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

Submission date
27/07/2023

Recruitment status
No longer recruiting

Registration date
29/08/2023

Overall study status
Completed

Last Edited
16/10/2023

Condition category
Mental and Behavioural Disorders

[ ] Prospectively registered
[ ] Protocol
[ ] Statistical analysis plan
[X] Results
[ ] 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

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Prof Stella Chan

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Additional identifiers

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
Ethics approval required

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

Primary study design
Interventional

Study design
2 x 3 mixed factor experimental randomized design

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?
Participant information sheet			07/08/2023	No	Yes
Preprint results		09/10/2023	16/10/2023	No	No