



Dement & Kleitman (1957) ~ The relation of eye movements (REM) during sleep to dream activity

Short Answer Question – suggested answers

1. Define REM sleep. (1 mark)

Rapid Eye Movement.

2. This correlational study has three hypotheses, state each one. (3 marks)

- There will be a significant association between REM sleep and dreaming.
- There will be a significant positive correlation between the estimate of the duration of dreams and the length of eye-movement.
- There will be a significant association between the pattern of eye movement and the context of the dream.

3. Give two details about the participants used in this study? (2 marks)

7 males and 2 females (five were studied intensively).

4. What piece of specialised equipment was used to measure brain activity? (1 mark)

EEG (electroencephalograph).

5. In procedure one, participants' were woken up by a loud doorbell ringing close to their bed, but how were they asked to record their dreams? (2 marks)

Participants had to speak into a tape recorder near their bed. They were instructed to first state whether or not they had been dreaming and then, if they could, to report the content of the dream.

6. In an attempt to eliminate the possibility of experimenter effects, what control did the first procedure have? (2 marks)

The experimenter did not communicate with the participants during the night. Furthermore to help prevent bias the participants were never told, after waking, whether their eyes had been moving or not.

7. In procedure two participants were woken up at two different time intervals in REM sleep, what were they? (2 marks)

5 minutes and 15 minutes

8. In procedure three participants were woken up during one of four patterns of eye movement, can you describe just one? (2 marks)
- (a) mainly vertical eye movements; (b) mainly horizontal eye movements; (c) both vertical and horizontal eye movements; (d) very little or no eye movement.
9. Give one finding from procedure one in relation to the association with REM sleep compared with NREM sleep. (2 marks)
- REM sleep is predominantly, though not exclusively, associated with dreaming (152 REM were recorded dream recall), and N-REM sleep is associated with periods of non-dreaming sleep (only 11 recordings of dreams during NREM).
10. In procedure two participants were asked to estimate the length of their dreams, what do the findings show? (2 marks)
- All the participants were able to choose the correct dream duration fairly accurately, except for one participant who could only recall the latter part of the dream and so underestimated its length. The correlation shows a positive relationship between the duration of REM in minutes and the number of words recalled in dream narratives.
11. From procedure three give one finding that demonstrates the relationship between dream content and the type of eye movements. (2 marks)
- Standing at the bottom of a cliff operating a hoist, and looking up at the climbers, and down at the hoist machinery. OR Climbing up a series of ladders looking up and down as he climbed.
12. Explain why we need to be cautious when forming conclusions from this study? (2 marks)
- Subsequent studies have not supported Dement & Kleitman's findings that there is a relationship between eye movements and what the person is dreaming about. Therefore before any general conclusions are formed, perhaps more independent research is necessary.
13. Describe how the generalisation of this study may affect the conclusions? (2 marks)
- The sample size is restricted to 9 participants and of whom only 5 were studied intensively. They were also biased towards males (androcentric). These points make it hard to generalise the findings to a wider population.

14. Why is this study criticised for its subjectivity? (2 marks)

This study is based on the accounts of dreaming from individual participants who are subject to demand characteristics and who may be lying. There is no scientific test to prove that the content they describe in their dreams is true.

15. What can we say about the ecological validity of this study? (2 marks)

This study lacks ecological validity in that the setting was artificial as participants were sleeping in the laboratory not at home. In addition, the task would lack mundane realism as most people are not asked to recall their dreams after being woken throughout the night.

