Assignment 3

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Statistics Assignment 3 - Comparing Means

General Instructions

For each dataset, analyze the data with the appropriate t-test to answer your research question. Your report should include the following headings.

You must submit the following

SPSS - Syntax file - Report in Word doc form

R - RMarkdown file - Knit report in HTML or PDF

Part 1 - Explore the data

1. Identify the variable types for each variable in the dataset
2. For **each variable separately** answer and conduct the analysis for the following
    - Are their outliers?
        - How many? What are their values?
    - Are their missing data?
        - How many cases?
    - Compute or create a new variable to deal with the outliers
    - Compute or create a new variable to deal with the missing
    - Compute or create a new variable that you feel is corrected for outliers and missing data
3. Compare the the descriptive statistics for continuous (quantitative) variables with non-cleaned, outliers cleaned, missing cleaned, and final cleaned variables.
4. Compare the histograms for continuous (quantitative) variables with non-cleaned, outliers cleaned, missing cleaned, and final cleaned variables.

Part 2 - Format and Effort

General Formatting

- A combination sentences/paragraphs with some bullet points is appropriate.
- Include a list of references where appropriate. For this assignment, you do not need to worry about providing references to the scales/items within the dataset.

OVERALL

- Assignments will be evaluated based on the overall effort and thoroughness of the assignment, attention to details, and overall presentation of results.

Data

Purpose

These are simulated data that I created. This is **NOT** the same dataset as assignment 1. Do not be fooled. There are lots of tricky thing hidden in there.

Variables

Name	Description	Units
id	Unique identifer for each individual participant	NA
age_years	Age in years	years
bench_press_max_lbs	1 rep max bench press in pounds	pounds
height_cm	Height in centimeters	centimeters
weight_kg	Weight in kilograms	kilograms
age_category	Age category where less than 40 years old = young and <= 40 years old = old	NA

Methods

Design This study used a cross-sectional survey research design to examine the differences in the associations between age, height, weight, and bench press max.

Sample The population for this study consisted of individuals residing in the St. John's area. A sample (n = 10,000) participants were recruited to come into the lab.

Dependent Variable Bench press max

- Bench press max was measured using a 1RM bench press test for each participant. Participants were instructed to warm up properly and completed the PAR-Q prior to begining exercising.

Independent Variables Age

- Participants were asked their age in years, months, and days.

Height

- Height was measured using a stadiometer

Weight

- Weight was measured using a calibrated scale