



PSYCHOLOGY ATAR – YEAR 12 2024

Unit 4

Task 7: Sleep Validation

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Syllabus points

- Applications of psychology to health
- Ethical guidelines and practices for psychological research
- Formulating research
- Methodology
- Data collection
- Drawing conclusions
- Evaluation of research

Conditions

Reading time: 5 minutes

Working time: 40 minutes

Task Weighting

- 7%

Structure of this paper

| Section | Number of questions available | Number of questions to be attempted | Suggested working time (minutes) | Marks | Score |
|---------------------------|-------------------------------|-------------------------------------|----------------------------------|-------|-------|
| Section One: Short Answer | 5 | 5 | 40 | 41 | |
| Total | | | | 41 | |

Part B

(41 marks)

1. Identify the following variables in your study.

(3 marks)

Independent

the useage or restriction of usaage of mobile phones
30 minutes prior to sleep

Dependent

Sleep amount, sleep quality & cognitive functioning

Controlled

The self report assesment table content.

2. The study you have conducted uses experimental design.

- (a) Outline why it is considered experimental research.

(2 marks)

This study is considered experimental reseavcn as
there was a control portion and an experiment
portion to compare, aswell as the independent
variable being manipulated

- (b) (i) Identify one feature of experimental research that is missing from this study. (1 mark)

Control group

~~no control group~~ ~~selection of method~~

- (ii) Explain why experimental research should have this feature.

(2 marks)

experimental research should have a control group as it
~~experimental research should have a control group as it~~
provides a base line set of data that the experimental
~~provides a base line set of data that the experimental~~
group data can be compared against to view changes
~~group data can be compared against to view changes~~
and trends in the data
~~and trends in the data~~

~~In experimental research, the study must be repeated multiple
times to get a wide range of data that can be analysed
aswell as increasing validity & reliability.~~

3. Formulate an evidence-based conclusion that explains your findings using psychological theories and concepts.

(6 marks)

~~the~~ ~~the~~ In Conclusion, this investigation found that there was a consistent overall increase in the cognitive functioning, sleep amount and sleep quality experienced by participants. Cognitive functioning increasing by 0.94¹⁰, sleep amount increasing by 1.2 hours and quality of sleep increasing ~~by~~ by 1.4/10 with the presence of mobile phone restrictions for 30 minutes prior to sleep. These findings are similar to the findings of He et al.³, 2020 study using similar cognitive functionings and sleep quality and amount. He et al., also found an increase in the cognitive functionings and sleep amount and quality with the presence of mobile phone restrictions, however these results are more significant due to a longer time period of conduction. The results of the investigation cannot be generalized due to the small population and have poor validity due to the short conduction period, proving similarity to sleep studies but ultimately insignificant.

4. The data was collected using a subjective quantitative measure.

- (a) With reference to your study, outline a strength of this method of data collection. (2 marks)

In the study a strength of using subjective quantitative measures being self-report assessments is that it ~~was the best~~ ^{because the respondent} ~~data collection~~ ^{time} is cost effective for researcher.

- (b) Suggest how qualitative data could be collected in a future study. (4 marks)

A series of questionnaires could be supplied as well that contain prompts asking about factors that could be used to obtain qualitative data e.g. was there any unusual disruptions prior to sleep, explain, or identify if any external stressors were present that could limit sleep.

- (c) Explain how qualitative data addresses a limitation of quantitative data. (2 marks)

Qualitative data allows for the consideration of personal reasoning and perspective, which is a limitation of quantitative data as it doesn't account for that.

- (d) Assess the reliability and validity of the subjective quantitative measure you created. (4 marks)

Reliability: The subjective measure that was created is reliable in this investigation as it can be easily replicated by ~~then~~ other researchers and provide similar data

Validity: The validity of the subjective quantitative measure was poor as it was open to personal interpretation

and inaccurate data collection.

5. Imagine we were going to run this study again but with the feature identified in 2 (b) (i) and a larger sample with the target population being high school students in Western Australia.

- (a) Assess which sampling technique would be most appropriate to get a representative sample of all students in Western Australia. (3 marks)

Random sampling would be best as the technique doesn't allow for bias giving each individual in the population an equal chance of being chosen for the study, either control or experimental group, creating a more equal and representative sample of students in WA.

- (b) You have already written a standardised procedure in a report that could be used in the future study. Explain the purpose of having these in the study. (3 marks)

The purpose of having these in the study is so that the reliability of the study improves and to ~~prevent~~ ~~allow~~ allow for easy replication of study's without the changing of procedure ~~at~~ between study's or participants. and provides similar data if replicated.

- (c) Suggest how you would minimise the effects of extraneous and confounding variables other than having a standardised procedure. (3 marks)

To minimise confounding and extraneous variables ~~at~~ the test could be conducted while every participant is healthy, while there is limited external stressors and ~~the~~ implement the creation of a similar sleep environment to the best of the participants ability to reduce the effects of these things on the data.

(d) Explain how you would address two ethical considerations.

(6 marks)

One: Informed consent: an informed consent form would be delivered to all participants (or parent/guardian if under 18) detailing the purpose of the study, what the study entails, participant rights, costs and benefits of the study to be completed in written form giving permission/consent for participation in the study.

Two: Confidentiality: all data collected would remain ~~anonym~~ anonymous, with no details of private information or any indication of who the participant is, instead each participant will be assigned a number at random to their data, and all names would be kept out of any formal publication.