ALMOND DATA SCHOOL
Data storytelling

Quantitative Research Methods

Instructions
Your task is to analyze the data provided and produce a *short research report* (1200-1500 words) to describe the impact of Covid-19 on college/university students' lives.

Quantitative dataset information

A Social Economic survey has been designed in the UK in order to find out the influences of Covid-19 on Mental Health and Financial Situation of the university students. A subset of this data set including 675 students and 19 variables have selected in a SPSS data set. (UK_Student_Jan.sav)

Some variables have measured before and after COVID-19.

Your task:

A) You need to define value labels for qualitative/categorical variables according to Table 1.
B) Descriptive Statistics
   a. Describe the features of these participants briefly by using Descriptive Statistics including appropriate statistical measurements (Mean, SD, percentage, …), tables and graphs. In this part, you just need to describe the Age, BMI, Gender, Health Condition, Level of Study, Marital Status, Wealthy Background and Economic Status.
   b. Explore at least two quantitative variables by the categorical variables with reasonable explanation.
   c. Demonstrate at least one crosstabs by using the categorical variables, compute the Rows, Columns and Total percentages, and describe these percentages.

   Note: Your tables should be concise and clear, and you need to explain them properly. You can support your explanation by the statistical measurements and graphs in a reasonable way.
C) Inferential Statistics
   You need to define at least five claims (Hypotheses) and test these Hypotheses by appropriate statistical tests and techniques. Your techniques require to include:

   i.   One and/or two sample t-test and/or non-parametric tests, Paired t-test. ii.

        One way and/or two-way ANOVA F-test or a non-parametric test.

   iii. Finding associations between variables by Chi-square tests and/or Regression

         Analysis.

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A) Characteristic Variables:

Table 1 Characteristic Variables

Variables	Description	SPSS Variable name	Quantity/ Labels/Levels
Age	The age of participants	Age	Year
Weight	The Weight of participants	Weight	KG
Height	The Height of participants	Height	CM
Gender	The gender of participants	Gender	Male = 2/ Female = 1
Eye Colour	The age of participants	Eye Colour	Blue=1/Brown=2/Hazel=3/Green =4
Blood Group	The blood group of participants	Blood Group	A=1/B=2/AB=3/O=4
Health Condition	The health condition of participants	Health Condition	Healthy =1/ Chronic=2/ Disable=3
Level of Study	The age of participants	Level Study	Postgrad = 2/ Undergrad = 1
Marital Status	The age of participants	Marital Status	Single = 1/Married = 2
Wealthy Background	The Wealthy Background family of participants	Wealthy Background	Yes = 1/No = 0
Economic status	The current economic status of participants	Economic status	High =3/Medium = 2/Low = 1

B) Variables that have been measured and gathered before and after COVID-19:
   1) (SWLS) Satisfaction with life scale. It consists of five items with a seven-point response format, from "strongly agree" to "strongly disagree". Scoring:
   Though scoring should be kept continuous (sum up scores on each item), here are some cut-offs to be used as benchmarks.
   - 31 - 35 Extremely satisfied
   - 26 - 30 Satisfied
   - 21 - 25 Slightly satisfied
   - 20 Neutral
   - 15 - 19 Slightly dissatisfied
   - 10 - 14 Dissatisfied
   - 5 - 9 Extremely dissatisfied

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Variables	Description	SPSS Variable name
SWLS before COVID-19	The measure of SWLS of participants before COVID-19	SWLS_Before
SWLS after COVID-19	The measure of SWLS of participants after COVID-19	SWLS_After

2) GHQ 12: Mental distress. Twelve General Health Questionnaire-GHQ, has been used to evaluate mental distress. The GHQ-12 measure has standardized instructions as well as scoring interpretations for the clinician to follow and is administered as a self-report in which the subject is asked to consider 12 questions and how they relate to his or her personal life over the past few weeks. Before and after COVID-19. Scoring:

Total scores range from 0 to 36 with a score of 11 or 12 considered typical, scores > 15 suggesting evidence of distress, and scores > 20 are considered severe problems with psychological distress.

Variables	Description	SPSS Variable name
GHQ12 before COVID-19	The measure of GHQ12 of participants before COVID-19	GHQ12_Before
GHQ12 after COVID-19	The measure of GHQ12 of participants after COVID-19	GHQ12_After

3) Anxiety : Hospital Anxiety and Depression Scale (HADS)

Variables	Description	SPSS Variable name
Anxiety score before COVID-19	The Anxiety score of participants before COVID-19	Anx_Before
Anxiety score after COVID-19	The Anxiety score of participants after COVID-19	Anx_After

4) CS: Credit score. Before and after COVID-19.

A credit score is a number designed to represent the likelihood you will pay your bills on time. Higher credit scores generally result in more favourable credit terms. Scoring : 1 to 710

SPSS Variable name: CS_Before and CS_After.

Variables	Description	SPSS Variable name
CS before COVID-19	The CS number of participants before COVID-19	CS_Before
CS after COVID-19	The CS number of participants after COVID-19	CS_After

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c. Quantitative and Qualitative data sets

Your report should include a mixed analysis of the two sets of data.

Once you have summarized your findings from parts **a)** and **b)**, you should wrap up your report with a <u>conclusion</u> that shows how students' lives have been affected by Covid-19.

This conclusion has to be drawn from evidence from your previous analyses, so please <u>do not</u> include new data or findings here.

Ali The Analyst