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Dreams and emotions during REM sleep—real-time observation in lucid healthy volunteers

Submission date 09/09/2025	**Recruitment status** No longer recruiting	[X] Prospectively registered [_] Protocol [_] Statistical analysis plan [_] Results [_] Individual participant data [X] Record updated in last year
Registration date 19/12/2025	**Overall study status** Ongoing	
Last Edited 19/12/2025	**Condition category** Other	

Plain English summary of protocol

Background and study aims
This study is exploring how our emotions are processed during dreams, especially during a sleep phase called REM (Rapid Eye Movement) sleep, when dreams are most vivid and emotional. Researchers are using a special kind of dreaming called lucid dreaming, where people know they're dreaming while still asleep. In this state, dreamers can signal how they're feeling—happy, sad, or neutral—using facial movements like smiling or frowning. The goal is to understand how emotions change during dreams and how the body responds to them, which could help us learn more about mental health.

Who can participate?
Healthy adults aged 18 to 70 can take part, even if they've never had a lucid dream before. Participants must not be taking medication and must be covered by French health insurance (CPAM).

What does the study involve?
Participants will:
-Attend an initial visit to learn about the study and give consent.
-Keep a dream journal for four weeks, noting any emotions they experience in dreams.
-Visit the sleep lab on three separate mornings, where they'll:
-Receive training to help them have lucid dreams.
-Take a monitored nap while wearing sensors that track brain activity, heart rate, breathing, and facial movements.
-Try to signal their emotions during dreams using facial expressions like smiling or frowning.
-Each nap session lasts up to 1.5 hours and finishes by 12:30 p.m.

What are the possible benefits and risks of participating?
There are no direct medical benefits, but participants will contribute to important research on sleep and mental health. The study is non-invasive and drug-free, with minimal risks. Some people may find the sensors or sleep lab environment slightly uncomfortable, but no serious risks are expected.

Where is the study run from?
ADOREPS – the Association for the Development and Organization of Research in Pulmonology and Sleep (France)

When is the study starting and how long is it expected to run for?
September 2025 to December 2026

Who is funding the study?
ADOREPS – the Association for the Development and Organization of Research in Pulmonology and Sleep (France)

Who is the main contact?
Professor Isabelle Arnulf, isabelle.arnulf@aphp.fr

Contact information

Type(s)
Public, Scientific, Principal investigator

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Additional identifiers

Clinical Trials Information System (CTIS)
2025-A01729-40

Study information

Scientific Title
Dreams and emotions during REM sleep—real-time observation in lucid healthy volunteers

Acronym
LUSPY2

Study objectives
The main objective is to access the emotional valence of the dreams of healthy participants in real time, using lucid dreaming and a predefined muscle code (smiles, frowns) that allows

dreamers to signal the emotion they are feeling (positive, negative, or neutral) directly from a dream as it unfolds.
The secondary objectives are to:
1. Study the temporal dynamics of emotions in SP dreams
2. Analyze the order in which emotions appear during SP episodes
3. Study the physiological correlates (EEG, cardiac, respiratory, ocular) around periods of emotional coding in SP.

Ethics approval required
Ethics approval required

Ethics approval(s)
Approved 14/10/2025, Comité de protection des personnes Ile de France VIII (Hôpital Ambroise Paré - 9, avenue Charles de Gaulle 92100, Boulogne-Billancourt, -, France; +33 149095814; cppidf8@aphp.fr), ref: 25.03267.000340

Primary study design
Interventional

Study design
Single-center non-invasive physiological study

Study type(s)
Other

Health condition(s) or problem(s) studied
Dreams and emotions during REM sleep

Interventions
Healthy volunteers will come three mornings (Visit 2, Visit 3, and Visit 4) to the sleep clinic, where they will be fitted with a 64-channel EEG and a conventional polysomnography, as well as sensors attached to their cheeks and foreheads at the level of the zygomatic and corrugator muscles. They will receive cognitive training in lucid dreaming, then sleep for a morning nap of up to 1.5 hours, during which they will hear the visual and auditory stimuli for lucid dreaming conditioning in SP and report, if they become lucid while remaining in SP, the emotion felt (positive, negative, or neutral) directly from a dream in progress.

Intervention Type
Behavioural

Primary outcome(s)
Presence of naps during which the sleeper was able to complete at least one code in REM sleep reporting the emotional valence of the dream taking place measured at each visit

Key secondary outcome(s)
Measured at each visit
1. Distribution of emotional valences (positive, negative, neutral) in lucid REM sleep dreams, reported by muscle codes
2. Frequency of emotional changes versus emotional stability within the same REM sleep dream episode with at least two EMG codes recorded
3. Duration of emotional valence stability (in seconds) estimated from continuous sequences of

codes of the same valence in survival analysis
4. Order of appearance of emotions within REM episodes
5. Differences in EEG, cardiac, respiratory, and eye movement measurements around periods of emotional coding according to different valences

Completion date
31/12/2026

Eligibility

Key inclusion criteria
1. French speaking
2. Having a French health insurance (social security)
3. Living in Paris and its suburb
4. No sleep problem
5. Lucid dreamers are welcome

Participant type(s)
Healthy volunteer

Healthy volunteers allowed
No

Age group
Mixed

Lower age limit
18 Years

Upper age limit
65 Years

Sex
All

Total final enrolment
0

Key exclusion criteria
1. Psychiatric and neurologic drugs
2. Any sleep problem

Date of first enrolment
05/01/2026

Date of final enrolment
30/04/2026

Locations

Countries of recruitment
France

Study participating centre
Service des pathologies du sommeil
Hôpital Pitié Salpêtrière
87 boulevard de l'Hôpital
Paris
France
75013

Sponsor information

Organisation
Association pour le développement et l'organisation de la recherche en pneumologie et sur le sommeil

Funder(s)

Funder type
Charity

Funder Name
Association pour le Développement et l'Organisation de la Recherche en Pneumologie et sur le Sommeil

Alternative Name(s)
ADOREPS

Funding Body Type
Private sector organisation

Funding Body Subtype
Associations and societies (private and public)

Location
France

Results and Publications

Individual participant data (IPD) sharing plan

IPD sharing plan summary
Not expected to be made available