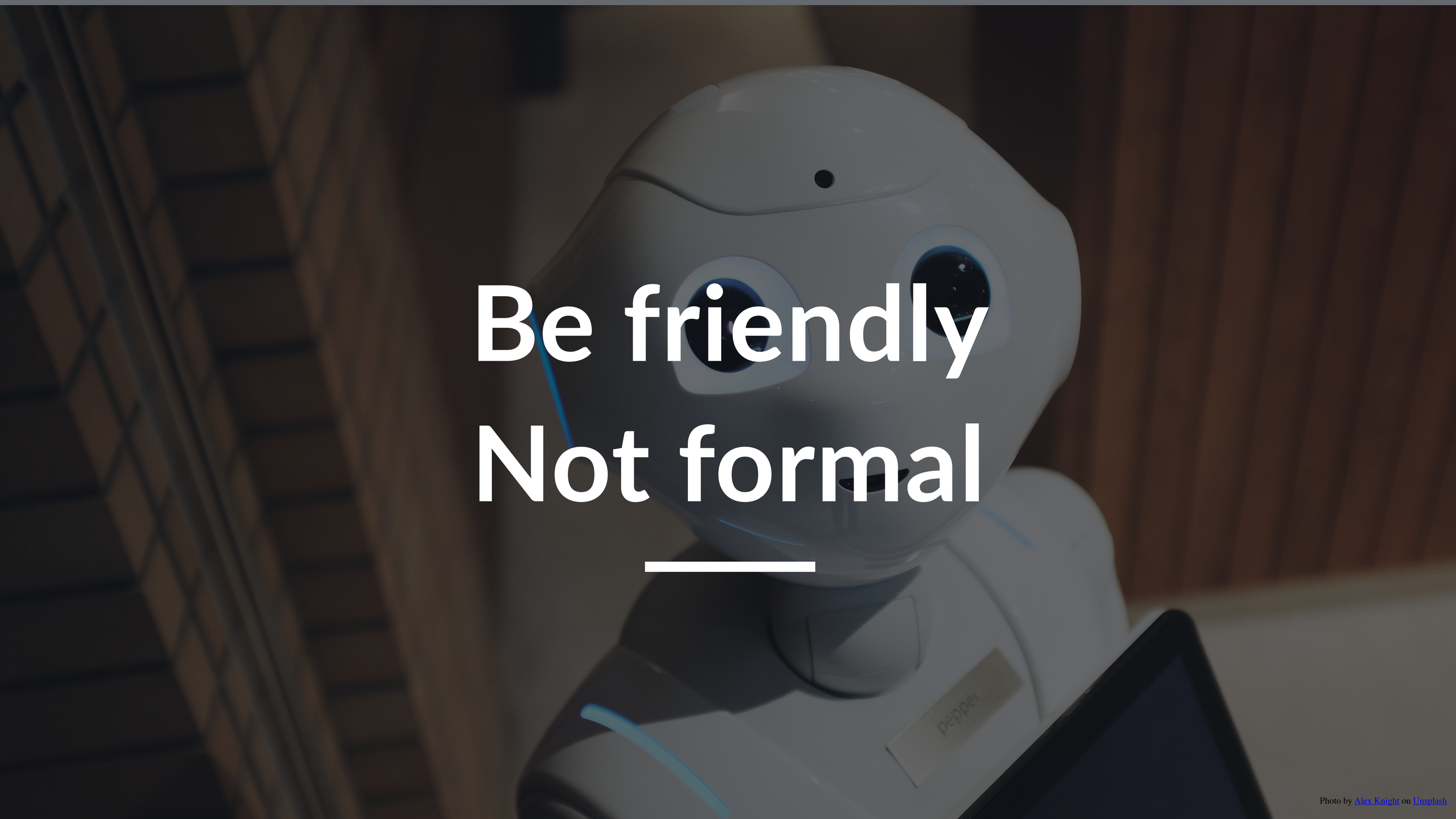
If you knew this information, what would you do?

a href="https://www.flickr.com/photos/7342411@N02/4865201576/

Make all questions tweet* length questions

Simply stated. Direct. Clear. Jargon free.

*Classic 140, let's not get started on 280



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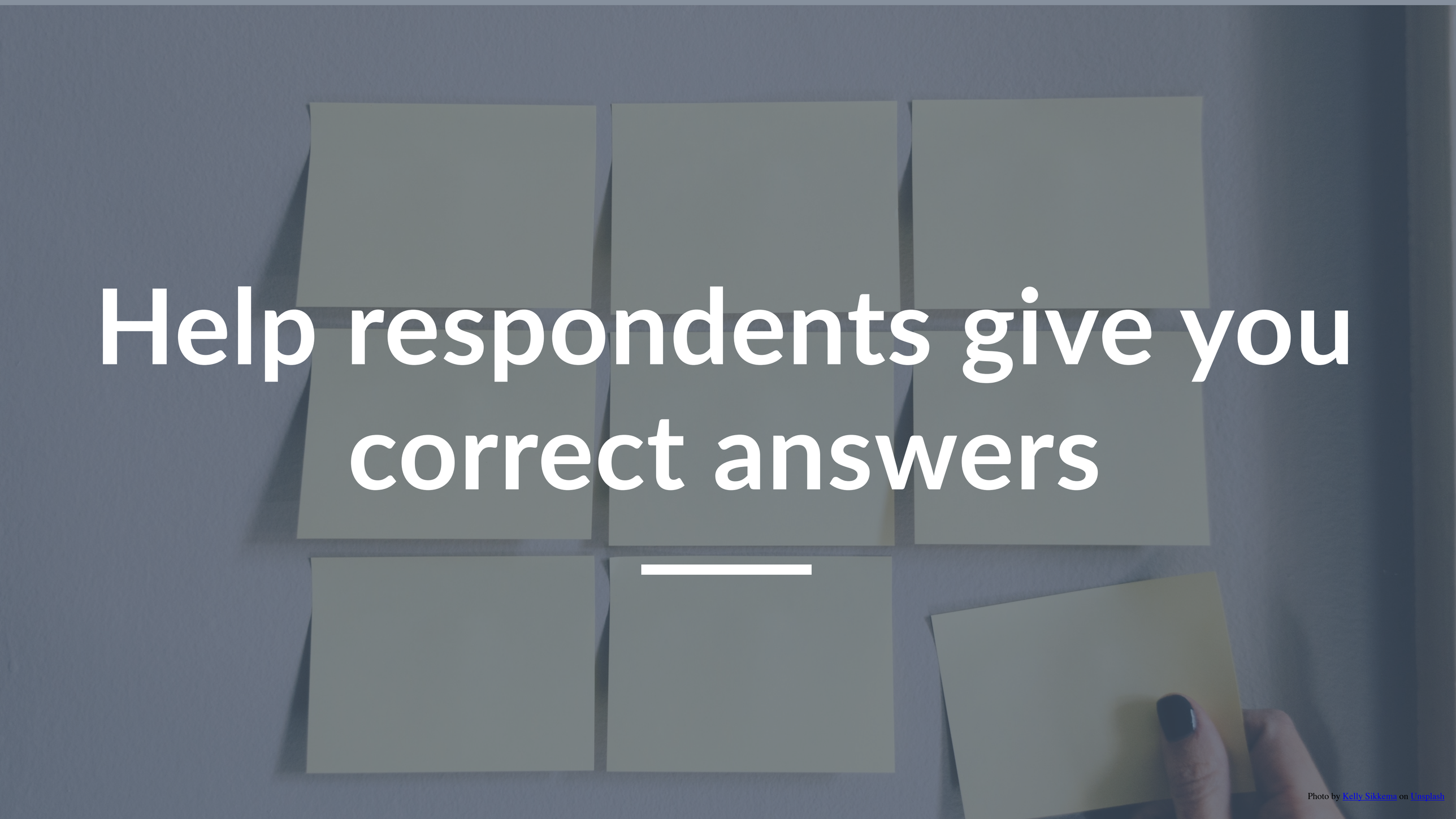
Help respondents give you correct answers



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Help Respondents Be Accurate

- **Make answer options exhaustive**
  - Think about and do some research to give respondents every possible option
- **Consider the ranges you offer carefully**
  - Respondents will interpret the ranges you give as typical of the population
  - Below average, average, above average
- **Don’t expect respondents to remember anything**
  - Give specifics

.com/p-1955257/

Help Respondents Be Accurate

- **Offer an opt-out**
  - Other, None, Not Applicable
- **Let people enter in their own answer**
  - Other _____
    - Only use this if you actually plan to use the data

Do not make questions required

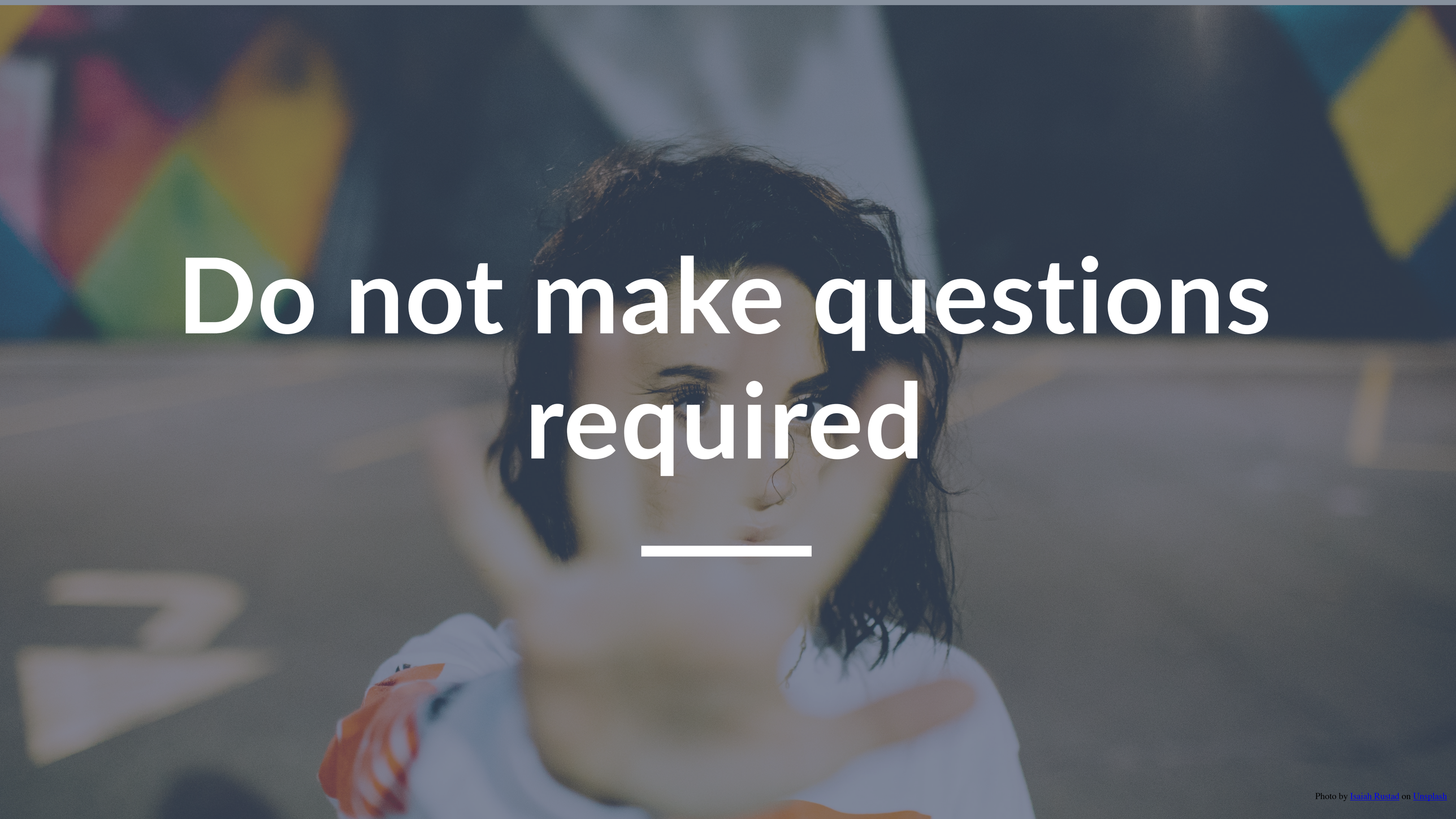

Photo by Isaiah Rustad on Unsplash

We can fix it!

Basic Survey Question

Do you have a non-human companion?

- Dog
- Cat

Basic Survey Question

What kind of pet do you have?

- Dog
- Cat

Basic Survey Question

What kind of pet do you have?

- ○ Dog
- ○ Cat
- ○ Amphibian
- ○ Reptile
- ○ Rodent
- ○ Fish
- ○ Bird
- ○ Other
- ○ I don’t have a pet

Basic Survey Question

What kind of pet do you have?

- ☐ Dog
- ☐ Cat
- ☐ Amphibian
- ☐ Reptile
- ☐ Rodent
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- ☐ Rodent
- ☐ Fish
- ☐ Bird
- ☐ Other
- ☐ I don’t have a pet

RANDOMIZE

ANCHOR

Basic Survey Question

What kind of pet do you have?

- ☐ Dog
- ☐ Cat
- ☐ Amphibian
- ☐ Reptile
- ☐ Rodent
- ☐ Fish
- ☐ Bird
- ☐ Other
- ☐ I don’t have a pet

Short question ✓

Plain language ✓

Exhaustive answer options ✓

Allows multiple answers ✓

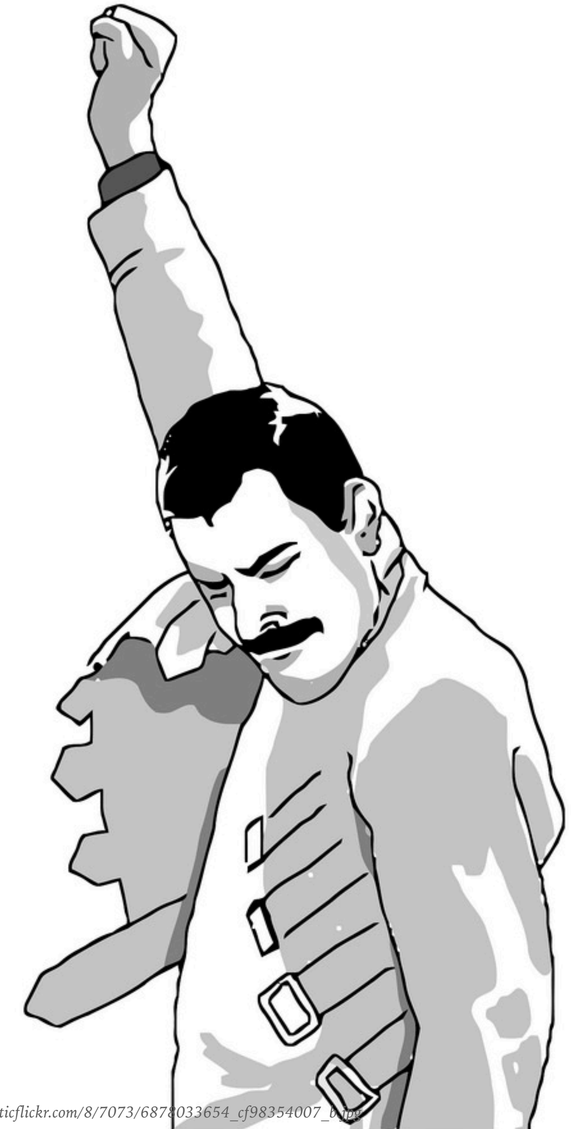
Randomized and Anchored ✓

It’s not mandatory ✓

Basic Survey Question

Do you have a non-human companion?

- ☐ Dog
- ☐ Cat
- ☐ Amphibian
- ☐ Reptile
- ☐ Rodent
- ☐ Fish
- ☐ Bird
- ☐ Other
- ☐ I don’t have a pet



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QUESTIONS?

SCALE DESIGN, BIAS MITIGATION, DATA QUALITY, DEPLOYMENT, & ANALYSIS ARE COMING UP

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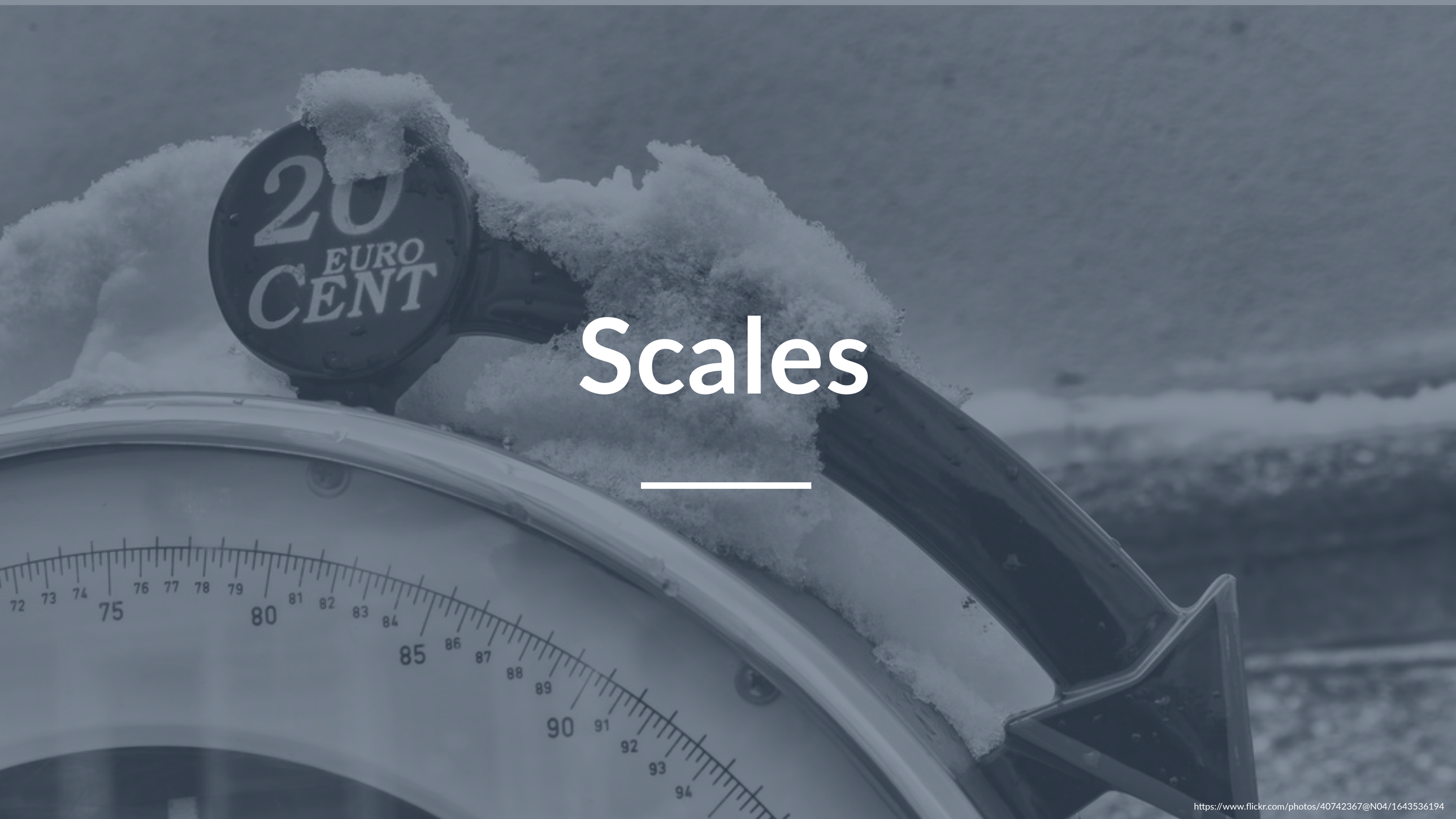
Scales



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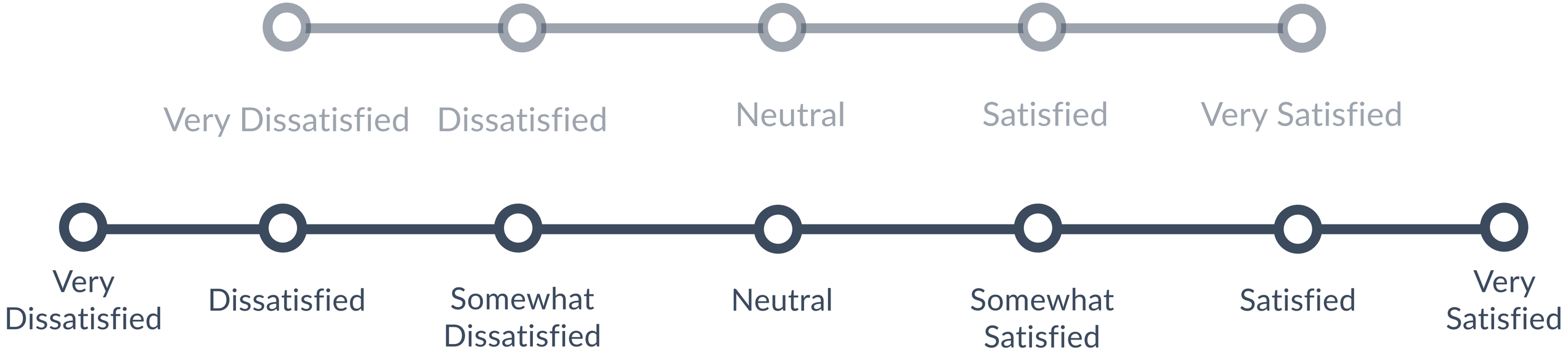
Scales

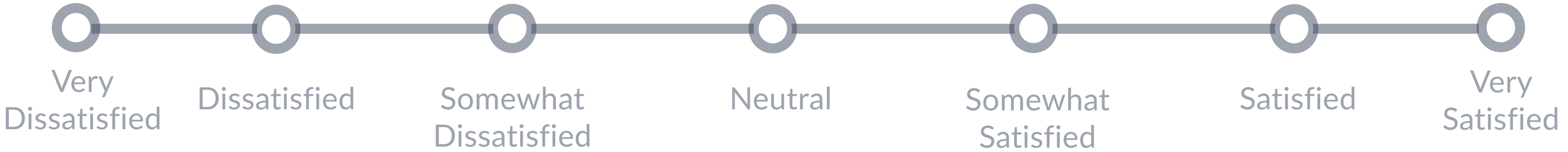
Very Dissatisfied Dissatisfied Neutral Satisfied Very Satisfied

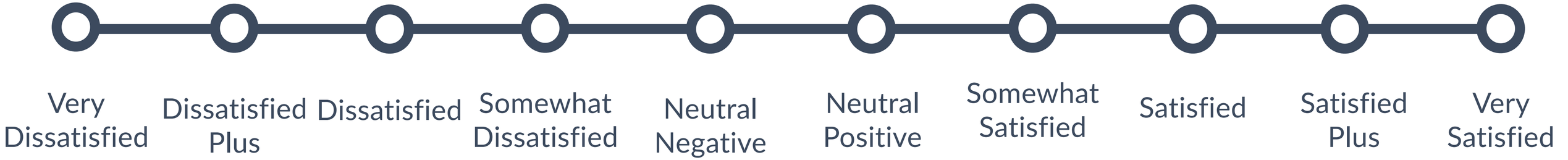
Scales


Very Dissatisfied
Dissatisfied
Neutral
Satisfied
Very Satisfied
Very Dissatisfied
Dissatisfied
Somewhat Dissatisfied
Neutral
Somewhat Satisfied
Satisfied
Very Satisfied

Scales

Very Dissatisfied
Dissatisfied
Neutral
Satisfied
Very Satisfied


Very Dissatisfied
Dissatisfied
Somewhat Dissatisfied
Neutral
Somewhat Satisfied
Satisfied
Very Satisfied


Very Dissatisfied
Dissatisfied Plus
Dissatisfied
Somewhat Dissatisfied
Neutral Negative
Neutral Positive
Somewhat Satisfied
Satisfied
Satisfied Plus
Very Satisfied

Scales

Very Dissatisfied
Dissatisfied
Satisfied
Very Satisfied

Very Dissatisfied
Dissatisfied
Somewhat Dissatisfied
Somewhat Satisfied
Satisfied
Very Satisfied

Very Dissatisfied
Dissatisfied Plus
Dissatisfied
Somewhat Dissatisfied
Somewhat Satisfied
Satisfied
Satisfied Plus
Very Satisfied

Neutral is a valid answer

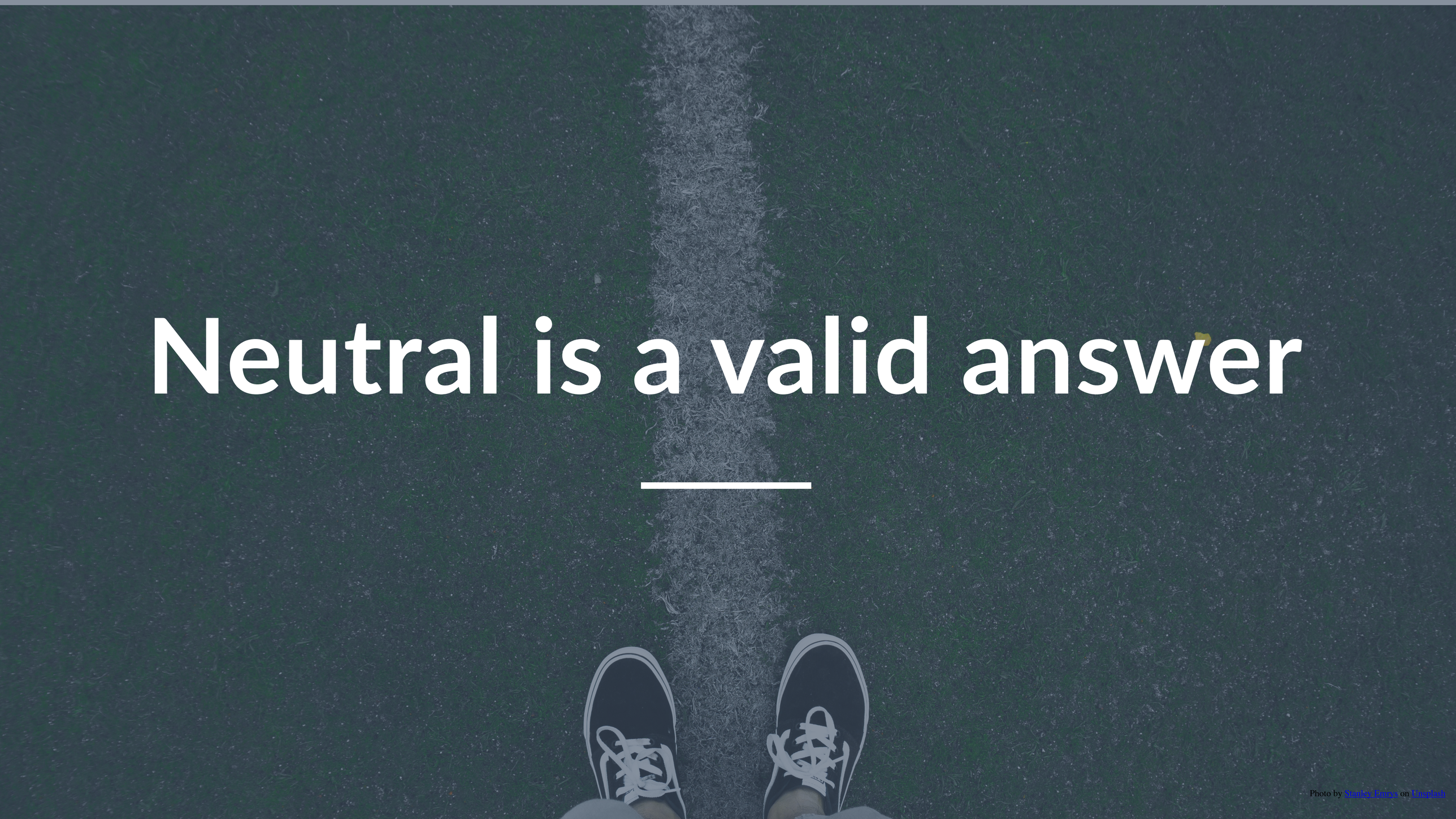
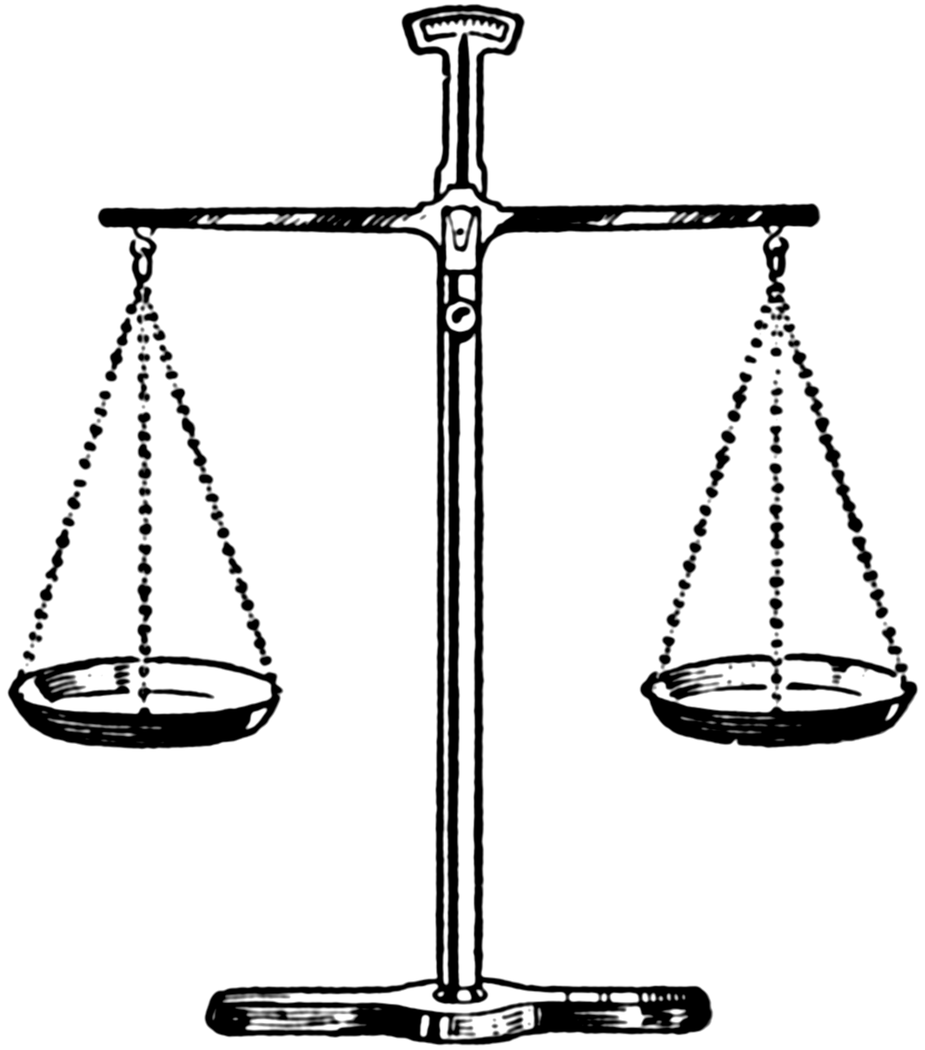


Photo by Stanley Emrys on Unsplash

Good scales are:

- **Likert/Odd numbered**
- **Balanced**
  - The same number of positive and negative options with a neutral option in the middle
- **Vertical**
  - Mobile first
- **Labeled**



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We can fix it!

Scale Question

Please rate your level of satisfaction with this conference:

Excellent Good Decent Poor

Scale Question

How is the conference going so far:

Excellent Good Decent Poor

Scale Question

How is the conference going so far:

Poor Decent Good Excellent

Scale Question

How is the conference going so far:

Poor Decent Neutral Good Excellent

Scale Question

How is the conference going so far:

It’s really bad

It kind of bad

Neutral

It’s pretty good

I’m having a great time!

Scale Question

How is the conference going so far:

- I'm having a great time!
- It's pretty good
- Neutral
- It kind of bad
- It's really bad

Scale Question

How is the conference going so far:

- I'm having a great time!
- It's pretty good
- Neutral
- It kind of bad
- It's really bad

Short question ✓

Plain language ✓

Neutral option ✓

Likert Scale ✓

Balanced scale ✓

Vertical ✓

Scale Question

How is the conference going so far:

- I'm having a great time!
- It's pretty good
- Neutral
- It kind of bad
- It's really bad

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QUESTIONS?

BIAS MITIGATION, DATA QUALITY, DEPLOYMENT, & ANALYSIS ARE ON THEIR WAY

Photo by Tim Mossholder on Unsplash

Minimize grid usage

Relying on grids is cheating

Photo by Samuel Zeller on Unsplash

	Strongly Agree									Strongly Disagree	N/A
	10	9	8	7	6	5	4	3	2	1	
The information about how to use Mobile Banking is helpful	○	○	○	○	○	○	○	○	○	○	○
Mobile Banking is available when I need it	○	○	○	○	○	○	○	○	○	○	○
The Mobile Banking pages load quickly	○	○	○	○	○	○	○	○	○	○	○
Mobile Banking makes managing my finances easier	○	○	○	○	○	○	○	○	○	○	○
I feel confident about finding my way around in Mobile Banking	○	○	○	○	○	○	○	○	○	○	○
My account information is updated quickly in Mobile Banking	○	○	○	○	○	○	○	○	○	○	○
Mobile Banking is secure	○	○	○	○	○	○	○	○	○	○	○
The amount of account history available in Mobile Banking is sufficient	○	○	○	○	○	○	○	○	○	○	○
I am able to easily transfer funds using Mobile Banking	○	○	○	○	○	○	○	○	○	○	○
The response time of Mobile Banking on my mobile device meets my expectations	○	○	○	○	○	○	○	○	○	○	○
My account balances in Mobile Banking are accurate	○	○	○	○	○	○	○	○	○	○	○
It is easy to complete tasks using Mobile Banking	○	○	○	○	○	○	○	○	○	○	○
I was able to find the information I was looking for using Mobile Banking	○	○	○	○	○	○	○	○	○	○	○
My account information in Mobile Banking is easy to understand	○	○	○	○	○	○	○	○	○	○	○

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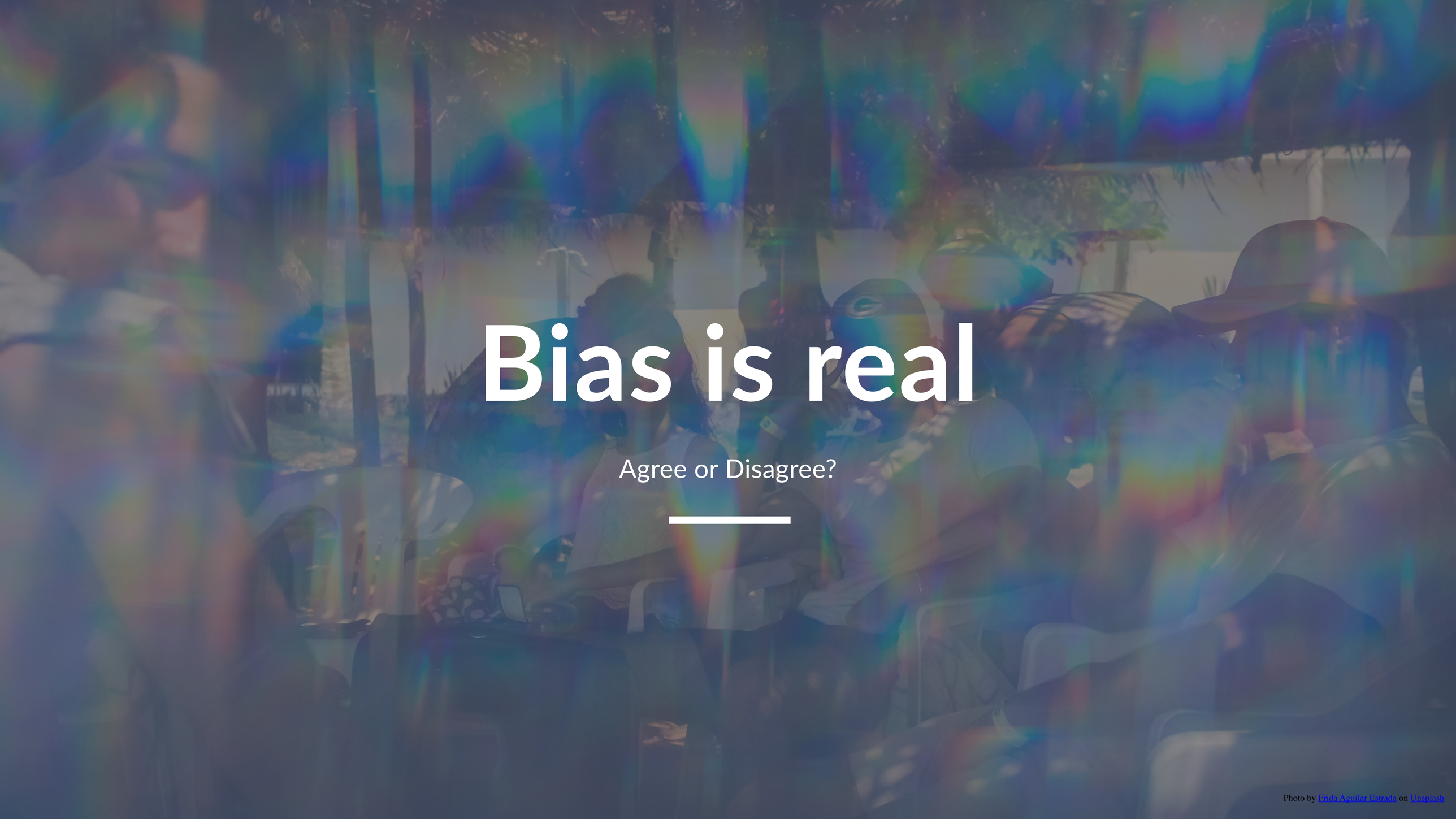

Bias is real

Agree or Disagree?

Photo by Frida Aguilar Estrada on Unsplash

Respondent Biases

Know your enemies

Acquiescence Bias

We just want to get along with everyone by being agreeable. Even people we've never met.

AVOID

Questions involving answers such as:

Yes/No

Agree/Disagree

True/False

Desireability Bias

We like appearing better than we actually are.

AVOID

Asking people to recall their own consumption habits. Find actual usage or purchase data instead.

Researcher Biases

Know your enemies

Sampling Bias

The sample for the survey doesn't reflect the population being researched.

USE

Demographic Quotas

Random Elements:

Random number generators

Dice

Research Bias

The point of view of the researcher interferes with the objectivity of the research.

USE

Word questions to be as neutral as possible

Obfuscate your purpose

Red Herring answers

We can fix it!

Neutral Question

Do you use Gmail?

- Yes
- No

Neutral Question

Which of these email services do you use?

- ○ Gmail
- ○ Hotmail
- ○ Yahoo! Mail
- ○ Outlook
- ○ I have my own email server
- ○ Other _____
- ○ I don’t use email

Neutral Question

Which of these email services do you use?

- ☐ Gmail
- ☐ Hotmail
- ☐ Yahoo! Mail
- ☐ Outlook
- ☐ I have my own email server
- ☐ Other _____
- ☐ I don’t use email

Neutral Question

Which of these email services do you use?

- ☐ Gmail
- ☐ Hotmail
- ☐ Yahoo! Mail
- ☐ Outlook
- ☐ FantasticMail
- ☐ I have my own email server
- ☐ Other _____
- ☐ I don’t use email

Neutral Question

Which of these email services do you use?

- ☐ Gmail
- ☐ Hotmail
- ☐ Yahoo! Mail
- ☐ Outlook
- ☐ FantasticMail
- ☐ I have my own email server
- ☐ Other _____
- ☐ I don't use email

RANDOMIZE

ANCHOR

Neutral Question

Which of these email services do you use?

- ☐ Yahoo! Mail
- ☐ FantasticMail
- ☐ Gmail
- ☐ Outlook
- ☐ Hotmail
- ☐ I have my own email server
- ☐ Other _____
- ☐ I don't use email

Doesn't lead ✓

Plain language ✓

Data quality red herring ✓

Allows multiple answers ✓

Randomized and Anchored ✓

It's not mandatory ✓

Neutral Question

Which of these email services do you use?

- ☐ Outlook
- ☐ I have my own email server
- ☐ Gmail
- ☐ Yahoo! Mail
- ☐ Hotmail
- ☐ FantasticMail
- ☐ Other _____
- ☐ I don’t use email

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QUESTIONS?

INCENTIVES AND ANALYSIS ARE ON DECK

Photo by Rohit Farmer on Unsplash

Incentivize

Photo by Olga DeLawrence on Unsplash

Incentives

Not necessarily difficult or expensive

METHODS

Online gift cards, account credit, random prize drawing, charitable donations… Get creative!

BETTER RESPONSE RATES

Mitigates non-response bias for better results.

DEMONSTRATES RESPECT

Shows you understand the value of respondents' time.

Open with gratitude
Close with gratitude

And a final open end

Photo by Tim Marshall on Unsplash

Fig-Mourning-Angel-Sculpture-Gratitude-Consolation-1990440.jpg

BE GRACIOUS

Thank respondents for their participation at the opening and the closing.

BE TRANSPARENT

Tell them how the data will be used. Improve a product? Help a non-profit? Inform sponsors?

BE GENEROUS

Offer to share the results of the study with them when it's over.

BE OPEN

Present a final open end so they can share something you might have missed.

Analyzing the Data

Have a data analysis plan

1. What are your objectives for the data?
2. What variables do you want to use in your cross tabs?
3. Additional data analysis? Conjoint? Regression? Text analytics?
4. Will you need special software to run the analysis?

Clean Your Data

REMOVE

- Extreme outliers
- Respondents who didn't answer all of the questions
- Respondents who used red herring answers
- Respondents who straight-lined

ASSESS

Do you still have the sample size you need? Yes? Go on to the analysis.

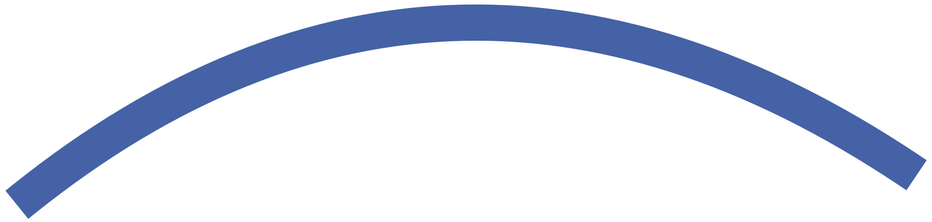
No? Only remove the worst 20% of the iffy responses or get more respondents.

What does standard deviation mean?

Low Number

Homogeneous Data

High Number



Heterogeneous Data

Top 2 Boxes/Percent Positive

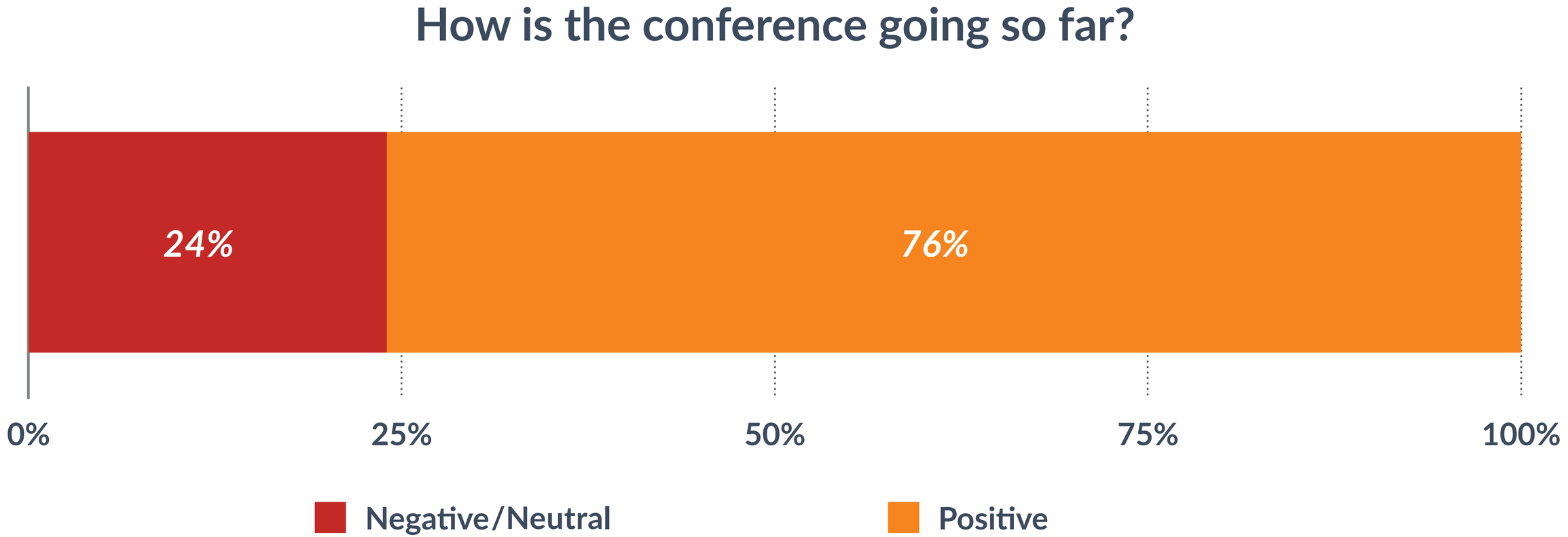
Analyzing scale data

- When analyzing scale data calculate the percentage of respondents that chose the top 2 boxes
  - 5 point scale = top 2 boxes
  - 7 point scale = top 3 boxes

	It's really bad	It's kind of bad	Neutral	It's pretty good	I'm having a great time
Responses	1	24	19	59	78
% of Total	0%	13%	11%	33%	43%
Top 2 Boxes				**76%**	

Top 2 Boxes/Percent Positive

Graphing scale data



QUESTIONS?

NEXT ARE KEY TAKEAWAYS AND FURTHER READING

Photo by Eunice Lituañas on Unsplash

s/30478819@N08/36996342724/

Key Takeaways

Key Takeaways

Yes, take a photo of this slide

- Surveys are a UX problem you can solve.
- Keep it short. 10 minutes or less.
- Make them mobile first. Vertical. Concise. Abandon grids. Limit open ends.
- Make all scales balanced Likert scales. 5s or 7s. Analyze using Top 2 (or 3) boxes.
- Have a plan for the data before you write the survey.
- Incentivize. Incentivize. Incentivize.
- Clean your data before analysis. What are you doing to ensure data quality?

But Wait, There's More!

Further Reading

Internet, Mail, and Mixed-Mode Surveys

Don A. Dillman, Jolene D. Smyth, and Leah Melani Christian

Questionnaire Design

Ian Brace

The Complete Guide to Writing Questionnaires

David F. Harris

People Are Not Robots

Annie Pettit, PhD

Online Sources

NewMR

Hashtag #NewMR
Twitter @NewMR_News
Youtube “NewMR Videos”

Annie Pettit, PhD

Twitter @LoveStats

Jeffrey Henning

Twitter @JHenning

Ray Poynter

Twitter @RayPoynter

THANK YOU

CurioResearch.net

@Curio_Research

1% FOR THE PLANET — MEMBER —

Photo by Nick Hillier on Unsplash