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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

The restricted 30 minutes of no electrical devices/ screen time before bed.

Dependent

The quality, and quantity of sleep and cognitive function of the participants, recorded.

Controlled

The self Assessment survey given to every participant.

2. The study you have conducted uses experimental design.

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

(2 marks)

We were manipulating variables to observe and test its effects on other variables and drawing correlations. We were conducting an experiment in order to pursue this.

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

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

(2 marks)

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

(6 marks)

It is evident that the restriction of screen time before bed is highly beneficial in improving sleep quality, quantity and cognitive function. The exposure to the artificial blue light that is emitted ^{by screens on electrical devices} acts as a stimulant and disrupts the circadian rhythm, ^{and} ~~th~~ inhibits the ~~&~~ release and function of the essential sleep hormone melatonin. The circadian rhythm is a 24 hour cycle that builds a sleep wake cycle and prompts awaking in the light/morning and sleeping in dark/light, the circadian rhythm is a body clock. The blue light ~~x~~ stops the effects of melatonin, which induces the drowsy feelings of tiredness, that is essential in falling asleep. This is a result of the light triggering and alerting arousal response that increases ~~and~~ brain activity and elevates body temperature and heart rate, thusly posing a difficulty to sleep.

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)

it was an efficient method of collecting
~~we~~

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

conducting interviews and collating personal
~~ee~~ experience

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

Quantitative data is limited in explanation
of the results and lacks depth and
personal context ^{it is purely numerical,} and explanations, whereas
qualitative is more thorough and informative

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

Reliability: The results were consistent, however
the reliability could be questioned as the
~~study~~ ^{study} was over a very limited ^{short} time span.

Validity: _____

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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 an appropriate technique as it would allow for a more diverse representation of the population of Western Australian high school 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)

A standardised procedure is essential for the experiment to be able to be replicated

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

Taking into consideration the participants context, as some participants may have sleep related disorders such as insomnia that may skew the data and effect the reliability. Restricting the participants and possibly not testing ones with sleep related disorders could reflect a more accurate test and minimise extraneous & confounding variables.

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

(6 marks)

One: To ensure privacy and anonymity are upheld the data sheets shouldn't be labelled with a name, all data is deidentified and then once data is collected, and utilised and there is no use anymore it is destroyed / shredded to safeguard the personal ~~in~~ data of participants & protect them.

Two: Ensuring the participants are debriefed and aware of the experiment and its proceedings ^{by sending out information sheets} and ^{forms} are getting signed consent from the participants and or guardians to ^{uphold} ~~ensure~~ informed consent.