Week 1 Wednesday

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Inner Animal

Make sure you know your neighbors' names, and then take about 2 minutes to discuss:

If you could wake up tomorrow and be any (non-human) animal, what animal would you choose to be and why?

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Statistics and Ethics

1. Talk with your neighbors about the "Statistics and Ethics" article. Come up with a list of 3-4 salient points from the reading together.

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Data, Variables, and Types of Studies

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sex	age	weight	monthly_income	<pre>smoke_amount</pre>
Female	42	120	under \$2000	12 cig/day
Male	33	150	\$2000 to \$3000	0 cig/day
Female	27	110	\$5000 to \$6000	0 cig/day
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2. Above is a part of a data frame displaying survey data studying smoking habits of California residents. What type of variable is monthly_income?

- (A) Numerical (continuous)
- (B) Numerical (discrete)
- (C) Categorical (ordinal)
- (D) Categorical (nominal)

3. A political scientist is interested in the effect of government type on economic development. She wants to use a sample of 40 countries evenly represented among the Americas, Europe, Asia, and Africa to conduct her analysis. What type of sampling strategy should she use to ensure that countries are selected from each region of the world?

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- (A) Simple random sampling
- (B) Cluster sampling
- (C) Stratified sampling
- (D) Multistage sampling

4. Participants in a study report whether or not they used a smart phone before bed and then rate their quality of sleep as either "very poor," "poor," "average," "good," or "very good." A statistician analyzes the data and determines that the two variables are associated.

Is it reasonable to conclude that smart phone usage before bed causes a change in quality of sleep?

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(A) Yes

(B) No

5. Students at a certain elementary school are given a questionnaire that they are asked to return after their parents have completed it. One of the questions asked is, "Do you find that your work schedule makes it difficult for you to spend time with your kids after school?" Of the parents who replied, 85% said"no."

Is it reasonable to conclude that a majority of parents of children at this elementary school have no difficulty spending time with their kids after school?

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- (A) Yes
- (B) No

6. A study compared percent of internet users and life expectancy at birth in 208 countries and found a positive association. What is a possible confounding variable that might explain this relationship?

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