



PSYCHOLOGY ATAR – YEAR 12 2024

Unit 4

Task 7: Sleep Validation

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

Using devices 30 minutes before bed or restricting device use 30 minutes before bed.

Dependent

Sleep quality, cognitive functions (attention, mood, motivation,).

Controlled

Same days of the week (Wednesday, Thursday, Friday).

2. The study you have conducted uses experimental design.

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

(2 marks)

Since we are manipulating the independent variable (restricting devices or not) in order to determine a cause and effect.

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

~~A controlled setting (lab).~~ Control Groups

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

(2 marks)

~~In order to limit environmental extraneous variables that could affect the results.~~

To ~~identify~~ compare the results with the experimental groups, to see cause and effect.

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

(6 marks)

In conclusion ~~part~~ when participants restricted their device use 30 minutes before bed they had a higher cognitive function (^{7.06}~~5.67~~) and sleep quality (^{5.06}~~5.67~~) compared to when they didn't with ~~5.67~~ and 5.67. This ~~also~~ closely relates to the He et al (2020) study on devices and sleep in which their participants restricted their device use before bed with their results showing that they had better sleep quality and cognitive functions as well. This supports ~~that~~ the sleep ~~theory~~ theory of circadian rhythm sleep wake cycle, devices affects the cycle usually not allowing the brain to process ~~and~~ store memories and repair the body and if the body isn't repairing it does points then the person won't be functioning ~~cognitively~~ cognitively to full potential (decrease cognitive function). ~~as we look the de~~

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)

A strength is having a ^{is being able to graph} ~~better understanding of~~ the participants results, ^{then we could see} ~~since it's sheep we~~ ^{how restricting devices compares to not} ~~were able to better understand the participants~~

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

Through interviewing the participant and getting them to answer questions about how they are feeling. Interviewing them throughout the day.

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

Qualitative data is able to get in depth understanding of the participants which quantitative data can't.

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

Reliability: ~~Poor~~ reliability since it was subjective as well as the participants not following the 30 minutes devices off ~~complet~~ completely.

Validity: Moderate validity the study did measure sheep quality and cognitive function.

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)

A sampling technique that would be appropriate is snowballing where we pick a ~~high school~~ student and they get their friends or another student to participate and they get other students.

(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 is to make the study reliable. So if other experimenters wanted to replicate the study then they would have the step by step which should conceive same results.

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

By controlling more of the variables, such as time the participants go to sleep (extraneous) and ~~with~~ accounting for confounding variables in the results.

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

(6 marks)

One: Protection from Harm, making sure
that the participants are safe to when part
partaking in the experiment ~~such~~ both physically
and psychologically, also if they have issues
regarding sleep then they wouldn't be asked to
participate.

Two: ~~Informed Consent~~ Voluntary participation.
By not coersing the participants to join the
study or giving some sort of reward/punishment
is the do join or not.