Problem

    Many students, myself included, tend to get four, five or six hours of sleep per night - not deprivation  - but also not a full nights rest. Is there any middle ground between storage of memories during a full nights rest and (lack of) storage during complete deprivation? I plan to look at the most crucial time periods during sleep for memory storage. Simply for purposes of memory encoding, what is the difference between four and eight hours of sleep? REM periods of sleep tend to get longer as a human�s night of sleep passes. During an eight-hour period of sleep, humans go through a five-stage sleep cycle several times, which can include up to 5 periods of REM sleep.  If one only gets four hours, they would likely only experience two REM periods. How will this effect memory storage, and the ability to remember come the next day?

**Hypothesis**

    Sleep deprivation will have a detrimental effect on the rats' ability to recall the configuration of the maze.

Prediction

    If the majority of recent memories are encoded in rat and human brains during REM sleep, then depriving rat subjects of one-half of their normal amount of sleep will have the most detrimental effect on their ability to remember information learned during the previous day because the number of REM periods will also have been reduced by half.

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