Study Guide - Midterm 1

JP

2022-02-23

### Concepts to Know

variable

relationship

* types of relationships

desriptive and inferential statistics

qualitative and quantitative

IVs and DVs

Conditions

Levels of measurement

* categorical and continuous
* types of each

Measurement error

Know your greek letters

Research Question

* how to formulate a rq

Theory

Hypothesis

Reliability and validity

* types of both

Experimental and correlational designs

Issues with both designs

Cross sectional and longitudinal

between- and within-designs

types of variation

randomization

practice effects

counterbalancing

frequencies

different distributions

normal distribution

skewed distributions

kurtosis

bimodal and multimodal distributions

measures of central tendency

* mean
* mode
* median

know when to use any of them

measures od dispersion

* range
* variance
* standard deviation

quartiles

deviance

sum of errors/deviance

sum of squared errors/squares

z-score for a single participant

z-score for a sample

standardized scores

percentages/proportions of distribution using z-scores

use of z-table

central limit theorem

sample and population differences in terms

fit

samples and populations

estimating parameters

error

degrees of freedom

mean squared error

Ordinary Least Squares

making predictions

standard error

sampling variation/variability

difference between probability and odds

confidence intervals

criterion

critical values

critical value for z-scores

NHST

probabilities

p values

types of hypotheses

hypotheses for one- and two-tailed tests

error types

inflated error rates

bonferroni correction

statistical power

effect sizes

z-test

one-sample t-test

differences z-test and one-sample t-test

z-table

t-table