Government 10: Quantitative Political Analysis

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Question 1

Will this run?

```
prop.table(table(afghan$violent.exp.ISAF, na.rm = TRUE))
```

Question 2

_____ operators only evaluate to TRUE or FALSE

Question 3

Will this run?

```
data$height[data$height == mean(data$height)]
```

Question 4

To summarize a continuous variable by the levels of a categorical/factor variable, we use the function _____

Question 5

Will this run?

```
Numbers <- c(1, 3, 5, 7, NA)
```

```
mean(numbers, na.rm = TRUE)
```

Question 6

A histogram is used to visualize a _____ variable

Question 7

Will this run?

```
data$man <- 0

data$man[data$man==1]<-1
```

Question 8

Will this run?

```
round(tapply(extra$credit, extra$awesome,
mean(na.rm = T), digits = 2)
```

Question 9

Will this run?

```
table(un.votes$idealpoint > 1.5)[2]
```

Question 10

We have a dataset that records age, gender, and GPA. Will this compute the mean GPA for 18 year-old females?

```
mean(dataset$GPA[dataset$age == 18 & gender == "Female"])
```

Question 11

We have a dataset of terrorist events over 20 years with the variables deaths, location, and type. Will this tell us how many events of type "IED" occurred in Iraq?

```
table(data$type == "IED" & data$location == "Iraq")
```

Question 12

We have a variable called `missed` in the data frame `grades` that counts the number assignments each student has failed to submit in a class. Would the following code correctly fail students who have not submitted 5 or more assignments?

```
grades$failed[grades$missed >5] <- Failed
```

Question 13

We want to compute the ATE of an experiment with a control and treatment. Would this work?

```
mean(data$treatment - data$control)
```

Question 14

We have a variable named age that we want to convert from continuous to record those who are between 18 and 34. Would the following do this?

```
data$over[data$age >18] <- "18-34"
```

```
data$over[data$age <34] <- "18-34"
```

Question 15

I have two categorical variables (both take 0 or 1): `organic` and `imported` that describe cheeses. Would the following tell us how many cheeses were organic but not imported?

```
table(data$organic ==1 | data$imported ==0)
```

Question 16

A _____ is a prediction about the world

Question 17

When conducting causal analysis we want to compare what we observed to the _____.

Question 18

_____ implies that two variables ‘move together’

Question 19

Unmeasured variables that can potentially explain an observed pattern are known as _____

Question 20

Name one strength of an RCT:

Question 21

When Mean $>$ Median a distribution is _____

Question 22

_____: Researchers measured what they intended to measure

Question 23

You have a dataframe `hockey` that contains information on all NCAA hockey players. It comes with the variables `goals`, `height` and `weight`. Subset the entire dataframe to contain all columns where players who scored 2 or more goals.

Question 24

You have a dataframe `hockey` that contains information on all NCAA hockey players. It comes with the variables `goals`, `height` and `weight`. Subset the the column `height` for players who weigh more than 200lbs.

Question 25

You have a dataframe `hockey` that contains information on all NCAA hockey players. It comes with the variables `goals`, `height` and `weight`. Compute the mean height for hockey players who weighed at least 180lbs and who scored between 1 and 5 goals.

Bonus

How old do you think I am?

Answers

1. No. (exclude not na.rm)
2. logical
3. Yes
4. tapply()
5. No. (lowercase N)
6. continuous
7. Yes. (but wrong answer)
8. No. (wrong use of na.rm)
9. Yes.
10. Yes.
11. Yes.
12. No. ($>$ and not $>=$)
13. No. (need two means)
14. No. (the two lines overwrite each other)
15. No. (no or instead of and)

Answers

16. Hypothesis
17. Counterfactual
18. Correlation
19. Confounds
20. Excellent at generating counterfactuals OR Strong internal validity
21. Skewed to the right
22. Validity
23. `hockey_subset <- hockey[hockey$goals >=2,]`
24. `hockey_height <- hockey$height[hockey$weight >200]`
25. `mean(hockey$height[hockey$weight >= 180 & hockey$goals >=1 & hockey$goals <=5]`

Bonus: 40