



**Hochschule
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Conducting-HRI-Experiments

Name: _____

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Examen: Conducting-HRI-Experiments

Datum: _____

1 For the same statistical power, within-subjects design needs higher sample size than between-subjects design.

-/-

☐ False

☐ True

2 Predictor constructs, when operationalized, yields independent variables.

-/-

☐ True

☐ False

3 Within-subjects design is affected by several biases due to the order of presentation of stimuli. Which of the following are NOT one of them?

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☐ Novelty bias

☐ Omitted variable bias

☐ Measurement bias

☐ Familiarity bias

☐ Habituation bias

4 What are the advantages of online studies?

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☐ Study costs less.

☐ Low external validity.

☐ More diversity among participants.

☐ It's easy to find a large no. of participants quickly.

☐ Participants may be distracted.

5 Factors that affect the outcome of an experiment, but are not part of the hypotheses are called confounding variables. Confounding variables impact which of the following:

- / -

- ☐ external validity of the study.
- ☐ internal validity of the study.
- ☐ ecological validity of the study.

6 In which of the following cases are hypotheses formulated after the study?

- / -

- ☐ Pilot studies
- ☐ Confirmatory studies

7 If a null hypothesis is rejected by the study even though the alternate hypothesis does not hold in the population, then it is a case of:

- / -

- ☐ True negative
- ☐ False positive
- ☐ False negative
- ☐ True positive

8 Which of the following statements is true?

- / -

- ☐ a priori power analysis computes the desired effect size based on the desired alpha level, power and sample size.
- ☐ Post-hoc power analysis computes the statistical power after a study has been conducted.
- ☐ Power analysis does not depend on the study design.

9 Why is power analysis necessary?

- / -

- ☐ Because human behavior and preferences vary from person to person and we cannot derive sound conclusions from a single participant.
- ☐ We need a statistically sound method to ensure that the observed effect is valid for the population.
- ☐ Because we need to determine whether the baseline condition is more powerful than the experimental condition.

10 What do you understand by "random assignment" in between-subjects design?

- / -

- ☐ The conditions are presented to each participant in randomized order.
- ☐ Participants are assigned to a specific condition randomly.