

# Investigating the mood effects of nature sounds and soothing images in adolescents: a proof-of-concept randomised control pilot study

<b>Submission date</b> 27/07/2023	<b>Recruitment status</b> No longer recruiting	<input type="checkbox"/> Prospectively registered
<b>Registration date</b> 29/08/2023	<b>Overall study status</b> Completed	<input type="checkbox"/> Protocol <input type="checkbox"/> Statistical analysis plan <input checked="" type="checkbox"/> Results
<b>Last Edited</b> 16/10/2023	<b>Condition category</b> Mental and Behavioural Disorders	<input type="checkbox"/> Individual participant data

## Plain English summary of protocol

### Background and study aims

Previous literature suggests that imagery involving natural stimuli has shown effective and beneficial evidence in improving positive and reducing negative moods among young people. The present study, funded by Wellcome Trust, is planned as a pilot trial to examine whether nature-based sounds and soothing images will help improve adolescents' moods.

### Who can participate?

Adolescents aged between 13 and 17 years old

### What does the study involve?

The study is completed as an online study where participants are recruited through an online and secured web platform, Qualtrics. The participants will complete a few questionnaires to assess the levels of depression and anxiety for the participants in the past two weeks. Participants also complete questionnaires to assess their positive and negative mood states before and after engaging with a digital intervention. There are different intervention conditions used in this research, and the participants are randomly assigned to one of the three intervention groups. During the intervention period, participants either viewed the soothing images (images only condition) or listened to soothing sounds (sounds only condition) or viewed and listened to the combination of music and sounds (combined condition). After finishing the intervention, they completed the same measures to assess their positive and negative moods.

### What are the possible benefits and risks of participating?

By sharing your experiences with us, you will be helping researchers to better understand if nature-related sounds and soothing images can positively change an individual's mood and well-being. Participation will help also improve your positive mood and reduce negative mood symptoms.

Prior to the study, participants are presented with a detailed information sheet to explain the rationale and process of the study. There are no significant risks associated with participation in this study. The questionnaires used in the study had the potential to make participants more

aware of their own moods or other difficulties. However, the questionnaires used are validated standardised measures that had been often used in the research and did not cause any significant distress or discomfort beyond a temporary sense of unease. Participants are provided with the information after the study regarding whom they can contact should they wish to discuss their health and well-being (i.e., their GPs and the organisations and hotlines helpful in providing information and support).

Where is the study run from?  
The University of Reading (UK)

When is the study starting, and how long is it expected to run for?  
February 2021 to September 2021

Who is funding the study?  
The Wellcome Trust (UK)

Who is the main contact?  
Prof Stella Chan, s.chan3@reading.ac.uk. Prof. Stella Chan is an academic clinical psychologist at the University of Reading, specialising in research and clinical practice on young people's mental health.

## Contact information

### Type(s)

Principal investigator

### Contact name

Prof Stella Chan

### ORCID ID

<https://orcid.org/0000-0003-4088-4528>

### Contact details

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## Additional identifiers

### Clinical Trials Information System (CTIS)

Nil known

### ClinicalTrials.gov (NCT)

Nil known

**Protocol serial number**

Wellcome Trust 213527

## Study information

**Scientific Title**

Investigating the mood effects of nature sounds and soothing images in adolescents: a proof-of-concept randomised control pilot study

**Study objectives**

The study aims to test the following hypothesis:

1. Viewing nature-based soothing images, listening to nature-based sounds, and a combination of both would all be related to increased positive mood and reduce negative mood
2. The combination of images and sounds would be related to a greater increase in positive mood and reduced negative mood than the images or sounds in isolation.
3. How baseline level of anxiety and depression would influence the extent of mood changes.

**Ethics approval required**

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**Ethics approval(s)**

approved 28/06/2021, University of Reading, Research Ethics Committee (Whiteknights Campus, University of Reading, Reading, RG6 6ES, United Kingdom; +44 (0)118 378 5508; projectsoothe@reading.ac.uk), ref: 2021-073-SC

**Study design**

2 x 3 mixed factor experimental randomized design

**Primary study design**

Interventional

**Study type(s)**

Quality of life, Efficacy

**Health condition(s) or problem(s) studied**

Improving positive and negative mood symptoms among adolescents

**Interventions**

The intervention comprises of viewing or listening to nature based-sounds and images. The intervention was conducted online using Qualtrics. The participants were randomly allocated to three conditions using randomisation programming in Qualtrics. The intervention conditions consisted of viewing 25 images (image condition), 25 sounds (sounds condition) or 25 images & sounds combined (combined condition).

**Intervention Type**

Behavioural

**Primary outcome(s)**

The following outcome measures will be completed pre and post-intervention:

1. Positive and negative affect measured using International Positive and Negative Affect Schedule-Short Form (I-PANAS-SF)
2. Serenity mood states measured using the Serenity Subscale from the PANAS-X questionnaire
3. Anxiety and depression states assessed using the Profile of Mood States-Adolescents – Tension-Anxiety Subscale and Depression-Dejection Subscale (POMS-A)

### **Key secondary outcome(s)**

At baseline, prior to the intervention, the following measures will be used:

1. Depression assessed using the Patient Health Questionnaire (PHQ-9)
2. Anxiety symptoms assessed using the Generalised Anxiety Disorder Questionnaire (GAD-7)

### **Completion date**

01/09/2021

## **Eligibility**

### **Key inclusion criteria**

1. Adolescents between 13 and 17 years of age
2. Adolescents self-identifying as understanding and speaking fluent English
3. Adolescents with access to an internet connection and a digital device

### **Participant type(s)**

Healthy volunteer

### **Healthy volunteers allowed**

No

### **Age group**

Child

### **Lower age limit**

13 years

### **Upper age limit**

17 years

### **Sex**

All

### **Total final enrolment**

148

### **Key exclusion criteria**

1. Not within the inclusion age criteria
2. Participants who did not provide complete responses

### **Date of first enrolment**

01/06/2021

**Date of final enrolment**

30/08/2021

**Locations****Countries of recruitment**

United Kingdom

England

**Study participating centre**

**School of Psychology University of Reading**

University of Reading

Harry Pitt Building

Earley Gate

Reading

United Kingdom

RG6 7BE

**Sponsor information****Organisation**

University of Reading

**ROR**

<https://ror.org/05v62cm79>

**Funder(s)****Funder type**

Research organisation

**Funder Name**

Wellcome Trust

**Alternative Name(s)**

Wellcome, WT

**Funding Body Type**

Private sector organisation

**Funding Body Subtype**

Trusts, charities, foundations (both public and private)

## Location

United Kingdom

# 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 Prof. Stella Chan (s.chan3@reading.ac.uk). Data can be shared with applicants affiliated with an institution. They will be provided with the anonymised dataset as a .csv file with a key to aid the interpretation of the data. Data are available immediately upon request after the publication of the article. Each participant completed an electronic consent after reading the participant information sheet and prior to beginning the research study. There are no ethical or legal restrictions.

## IPD sharing plan summary

Available on request

## Study outputs

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
<a href="#">Participant information sheet</a>			07/08/2023	No	Yes
<a href="#">Preprint results</a>		09/10/2023	16/10/2023	No	No