Data Analysis Methods

RMH4036-n

Quantitative Assessment

**Submission Deadline 2/5/2024**

**PLEASE READ THE FOLLOWING:**

No max wordcount – but answers should be in the style of a report/journal article and therefore you should be as succinct as possible.

Justify your decisions throughout using relevant references.

Provide SPSS\* output in the appendices (except graphs which can be placed in the body of your report) so that benefit can be given if you have the correct methods.

Please do not share/discuss your work with any other student – this could be classed as collusion and result in an academic misconduct hearing. Turnitin will be used to assess similarity, however we do anticipate a higher level of similarity due to standardised methods of reporting and presentation.

Upload your report (saved as one Word document) to BB via the Turnitin Link.

Identify the Dataset you were allocated on the cover page of your assignment.

**Scenario 1**

You are a public health researcher. You are interested in better understanding the effects of Nordic walking for fitness. Some of the literature states that is not an effective means of exercise, while others comment that it is highly effective; however, these effects seem to be dependent on gender.

**Aim:** Having completed the 8-week programme you want to see if there is an effect of gender (male/female) in terms of:

* **Rating of Perceived Exertion (RPE; a self-assessment scale to rate breathlessness and**

**fatigue during exercise, scored along a 100mm line) and**

* **Functional Capacity (measured using the Teesside Functional Capacity Scale TFCS)**

**Scenario 2**

Following from your previous question you also believe there may be an age effect on the functional capacity.

**Aims:** Having completed the 8-week programme you want to see if there is an effect in terms of

* **Functional Capacity**

**– based on the age group of the participant. – You must recode the age variable into age groups (20-29, 30-39, 40-49, 50+)**

**Scenario 3**

You also collected data on whether the participants plan to continue with Nordic walking after the study and are interested in whether males or females are more likely to continue.

You have recorded:

* **Whether they plan to continue or not (yes or no)**

**Aim**: You are interested in establishing if there is a relationship between the likelihood to continue training and **gender.**

**Scenario 4**

As part of your study – you have collected the duration a participant walked for (this was decided upon by each participant) and a measure of Depression.

You have recorded:

* **Depression (higher scores indicate more severe depression)**
* **Self-selected exercise duration (mins)**

**Aim:** You are interested to see whether there is any association between the time spent walking and the level of depression of participants.

**More information on Variables collected**

Gender: male or female

Age: in years

RPE: 0 indicates no effort; 100 indicates maximum effort (measured in mm)-

TFCS: lower values indicate better functional capacity.

ExDuration: walking time in minutes

Continue: yes /no

Depression: higher scores indicate more severe depression.

Note that baseline values for the TFCS and RPE for males and females were not significantly different.

**WHAT TO INCLUDE:**

**Based on the specified scenario, provide the:**

1.Descriptive statistics for all of the participant demographics and outcome variables

2.Select and run the appropriate statistical test(s)

* State your hypothesis or research question
* State and justify the statistical test you have chosen
* Test the appropriate assumptions
* Run the test

3.Report the findings in full as would be expected for publication, interpret meaning of findings and provide a simple-layperson interpretation. Use appropriately formatted and labelled Graphs and Tables.

4. Justify your decisions throughout and provide SPSS output in the appendices (except graphs which can be placed in the body of your report).

The dataset is in SPSS format, but you may need to complete the set up of the dataset and check for errors/anomalies.

\*You can use other statistical software if you wish.

**ASSESSMENT CRITERIA**

Component 2 (50%): Quantitative Data Analysis Report

♣ Provide a reasoned justification for the quantitative data analysis tests selected.

♣ Plan and implement appropriate quantitative data analysis using dedicated data analysis software.

♣ Appropriate presentation and interpretation of results.

♣ Adhere to the School of Health & Life Science guidelines for presentation and referencing.