Variable Types

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NHANES Data

ID	BMI	Race*	Age	Adult**
62161	23.3	3	22	1
62163	17.3	5	14	0
62164	23.2	3	44	1
62165	27.2	4	14	0
62202	24.7	1	36	1
…	…	…	…	…

*Race is coded such that 1: Mexican American, 2: Other Hispanic, 3: Non-Hispanic White, 4: Non-Hispanic Black, 5: Other

**Adult is coded such that 0: Age is less than 18, 1: Age is greater than or equal to 18,

where the variable is coded as a one if the individual

Think about it…

Could we reasonably compute the average response for each of these two variables?

BMI	Race
23.3	3
17.3	5
23.2	3
27.2	4
24.7	1
…	…
Yes!	No*

do like to take the average of categorical variable such as race.

Quantitative Variables

- Numerical, measurable quantities in which arithmetic operations often make sense

- Continuous – could take on any value within an interval, many possible values
- Discrete – countable value, finite number of values

many possible values, as we saw with body mass index.

Categorical (or Qualitative) Variables

- Classifies individuals or items into different groups

- Ordinal – groups have an order or ranking
- Nominal – groups are merely names, no ranking

to help review the concepts we just learned.

The age of the individual was recorded at the time of the survey. What type of variable would age be considered?

- Categorical Nominal
- Categorical Ordinal
- Quantitative Continuous

Correct

- Quantitative Discrete

The adult indicator variable is coded as a 1 if the individual is 18 years of age or older and a 0 if not. What type of variable would the adult indicator variable be considered?

- (•) Categorical Nominal

Correct

- ( ) Categorical Ordinal
- ( ) Quantitative Continuous
- ( ) Quantitative Discrete

IVQ Review

- Although age is reported as an integer, it can be modeled as a continuous variable
- Age (a quantitative variable) can be transformed into a categorical variable

Age	Adult*
22	1
14	0
44	1
14	0
36	1
…	…

*Adult is coded such that 0: Age is less than 18, 1: Age is greater than or equal to 18,

Variable Types

- Different variables provide us with different information which changes how we view and summarize the data

- Categorical
  - Ordinal
  - Nominal
- Quantitative
  - Continuous
  - Discrete

We have both categorical and quantitative,