Understanding Validity

Quiz, 12 questions

12/12 points (100%)

Congratulations! You passed!

Next Item

1 / 1 point

1.
What is experimental control?

- Ensuring that nothing happens in an experiment without the experimenter knowing about it.
- Ensuring that every subject gets to experience every condition in the experiment.
- Ensuring that measures are made correctly and precisely.
- Ensuring that systematic differences in observed responses can be attributed to systematic changes in manipulated factors.

Correct

- None of the above.

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1 / 1 point

2.
Which of the following are examples of potential confounds? (Mark all that apply.)

- [ ] In a website A/B test, every visitor was different from every other visitor.

Un-selected is correct

- [ ] In a website A/B test, males all saw website "A" and females all saw website "B".

Correct

- [ ] In a website A/B test, every visitor hitting the site before noon saw website "A", while every visitor hitting the site after noon saw website "B".

Correct

- [x] In a website A/B test, site "A" was different from site "B".

Un-selected is correct

- [x] In a website A/B test, sites "A" and "B" were measured a second time with a new batch of visitors, just to be sure.

Un-selected is correct

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1 / 1 point

3.
Ecological validity and experimental control cannot both be maximized.

- (•) True

Correct

- ( ) False

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1 / 1 point

4.
Which of the following was not an option discussed in lecture for handling a potential confound?

- ( ) Manipulate it -- systematically vary it to see if doing so causes systematic changes in the response.
- ( ) Control for it -- ensure that its effects are spread evenly across all subjects.
- ( ) Measure it -- at least record its value so it can be later examined for possibly having had an effect.
- (•) Hide it -- don't let subjects encounter it in the first place.

Correct

All of the above are options.

1 / 1 point

5.
Which of the following is not another term for the response in an experiment?

- Dependent variable
- Measure
- Outcome
- Y
- Factor

Correct

1 / 1 point

6.
Which of the following are assumptions of ANOVA? (Mark all that apply.)

- [ ] Reliability of residuals

Un-selected is correct

- [x] Normality

Correct

- [x] Homoscedasticity

Correct

- [x] Independence

Correct

- [x] Homogeneity of variance

Correct

1 / 1 point

7.
Which of the following was not a common data distribution reviewed in lecture?

- [ ] Normal
- [ ] Lognormal
- [x] Bimodal

Correct

- [ ] Exponential
- [ ] Gamma
- [ ] Poisson
- [ ] Binomial
- [ ] Multinomial

1 / 1 point

8.
For what kind of experiment would a multinomial distribution be relevant?

- [x] For an experiment in which the response is categorical with more than two categories.

Correct

- [ ] For an experiment in which the response is bimodal.
- [ ] For an experiment in which the response is scalar.
- [ ] For an experiment in which the response is Poisson.

None of the above.

1 / 1 point

9.
Most precisely, parametric analyses differ from nonparametric analyses in what way?

- Parametric analyses operate on ranks.
- Parametric analyses make assumptions about the spread of data.
- Parametric analyses make assumptions about the distribution of the response within the population.

Correct

- Parametric analyses are easier to use.
- None of the above.

1 / 1 point

10.
Typically, an advantage of parametric analyses over nonparametric analyses is statistical power, *i.e.*, the ability to detect differences.

- True

Correct

- False

1 / 1 point

11.
Nonparametric analyses must meet the three assumptions of ANOVA.

- True
- False

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Correct

1 / 1 point

12.

Nonparametric analyses typically operate on ranks.

- True

Correct

- False