



PSYCH 10: INTRO TO STATISTICS

Prof. Judith Fan

Fall 2024

WEEK 2 AT-A-GLANCE

Week	Date	Mon	Tues	Wed	Thurs	Fri
2	Sep 30	Exploring Data <i><u>During:</u></i> Practice Quiz 1; Continue Chapters 1-2		Exploring Data <i><u>Before:</u></i> Continue Chapters 1-2 <i><u>During:</u></i> Lab 1C		Exploring Data (Lab 1C) <i><u>Before:</u></i> Finish Chapters 1-2 <i><u>During:</u></i> Wrap-up Lab 1; Milestone 1 Due (Complete survey)

Lab 1C released today!

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2	Sep 30	Exploring Data <i>During:</i> Practice Quiz 1; Continue Chapters 1-2		Exploring Data <i>Before:</i> Continue Chapters 1-2 <i>During:</i> Lab 1C		Exploring Data (Lab 1C) <i>Before:</i> Finish Chapters 1-2 <i>During:</i> Wrap-up Lab 1; Milestone 1 Due (Complete survey)

Complete CourseKata Ch. 1 & 2 by Fri

Milestone 1 = discussion section activity

WEEK 3 AT-A-GLANCE

Week	Date	Mon	Tues	Wed	Thurs	Fri
3	Oct 7	Measuring Variation <u><i>During:</i></u> Quiz 1; Begin Chapters 3-4		Measuring Variation <u><i>Before:</i></u> Continue Chapters 3-4 <u><i>During:</i></u> Lab 2A		Measuring Variation <u><i>Before:</i></u> Finish Chapters 3-4 <u><i>During:</i></u> Lab 2B Lab 1 Due

Real Quiz #1 next Monday in class

Chapters 3-4 now available in Canvas

WEEK 3 AT-A-GLANCE

Week	Date	Mon	Tues	Wed	Thurs	Fri
3	Oct 7	Measuring Variation <i><u>During:</u></i> Quiz 1; Begin Chapters 3-4		Measuring Variation <i><u>Before:</u></i> Continue Chapters 3-4 <i><u>During:</u></i> Lab 2A		Measuring Variation <i><u>Before:</u></i> Finish Chapters 3-4 <i><u>During:</u></i> Lab 2B Lab 1 Due

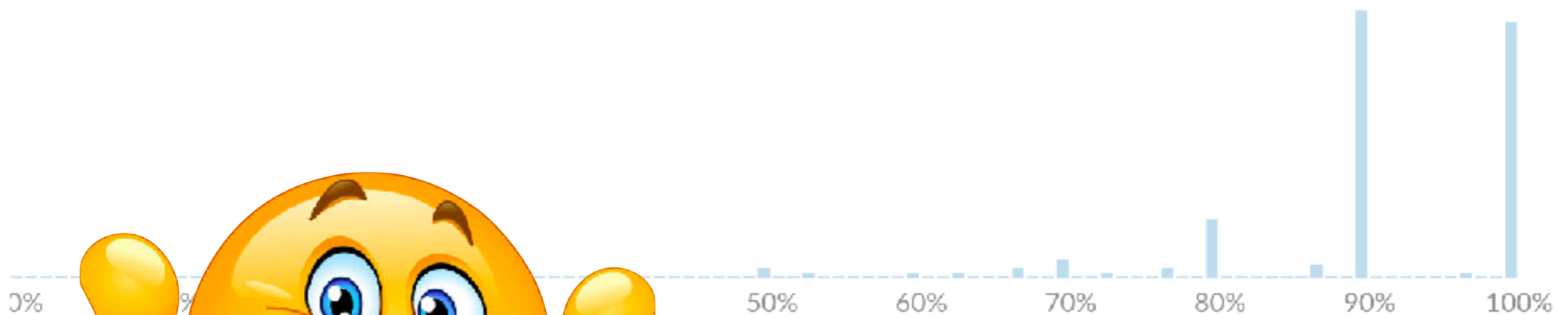
Real Quiz #1 next Monday in class

Lab 1 (A&B&C) due next Fri (Oct 11)

PRACTICE QUIZ 1

Ⓜ Average Score	↗ High Score	↘ Low Score	⊖ Standard Deviation	🕒 Average Time
90%	100%	40%	1.17	06:22

Awesome job!



TODAY

LAB 1C: EXPLORING DATA



*Review of
variable types*

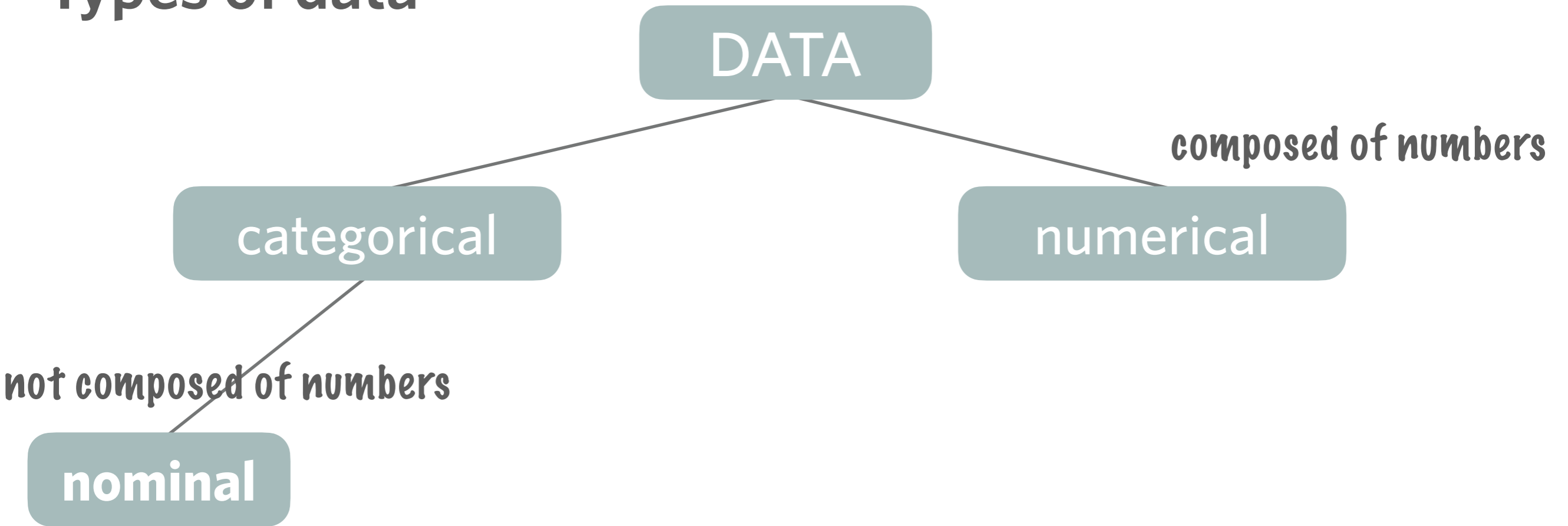
*Warmup:
Armoring
the plane*

*Break out
into
lab groups*

1

How do we measure things in psychology?

Types of data



e.g.,

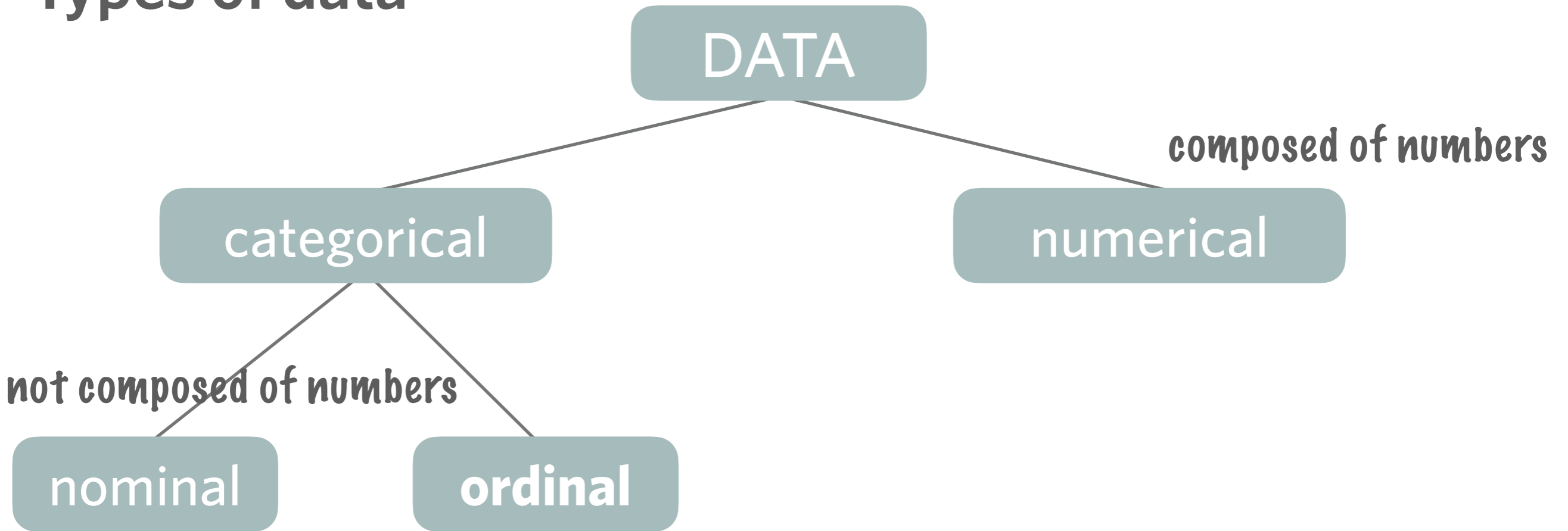
What languages do you speak?

- English
- French
- German
- Spanish

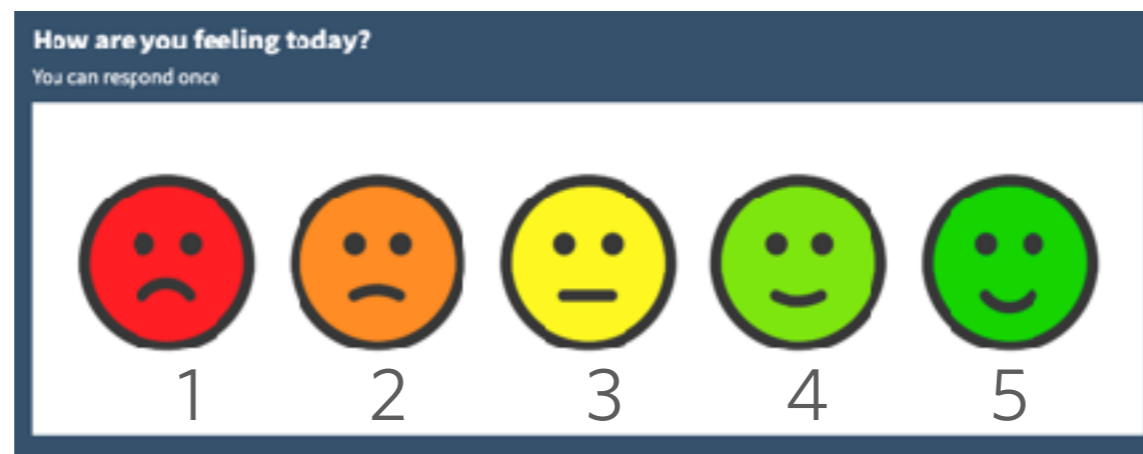
1

How do we measure things in psychology?

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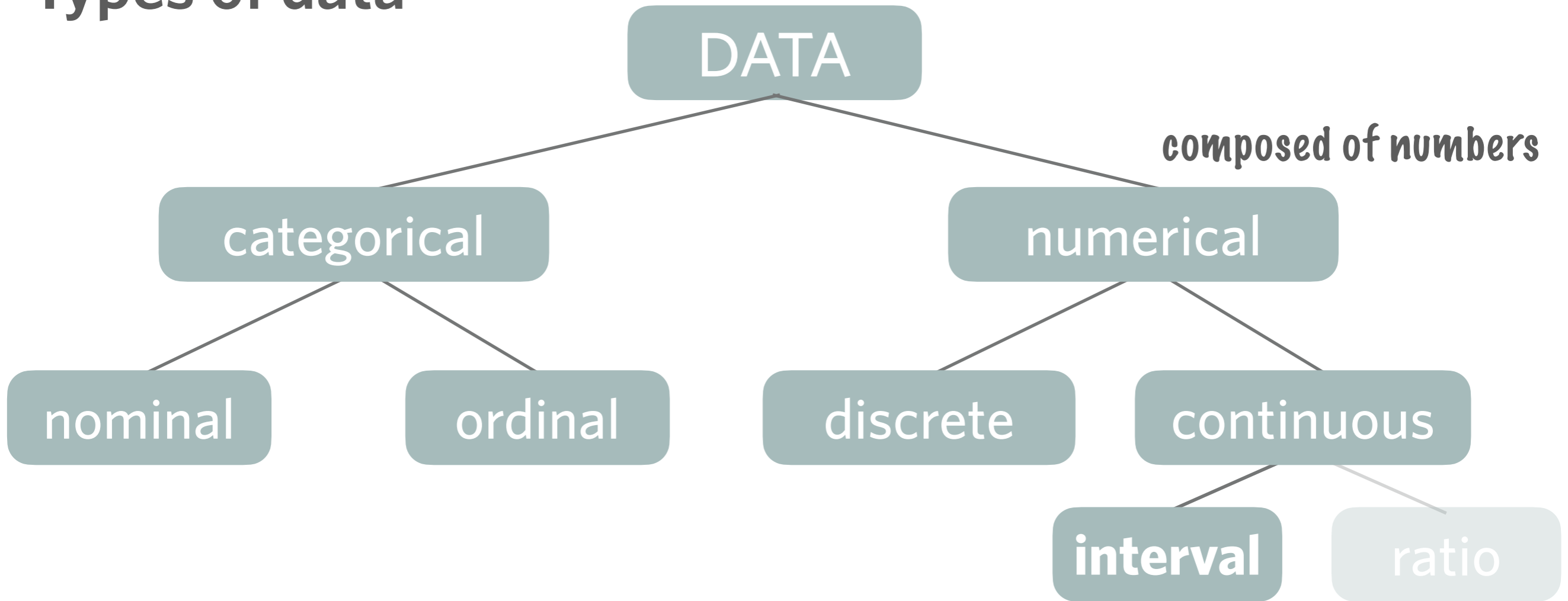
e.g.,



1

How do we measure things in psychology?

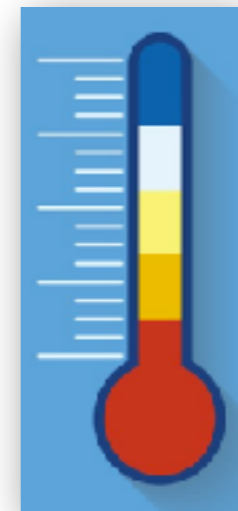
Types of data



composed of numbers

e.g., *What is the temperature in Fahrenheit?*

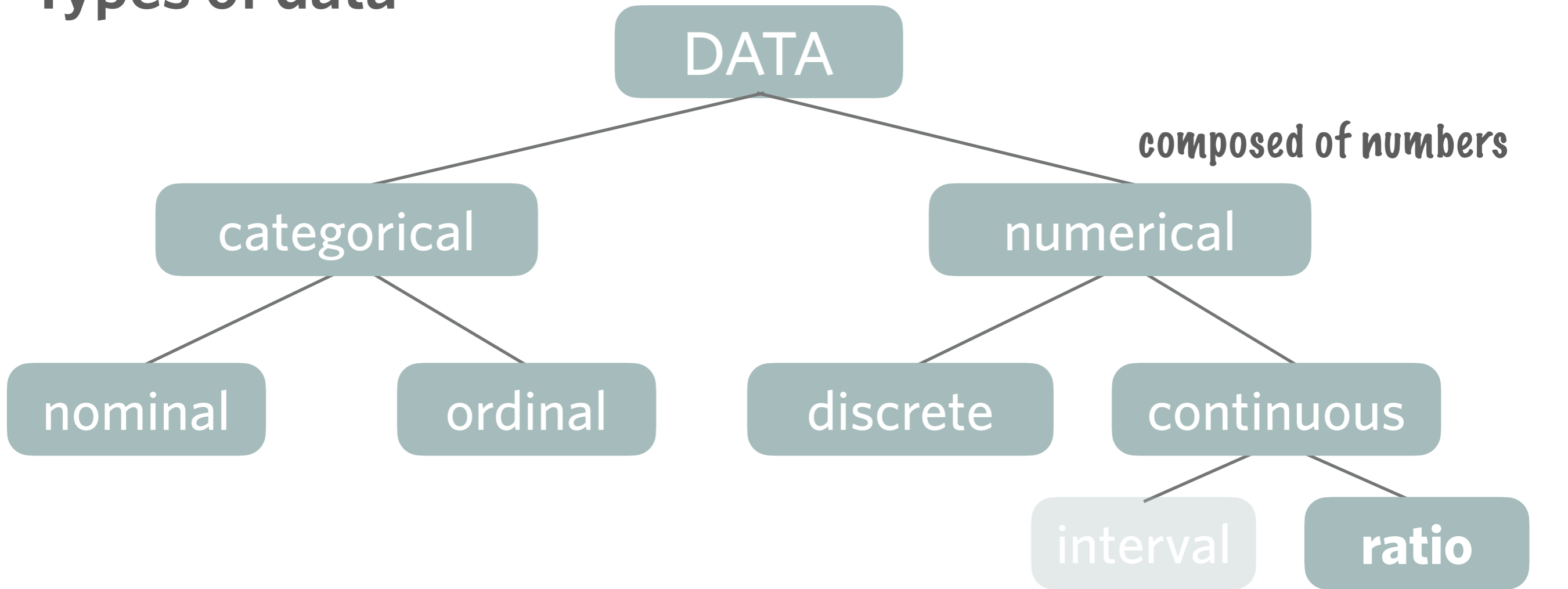
Ordered units with same size difference between values



1

How do we measure things in psychology?

Types of data

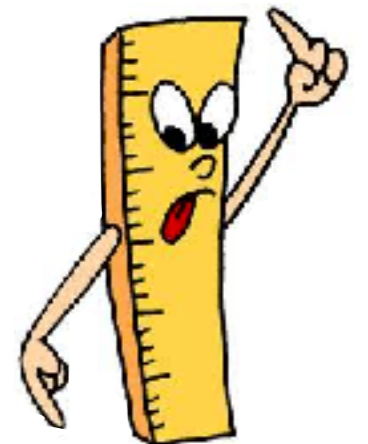


composed of numbers

e.g., *How tall are you?*

Ordered values with exact intervals between values AND they have an "true zero"

Other examples: duration, mass, area



1

How do we measure things in psychology?

nominal

ordinal

interval

ratio



countable

number of times observed

ordered values

but gap between them not necessarily equal

quantitative values

can be added or subtracted

has "true zero"

can be multiplied & divided

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Notice the progression



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How do we measure things in psychology?

nominal

countable

number of times observed



ordered values

but gap between them not necessarily equal



quantitative values

can be added or subtracted



has "true zero"

can be multiplied & divided



Ask yourself: "Are these categories without any inherent ordering?"

1

How do we measure things in psychology?

nominal

ordinal

countable

number of times observed



ordered values

but gap between them not necessarily equal



quantitative values

can be added or subtracted



has "true zero"

can be multiplied & divided



Ask yourself: "Are there some values that are bigger than others, but where the differences are not exact?"

1

How do we measure things in psychology?

ordinal

interval

countable

number of times observed



ordered values

but gap between them not necessarily equal



quantitative values

can be added or subtracted



has "true zero"

can be multiplied & divided



Ask yourself: "Can I calculate the exact difference between values, but not ratios?"

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How do we measure things in psychology?

interval

ratio

countable

number of times observed



ordered values

but gap between them not necessarily equal



quantitative values

can be added or subtracted



has "true zero"

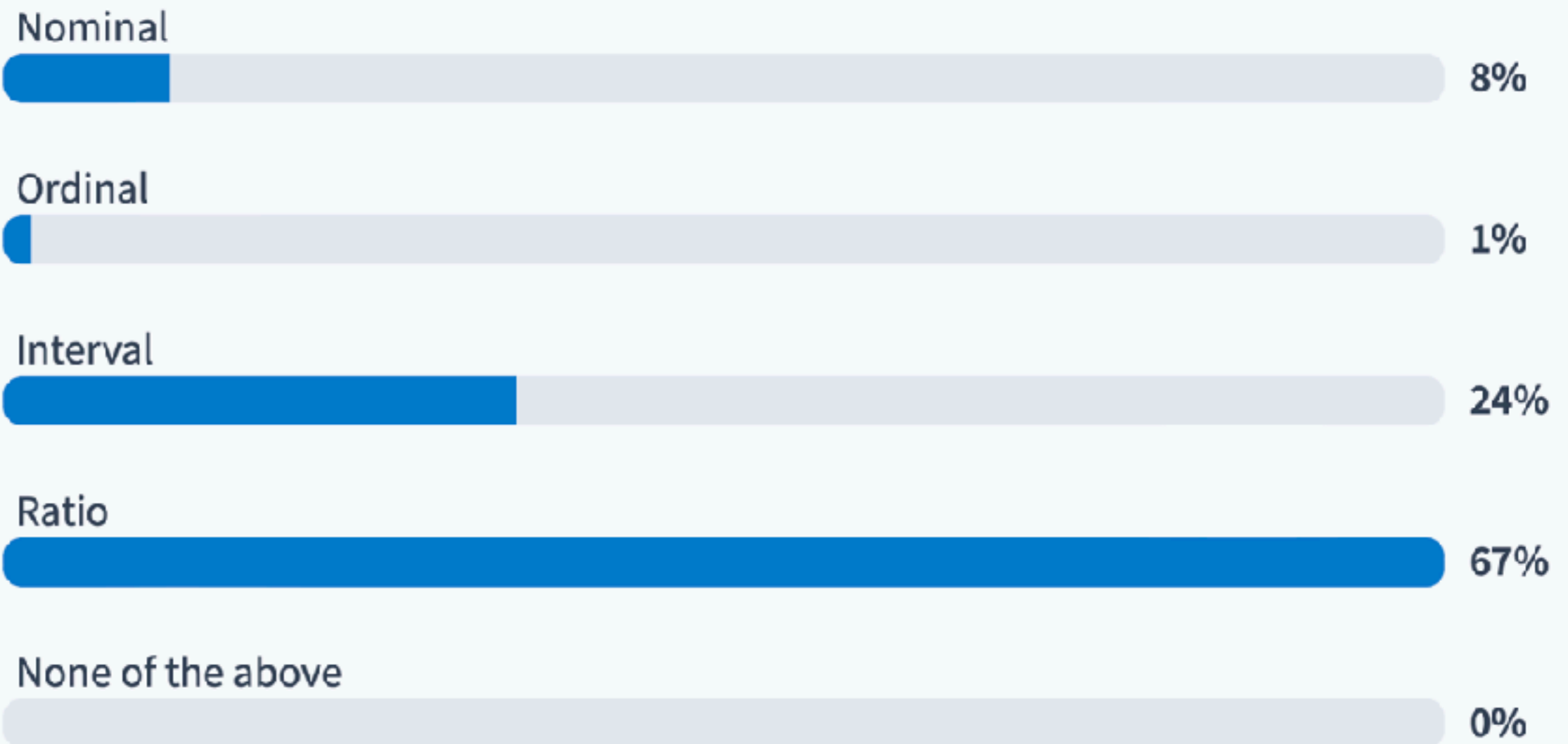
can be multiplied & divided



Ask yourself: "Does it make sense to think of 40 of these as twice as many as 20 of these?"

Question from last time: "Why think of **duration** as a ratio variable if no one can actually run a mile in 0 seconds?"

Measurement scale: "Time to run a mile?"



**What kind of variable is a U.S. social security number (a person-specific ID number)?
Please also write one sentence justifying your response.**

Nobody has responded yet.

Hang tight! Responses are coming in.

What kind of variable is an SAT score (assuming minimum score is 200 and maximum score is 1600)? Please also write one sentence justifying your response.

Nobody has responded yet.

Hang tight! Responses are coming in.

TODAY

LAB 1C: EXPLORING DATA



*Review of
variable types*

*Warmup:
Armoring
the plane*

*Break out
into
lab groups*







Where would you tell the
Navy to put the armor?

Go to pollev.com/introstats



Where would you tell the Navy to put the armor?

Nobody has responded yet.

Hang tight! Responses are coming in.

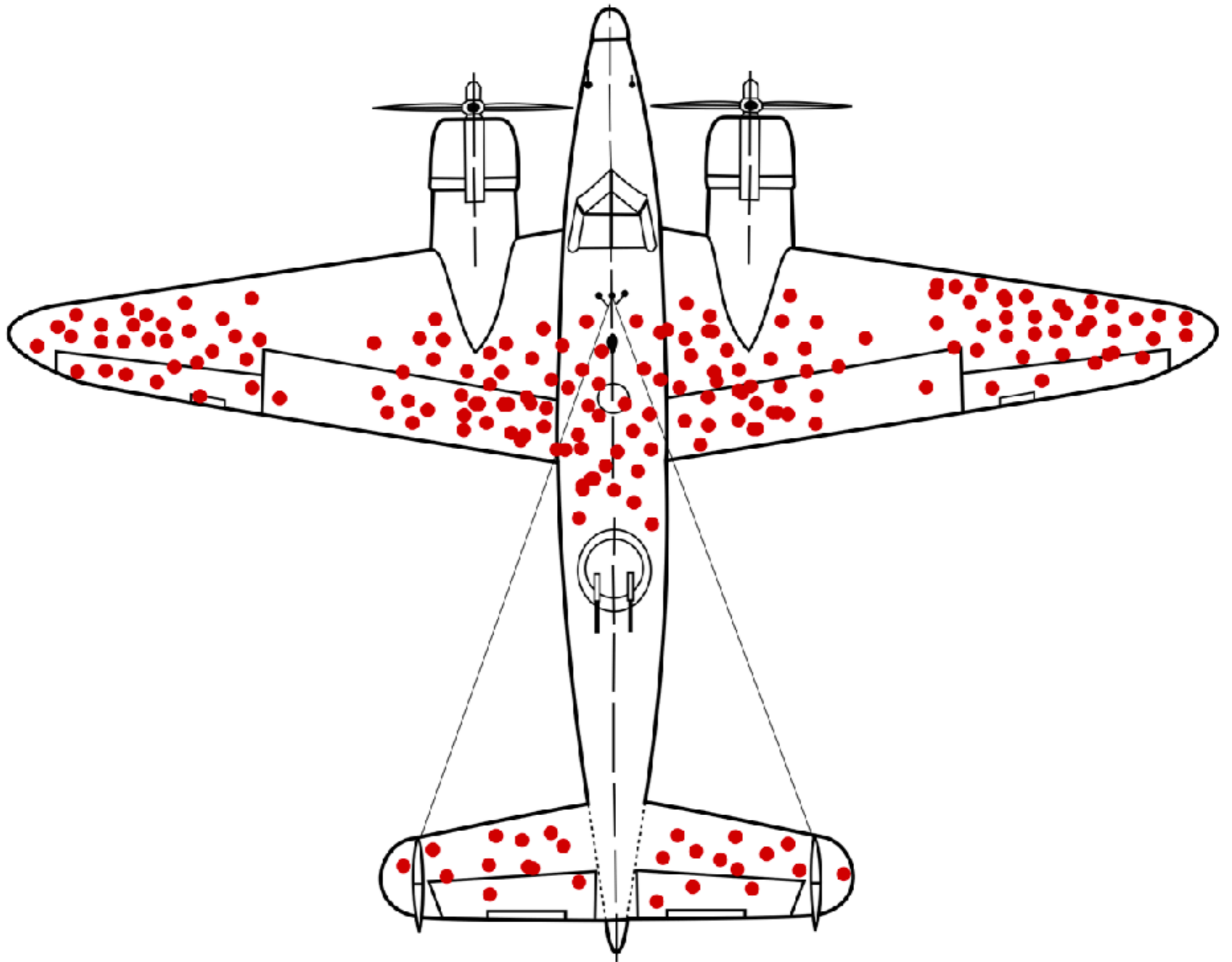
Where would you tell the
Navy to put the armor?

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Where would you tell the Navy to put the armor?

Not where the planes coming back are sustaining damage; but where there *aren't bullet holes b/c those planes aren't coming back.*



TAKEAWAY

It can be really important to pay attention to *missing data* and ask why there aren't there.

We're going to have a review session this Friay 10/4. I'll be taking some questions live, but I'd love to get some ideas from you about what to cover. What is a conceptual question you have that you would like me to address on Friday?

Nobody has responded yet.

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