

# 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)

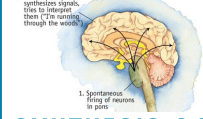


## ACTIVATION SYNTHESIS THEORY OF DREAMING

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

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

#### RESEARCH METHOD

Natural experiment and self-report journal entries

#### PROCEDURE

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

#### 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

**The bizarreness of dreams is due to the brain activity during REM sleep.**

#### LIMITATIONS OF STUDY

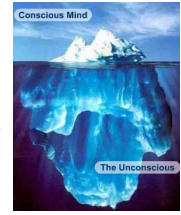
- Sample too small & gender biased (10 females)- cannot be generalised.
- Social desirability - self report so participants may have lied about/ changed their dreams/fantasies.

## 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

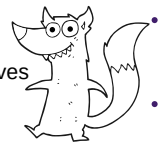
- 1) The wolves represented fear because he had seen a 'primal scene' of his parents having sex. Freud also said the wolves represented fear of his father who he was scared would castrate him.
- 2) Also thought as the dream was around Christmas, the wolves could represent pleasure, like Christmas presents.

**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**
- a) 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.
- b) 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

