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Evaluation of the effects of the Lili screen on the reading performance of dyslexic adults

Submission date
11/12/2025

Recruitment status
No longer recruiting

Registration date
29/05/2026

Overall study status
Completed

Last Edited
17/06/2026

Condition category
Mental and Behavioural Disorders

[ ] Prospectively registered
[ ] Protocol
[ ] Statistical analysis plan
[ ] Results
[ ] Individual participant data
[X] Record updated in last year

Plain English summary of protocol

Background of the study and aims
Dyslexia is a neurodevelopmental disorder linked to brain dysfunction. Its prevalence varies from country to country. To date, it is on the rise, probably due to improved diagnosis and better training of clinicians who treat these patients. Imaging studies (MRI) have reported abnormal processing of visual perception, particularly in the middle temporal lobe of the extrastriate areas, supporting the hypothesis of a visual abnormality in the magnocellular pathway (M cells) in dyslexic individuals. Other studies have shown alterations in the magnocellular system in dyslexia and highlighted the role of this system in the development of normal vision.

To date, no clinical studies have been conducted on the Lili screen. This study is based on the hypothesis that using the Lili screen, with a personalized flicker rate chosen by each subject, for a period of 28 days could significantly improve reading comfort in adult dyslexic subjects. The main objective is to compare the change in reading speed between day 0 and day 28 in dyslexic subjects using the Lili screen in ON mode with the change in reading speed in dyslexic subjects using the Lili screen in OFF mode. Secondary objectives include measuring the effect of the use of the Lili screen over 28 days on (i) eye movement patterns (ii) text comprehension (iii) reading fluidity (iv) oralization capacity (v) oculomotor pattern (vi) visual exploration strategy.

Who can participate ?
Healthy working adult volunteers aged between 18 and 45.

What does the study involve ?
The study involves (i) tests realized on day 0 (ii) the use of the Lili screen over 28 days in the office and at home and (iii) tests realized after 28 days of use of the screen.

What are potential benefits and risks of participating ?
The benefits could be an improvement in all or some of : (i) eye movement patterns (ii) text comprehension (iii) reading fluidity (iv) oralisation capacity (v) oculomotor pattern (vi) visual exploration strategy (vii) reading speed.

There is no risk identified.

Where is the study run from ?
The study is run from various locations in France (universities, companies' offices and Hôpital Robert Debré).

When is the study starting and when is it expected to end ?
The study starts in September 2025 and runs until December 2026, if not extended.

Who is finding the study ?
Lili For Life, France.

Who is the main contact?
Maria-Pia Bucci, maria-pia.bucci@cnrs.fr

Contact information

Type(s)
Scientific, Principal investigator

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Public

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Additional identifiers

Protocol serial number
2025-A00803-46

Study information

Scientific Title
Dyslexic adults from 18 to 45 years old. Measuring the effects of the use of the LILI screen, on day 0 and over 28 days, with the use of a lookalike placebo screen over the same period.

Acronym
ADULTDYSLIGHT

Study objectives
The use of the LILI screen over a period of 28 days contributes to an increase in the speed of reading as well as to an improved comprehension of documents read.

Ethics approval required
Ethics approval required

Ethics approval(s)
1. Approved 18/07/2025, Comité de Protection des Personnes Nord Ouest IV (6, rue du Professeur Lagueuse - CHU LILLE - CS 70001, LILLE, 59037, France; + 33 3 20 44 41 65; cppnordouestiv@univ-lille.fr), ref: 25.01308.000410

2. Approved 14/08/2025, National Commission for Information Technology and Freedoms (Commission Nationale Informatique & Libertés - CNIL) (3, place de Fontenoy - TSA 80715, Paris, 75034, France; + 33 1 53 73 22 22; agaignon@cnil.fr), ref: PHT/AGN/AR255494 - DR-2025-189 - Demande d'autorisation n° 925125v1

Primary study design
Interventional

Allocation
Randomized controlled trial

Masking
Blinded (masking used)

Control
Placebo

Assignment
Parallel

Purpose
Device feasibility, Supportive care

Study type(s)
Efficacy, Quality of life

Health condition(s) or problem(s) studied
Dyslexic persons' reading difficulties

Interventions
The randomization is available in a specific folder, not accessible to the investigator, of the e-Clinical Data Management platform. The subjects are randomized following the block-balancing randomization method to an active group and a placebo group.

On the first day of taking part in the study, each participant goes through the first leg of protocolled tests with the Lili screen in mode Off and in mode On. The starting mode (On or Off) is allocated randomly, and neither the participant nor the investigator knows the nature of the starting mode. After the participant has gone through the tests, he/she is randomly allocated two, three and four screens depending on his/her own particular work circumstances (one or two for the office, one or two for home-office). The screens are either On-screens or placebos (Off-Screens). Off-screens and On-screens are lookalikes. Neither the participant nor the investigator is informed of the nature of the screens the participant receives. The participant then works 28 days with the Lili screens in his/her usual office / home-office environment from where the participant’s original screens have been removed. After four weeks of working with the Lili screens, the participant takes part in the second leg of protocolled tests.

Intervention Type
Device

Phase
Not Applicable

Drug/device/biological/vaccine name(s)
LILI screen

Primary outcome(s)
1. Reading speed measured using an eye-tracker (seconds) at baseline and day 28

Key secondary outcome(s)
1. Reading speed of dyslexic subjects using the Lili screen in OFF mode and then in ON mode measured using an eye-tracker (seconds) at baseline and day 28
2. Reading speed of dyslexic subjects using the Lili screen in ON mode and then in OFF mode measured using an eye-tracker (seconds) at baseline and day 28
3. Reading speed of dyslexic subjects using the Lili screen in ON mode and OFF mode on day 0 measured using an eye-tracker (seconds) at baseline and day 28
4. Eye movement patterns of dyslexic subjects using the Lili screen in ON mode and OFF mode measured using an eye-tracker (seconds) at baseline and day 28
5. Text comprehension of dyslexic subjects using the Lili screen in ON mode and OFF mode measured using an excerpt from a battery of specific tests designed to examine lexical processing in adult subjects. It will be assessed by answering questions about a text after reading aloud (1 min) on day 0 and day 28
6. Reading fluency of dyslexic subjects using the Lili screen in ON mode and OFF mode measures using the number of words read incorrectly and the number of linking errors following the recording of the reading of the same test (microphone) at baseline and day 28
7. Reading ability of dyslexic subjects using the Lili screen in ON mode and OFF mode measured using reading a list of words (regular, irregular, and pseudo-words) and the score for each list, the reading time per list, and the nature of the errors made at baseline and day 28

8. Oralization ability of dyslexic subjects using the Lili screen in ON mode and OFF mode measured using the time taken to complete and the number of errors made during a rapid naming test of images and letters at baseline and day 28
9. Visual and attentional exploration strategy of dyslexic subjects using the Lili screen in ON mode and OFF mode measured using the total number of items correctly found and the time taken to complete the barrage test at baseline and day 28
10. Evaluate participants' feelings measured using a feedback questionnaire at baseline and day 28
11. Evaluate participants' satisfaction measured using a questionnaire (System Usability Scale) on the day the second leg of protocolled tests is performed, after the 28-day period of use of the Lili screens

Completion date
19/06/2026

Eligibility

Key inclusion criteria
1. Male or female
2. Aged 18 to 45
3. Whose native language is French,
4. Diagnosed with dyslexia (DSM 5, APA. 2013)
5. With normal or corrected vision (≥ 8/10 in each eye)
6. Affiliated to the French social security system.

Participant type(s)
Employee, Learner/student, Population

Healthy volunteers allowed
Yes

Age group
Adult

Lower age limit
18 Years

Upper age limit
45 Years

Sex
All

Total final enrolment
48

Key exclusion criteria
1. Subjects with comorbidities (other neurological disorders and/or autism spectrum disorders, dyspraxia, etc.)
2. Subjects with visual impairments (amblyopia, strabismus, etc.)

3. Subjects undergoing psychotropic treatment
4. Subjects with epilepsy
5. Subjects who abuse alcohol (more than 2 drinks per day)
6. Subjects who smoke (≥ 4 cigarettes per day)
7. Subjects who use psychoactive substances such as:
7.1. Psycho-dysleptics: narcotics (heroin, morphine and derivatives), cannabis, ketamine, GHB, LSD, psilocybin, ibogaine
7.2. Psycholeptics: benzodiazepines and related substances (zopiclone, zolpidem)
7.3. Psycho-analeptics: cocaine, amphetamines
8. Pregnant or breastfeeding women
9. Protected adults

Date of first enrolment
08/09/2025

Date of final enrolment
19/05/2026

Locations

Countries of recruitment
France

Study participating centre
VEOLIA
30 rue Madeleine Vionnet
Aubervilliers
France
93300

Study participating centre
MAIF
29 rue Brisson
Niort
France
79000

Study participating centre
KPMG
Tour Eqho
2, avenue Gambetta
Courbevoie
France
92400

Study participating centre
Université de Picardie Jules Verne Service de Médecine et de Prévention des Personnels (SM2P)
Avenue des Facultés -Le Bailly
Amiens Cedex 01
France
80025

Study participating centre
Hôpital Robert Debré
48, boulevard Serrurier
Paris
France
75019

Sponsor information

Organisation
Lili for Life

Funder(s)

Funder type
Not defined

Funder Name
Lili for Life

Results and Publications

Individual participant data (IPD) sharing plan
The datasets generated during and/or analysed during the current study will be available upon request from October 2027. The contact name is Maria-Pia Bucci : maria-pia.bucci@cnrs.fr

IPD sharing plan summary
Available on request