



**Karolinska
Institutet**

We would like to invite you to participate in the study entitled "*Exploring the Psychological, Emotional and Behavioural Effects of Artificial Lighting*". The project is funded by the Swedish Transport Administration (TRV, 2024/29082, ID 2023-47) and the National Centre for Suicide Research and Prevention (NASP). The research is conducted by Karolinska Institutet in collaboration with the Department of Psychology at Stockholm University (Albanovägen 12). The study has been approved by the Ethical Review Authority (reference number: 2025-00418-01).

Who can participate?

We are looking for adult participants (18 years or older) without severe visual impairments, meaning participants must be able to read standard text both on paper and on a computer screen. Please read the information about the study carefully and confirm if you consent to participate.

What does participation involve?

Participants will be randomly assigned to one of two groups with different artificial light exposures. The light will be on for approximately half of the 60-minute data collection session. During data collection, you will answer questionnaires at several time points, perform three practical tasks, and have your heart rate continuously measured with an electrocardiogram (ECG). The survey questions concern your demographic background, lifestyle, emotional state, depression, anxiety, stress, suicidal thoughts, hopefulness, travel habits, psychiatric symptoms, and your associations with the light exposures. The practical tasks include measuring hand strength and endurance, performing a working memory test (n-back), and a fine motor skills test where you thread a needle. Between each task, you will answer questions about your perceived stress and how demanding the task was. The heart rate monitoring is done using five electrodes that you will attach yourself to the skin on your upper body and will be conducted in parallel with the surveys and practical tasks.

The data collection will be conducted anonymously. This means your answers cannot be linked to you personally, but also that after the data collection, it will not be possible to identify which responses are yours. Therefore, it will not be possible to clean or correct the responses afterward. To prevent indirect identification through demographic information, all such responses will be reported only at the group level.

The results from the study will be published in freely accessible scientific journals (open access). It is optional to access the study results when they are published (in 2027). If you are interested in reading the publications, links to these will be posted on the website for the National Centre for Suicide Research and Prevention (<https://ki.se/nasp>).

Possible risks of participating in the study

In general, the risks associated with participation are low. However, some participants may experience discomfort related to the questionnaire items, practical tasks, or ECG measurement. If you feel discomfort for any reason, immediately notify the study coordinator who will be in the room throughout the session. Some of the survey questions may be perceived as sensitive, such as those related to mental health. If you do not wish to answer a particular question, you may skip it. If you experience any negative effects after data collection, contact the lead researcher (see contact information below).

What happens to your data?

All data collected in this study will be handled in accordance with the EU General Data Protection Regulation (GDPR). The study does not collect any digital personal data that can be linked to your answers. If you consent to participate, your signed consent form will be stored in a locked location at Karolinska Institutet and cannot be linked to your responses. The questionnaires include questions about age, gender, educational background, socioeconomic status, occupation, and mental health. These answers will be treated confidentially, and only the researchers in the study will have access to the answers during data collection. In the long term, the data material will be archived at Karolinska Institutet for at least 10 years according to the Swedish National Archives' regulations (RA-FS 1999-01). The archived anonymised data may, in accordance with the Open Data Act (2022:818), be made available for further research both nationally and internationally after a confidentiality review. If you have questions or complaints regarding the handling of your answers, contact the lead researcher or Karolinska Institutet's Data Protection Officer (see contact information below).

Compensation and insurance

As compensation for participation, you will receive two nationwide gift cards with a total value of 150 SEK. This is a symbolic amount and does not constitute compensation for lost income due to participation in the experiment or travel costs. You are insured as a participant through KI via Kammarkollegiet's personal injury insurance.

Voluntary participation and informed consent

Participation is completely voluntary, and you may choose to withdraw your participation at any time without providing a reason. If you choose to withdraw your participation, this will not affect your relationship with the researchers in the project or Karolinska Institutet.

Contact information

Lead researcher: Jesper Alvarsson-Hjort, Ph.D., jesper.alvarssonhjort@ki.se, Karolinska Institutet, National Centre for Suicide Research and Prevention (NASP), Granits väg 4, 171 77 Stockholm

Data Protection Officer: dataskyddsbud@ki.se, Karolinska Institutet, Legal Department, Nobels väg 6, 171 77 Stockholm

Consent to participate in the study

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I have received and reviewed the written study information and voluntarily consent to participate in the *Investigation of the impact of light exposure on emotions, mental health, and behaviours*.

Signature:

Date and Location: