ISRCTN15002450 https://doi.org/10.1186/ISRCTN15002450

Effects of affective training during social interactions on momentary anxiety in youth at risk for social anxiety

Submission date
23/07/2026

Recruitment status
Recruiting

Registration date
27/07/2026

Overall study status
Ongoing

Last Edited
27/07/2026

Condition category
Mental and Behavioural Disorders

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

Plain English summary of protocol

Background and study aims
Some young people feel very anxious in social situations and may expect other people to judge them negatively. This study is testing a new computer-based psychological training task called Social Training of Affective Responses (STAR). The task is designed like a video game and aims to help people develop more positive expectations during social interactions.
Researchers want to find out whether STAR can reduce anxiety in young people who have higher levels of social anxiety symptoms. The study will compare STAR with a similar version of the task that looks the same but gives neutral feedback. The researchers will measure how the tasks affect participants' anxiety, mood and ability to cope with negative feedback.

Who can participate?
People can take part if they:
-Are aged 18 to 25 years
-Have elevated symptoms of social anxiety
-Have access to a computer with a webcam and an internet connection
-Are currently living in the UK or the USA
-Have sufficient English language skills to complete the questionnaires and tasks

What does the study involve?
Participants will take part in a single online session lasting about 1 hour, and no longer than 90 minutes
First, participants will complete some assessments. They will then be randomly assigned to one of two groups. One group will complete the STAR task, while the other group will complete a similar comparison task.
During the task, participants will interact with virtual people on a computer. They will be asked to predict how positively a virtual person will respond to them, answer questions about themselves while being recorded by their webcam for 15 seconds, and then receive feedback from the virtual person. Participants will also report their current mood and anxiety throughout the task.
After a short break, all participants will complete a final section of the task that includes

negative feedback followed by some positive feedback. This allows researchers to study how people respond to challenging social situations.

What are the possible benefits and risks of participating?
Participants may benefit from taking part if the training helps them feel less anxious during social situations. However, this cannot be guaranteed.
Some participants may find parts of the task uncomfortable because they involve receiving feedback from virtual people, including negative feedback during the final part of the study. This could temporarily increase feelings of anxiety or discomfort.

Where is the study run from?
The study is run from University College London (UCL) in London, United Kingdom.

When is the study starting and how long is it expected to run for?
August 2026 to May 2028.

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

Who is the main contact?
Professor Argyris Stringaris
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Contact information

Type(s)
Principal investigator, Public, Scientific

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Study information

Scientific Title
Effects of a computerised affective training intervention for social interactions, compared with an identical-appearing sham control, on momentary anxiety in young people with elevated social anxiety symptoms: a parallel-group, double-blind, randomised controlled superiority trial

Acronym
Social Training of Affective Responses (STAR)

Study objectives
To evaluate the impact of the Social Training of Affective Response (STAR) intervention, a psychological task in the form of a video game which emulates social interactions and aims to modify individuals' expectations about feared social situations, on momentary affect in young people with social anxiety. The STAR intervention will be compared to an active control which looks identical in all respects to the STAR but provides random feedback that averages to 50%. The impact of the STAR intervention will be determined as the improvement it produces on momentary anxiety compared to a sham control.

Ethics approval required
Ethics approval required

Ethics approval(s)
Approved 12/11/2025, UCL Research Ethics Committee (Academic Services, UCL 1-19 Torrington Place (9th Floor), London, WC1E 7HB, United Kingdom; +44 203 108 8216; ethics@ucl.ac.uk), ref: 24867/001

Primary study design
Interventional

Allocation
Randomized controlled trial

Masking
Blinded (masking used)

Control
Active

Assignment
Parallel

Purpose
Treatment

Study type(s)

Health condition(s) or problem(s) studied
Momentary anxiety in youth at risk for social anxiety

Interventions
Both the active and control tasks are Internet-delivered, using an online platform to present the participants with a sequence of social interactions and instructions. Preview versions of both tasks will be made publicly available to facilitate reproducibility.
Both tasks are designed to be as closely matched as possible in terms of length (text to read) and interactivity (format, frequency, and amount of user-required input).

ACTIVE ARM
The intervention is inspired by the success of cognitive therapy for social anxiety, leading to a reduction of both anxiety and depressive symptoms in those patients. It is predicated on the idea that positive social surprises are the mechanism that leads to this improvement: positive social surprises are outcomes in a social situation that are better than one expects. Our intervention seeks to emulate such social situations to test this hypothesis and its usefulness for patients.

Participants will be sat in front of a computer and will interact with three virtual players across three blocks during the task. On each trial, they will first rate their expectation of how positively they believe the virtual player will rate them. Next, they will respond to a self-referential question while being video recorded for 15 seconds. Afterward, they will receive feedback from the virtual player and then report their current mood and anxiety. Importantly, the feedback will gradually change across blocks: for the two 'main' blocks the feedback given by the virtual player will improve throughout the block, mirroring a common real-world social dynamic, whereby social reward increases the longer one remains in an interaction (e.g. meeting a stranger who initially feels neutral but becomes progressively more engaged over time).

ACTIVE CONTROL ARM
The active control arm will be identical in all respects to the intervention except the feedback in the two 'main' blocks will be overall neutral. Specifically, feedback will be fluctuating around a mean of 50%.

BOTH ARMS
Following a short break, during which participants complete a brief filler task (the Speed of Comprehension Test, 1–2 minutes), both groups will complete a third 'challenge' block. In this block participants will interact with a third virtual player and receive a sequence of negative feedback. This block serves the purpose of testing affective resilience to negative feedback following the main blocks of the intervention. The third block will end with 5 trials of positive feedback.

All procedures will take place over a single session (approximately 1 hour in duration). The primary analysis will be performed after the final participant has completed their final assessment (primary endpoint), no later than 90 minutes after study entry.

Participants will first be stratified based on their SPIN (Social Phobia Inventory) scores prior to randomisation, with strata defined as: moderate social anxiety (SPIN 19-30), severe social anxiety (SPIN 31-40), and very severe social anxiety (SPIN >40). Within each stratum, participants will be randomly assigned to the intervention or control condition using a computer-generated randomisation procedure implemented in JavaScript: for each participant, a random number between 0 and 1 will be generated, with allocation to condition determined by whether the number falls above or below 0.5. This ensures random allocation within each severity stratum and controls for baseline differences in social anxiety severity across conditions. Allocation happens algorithmically via a script that runs automatically on the study platform.

The two conditions are identical in all respects - including graphics, design of social interactions, and timing/phrasing of prompts and feedback - except for the social feedback participants receive, which ensures participant blinding to condition. The data management group will provide the investigator team with data in which the group variable is coded using random letters (e.g., D, G), ensuring analyst blindness. All study personnel who can be blinded to the study aims/hypotheses and group allocation will be blinded; the study statistician will also be blind to group allocation and will receive only the reduced dataset required for analysis. Once

statistical analyses are completed, and before unblinding, different versions of the abstract will be prepared reaching different conclusions (e.g., intervention A superior to B, or vice versa), to preserve blinding during interpretation. Given the brief, low-risk nature of the intervention, a procedure for emergency unblinding is not required.

Intervention Type
Behavioural

Primary outcome(s)
1. Momentary Anxiety measured using self-report (5-trial average) at the end of the main intervention (end of block 2)

Key secondary outcome(s)
1. Momentary Mood measured using self-report (5-trial average) at the end of the main intervention (end of block 2)

2. Momentary Anxiety measured using self-report (5-trial average) at the end of the challenge block

3. Momentary Mood measured using self-report (5-trial average) at the end of the challenge block

Completion date
31/05/2028

Eligibility

Key inclusion criteria
1. Elevated symptoms of social anxiety as identified using a threshold of 19 the Social Phobia Inventory (SPIN)
2. Age between 18 and 25 (inclusive)
3. Access to a computer with a webcam and internet connection
4. Residence/Current location in the UK or US
5. For online recruitment sites like prolific we will:
5.1. Include a prolific approval rate of 95% as an inclusion criterion. This refers to the percentage participant's previous prolific jobs that have been approved
5.2. Require participants to have previously completed at least 10 jobs on prolific
5.3. Include 2 attention checks. If participants fail both, they are excluded from the study

Healthy volunteers allowed
Yes

Age group
Adult

Lower age limit
18 Years

Upper age limit
25 Years

Sex
All

Total final enrolment
0

Key exclusion criteria
1. Don’t speak sufficient English to complete questionnaires and engage in the English language-based task
1.1. For online participants, this will be achieved by exclusively inviting participants from English speaking countries, specifically US and UK, who have indicated they are fluent in English
1.2. For local community participants, we will be recruiting through UCL which is an English speaking institution
2. Have sensory or other deficits that preclude them from processing the computerized tasks, confirmed by the participant during screening
3. Have over 50% of trials that have a reaction time of under 200 ms, checked during data cleaning

Date of first enrolment
01/08/2026

Date of final enrolment
01/01/2028

Locations

Countries of recruitment
United States of America

Sponsor information

Organisation
University College London

Funder(s)

Funder type

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 stored in a publicly available repository (github)

IPD sharing plan summary
Stored in publicly available repository

Study outputs

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
Protocol file	version 1.0	20/11/2025	24/07/2026	No	No
Statistical Analysis Plan	version 0.23	08/06/2026	24/07/2026	No	No