

SLEEP & DREAMING



KEY DEBATES

- NATURE (brain processes) vs. NURTURE (past experiences)
- REDUCTIONISM (focused on narrow view of brain activity)
- SUBJECTIVE (Freud) vs OBJECTIVE (based on brain scans)



ACTIVATION SYNTHESIS THEORY OF DREAMING

The theory suggests that dreams are a result of our mind trying to make sense of brain activation during sleep.

NEURONAL ACTIVITY INCREASES IN THE PONS

During REM sleep, body is paralysed, but activity increases in area of brainstem called the pons - random brain waves are generated.



BRAIN WAVES TRAVEL TO CEREBRAL CORTEX

Higher brain areas in the cerebral cortex that would normally interpret sensory information. The information is treated as if it was real sensory information.

SYNTHESIS OCCURS - MAKING SENSE OF RANDOM SIGNALS

Through interpreting the stimulation synthesis occurs; using stored memories to make sense of the information.



THE ROLE OF THE LIMBIC SYSTEM

Because the brain waves activate many different brain areas such as the limbic system (which controls emotions) the resulting dreams are bizarre & emotional. So the theory suggests that dreams have no real meaning.

LIMITATIONS

- Too reductionist - suggests that dreams are a random result of happens when the mind tries to make sense of brain activity that occurs during sleep.
- The theory is quite a simplistic view and ignores the view that dreams can be meaningful, it is further reductionist as it does not explain the purpose of dreams, just where they come from.
- Doesn't explain how people with damage to brainstem can still dream.

NATURE

WILLIAMS ET AL. (1992) STUDY INTO THE BIZARRENES OF DREAMS & FANTASIES

AIM

To see if bizarreness of dreams is different to the bizarreness of daytime fantasies.

SAMPLE

12 biopsychology students from Harvard University, aged 23 to 45.

FINDINGS & CONCLUSION

- Dreams were found to be a lot more bizarre than daytime fantasies (day dreams).
- There were good levels of inter-rater reliability between the judges (88.7% similar scores).
- Dreams scored higher than fantasies for: plot discontinuity (greatest difference), plot incongruity, uncertainty, and thought incongruity

RESEARCH METHOD

Natural experiment and self-report journal entries

PROCEDURE

- Participants kept a journal for a term recording any dreams they could recall & any day dreams they experienced.
- Researchers selected 60 dreams & 60 day dreams.
- 3 different judges scored for bizarreness (inter-rater reliability).



LIMITATIONS OF STUDY

- Sample too small & gender biased (10 females)- cannot be generalised.
- Social desirability - self report so participants may have lied about/ changed their dreams/fantasies.

FREUDIAN THEORY OF DREAMING

The theory suggests that the mind is like an iceberg; it consists of our conscious mind and unconscious mind (we are normally unable to access it).

UNCONSCIOUS MIND

Contains unacceptable thoughts, feelings and desires that our conscious mind cannot deal with & are considered unacceptable in society. Freud suggested this part of our personality is the ID & is repressed by another part of our personality called the ego. Dreams allow us to access the unconscious mind.

WISH FULFILMENT

In sleep the ego is weakened & the unconscious mind tries to break through into our consciousness. In order to satisfy these unconscious desires we dream, this is known as wish fulfilment (e.g. being able to eat all the icecream you want).

CONTENT OF DREAMS

True content of our dreams are hidden through the use of symbols which do not disturb us. So dreams will have two types of content:
Manifest content - what we actually see in our dreams - disguises the latent content through symbolism (e.g. falling in a dream).
Latent content - which is the true meaning of our dreams (e.g. being afraid of failing at something).

LIMITATIONS

- Highly subjective - dream interpretation is dependent on person's opinion.
- Difficult to test as based on unreliable research where Freud alone conducted interviews & interpreted the dreams of participants.
- Based on studies that have cultural and historical bias.



NURTURE

FREUD'S (1918) DREAM ANALYSIS OF 'THE WOLFMAN'

AIM

To see if dream analysis could help treat psychological problems by releasing repressed memories.

SAMPLE

One Russian male in his 20s, suffering from depression

RESEARCH METHOD/ DESIGN

Longitudinal case study (4 years)

PROCEDURE

- The man, known as "The Wolfman", was interviewed over 4 yrs.
- He was thought to suffer from depression after his father & sister had both committed suicide.
- He reported a dream where he woke up and saw 6 or 7 white wolves sitting in a walnut tree outside his bedroom window staring at him.



FINDINGS & CONCLUSION

- 1) The wolves represented fear because he had seen a 'primal scene' of his parents having sex. Freud also said the wolves represented fear of his father who he was scared would castrate him.
- 2) Also thought as the dream was around Christmas, the wolves could represent pleasure, like Christmas presents.

Dreams can represent repressed thoughts which hide in the unconscious.

LIMITATIONS OF STUDY

- Sample too small & culturally biased (unrepresentative & can't be generalised).
- Study too subjective - based only on Freud's interpretations.

KEY CONCEPTS

FUNCTIONS OF SLEEP

- Physical repair to return the body to a normal, healthy state - healthy brain that functions normally
- Emotional stability (feeling normal and psychologically healthy);
- Instinctive and necessary for survival (evolved behaviour) - keeps us safe at night



SLEEP CYCLE

Stage 1 - 10% Stage 2 - 50% Stage 3 - 10%
Stage 4 - 10% Rapid Eye Movement (REM) - 20%

NEUROPSYCHOLOGY OF SLEEP

Endogenous pacemakers - internal biological clocks- manage circadian rhythms (e.g. Suprachiasmatic nucleus)

Exogenous Zeitgebers - features of the environment that manage circadian rhythms (e.g. light)

Hypothalamus - controls key bodily functions

Melatonin - hormone that induces sleep. Released by the pineal gland.



APPLICATIONS OF RESEARCH

IMPACT OF NEUROLOGICAL DAMAGE ON SLEEP

Understanding Insomnia

- damage to the hypothalamus can occur after surgery, trauma or disease. The SCN is part of the hypothalamus- damage to this can lead to insomnia.
- damage to the pineal gland (regulates melatonin production), can also lead to insomnia.



WAYS TO IMPROVE ON SLEEP PROBLEMS

1) Relaxation techniques

- Clearing the mind/writing down concerns (to reduce anxiety & worry) AND deep breathing & relieving tension in body through visualisation.

Balances the nervous system by calming the sympathetic nervous system & supporting the parasympathetic nervous system to do its job.



2) Sleep Hygiene

- make changes to health (diet/exercise/ coffee etc.) and physical environment to promote sleep
- reduce light/ electronic equipment (light-block melatonin production)
- regulate temperature
- comfortable bedding
- bedroom decluttered & clocks faces turned away

