

Protocol for Conducting the Internet-based Stress test for Social Anxiety Disorder (ITSSAD)

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Method Article

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Abstract

Social anxiety disorder (SAD) is very common and can be significantly disabling. New treatments are needed as the remission rate for SAD is the lowest of all the anxiety disorders. Experimental medicine models, in which features resembling a clinical disorder are experimentally induced, are a cost-effective and timely approach to explore potential novel treatments for psychiatric disorders. Following the emergence of SARS-CoV-2, there is a need to develop experimental medicine models that can be carried out remotely. We developed a novel procedure to investigate SAD (the Internet-based Stress test for Social Anxiety Disorder; ITSSAD) that can be carried out entirely online by a single investigator, potentially reducing costs and maximising internal reliability. The procedure involves an anticipatory period followed by a naturalistic social interaction task.

Introduction

Reagents

WARNING: Approval must be sought by the appropriate Ethics committee or Institutional Review Board prior to commencing a study using this protocol.

Participants: Instructions for this task could be translated into any language. Inclusion and exclusion criteria will be defined by the research question.

Experimenter: One individual to lead on the social interaction task.

Observing panel: Three individuals made up of either dummy accounts (the experimenter will log in to these) or a combination of confederates and dummy accounts.

Equipment

Online survey platform: An online survey platform is needed to collect behavioural measures and to deliver instructions to the participant. We use Qualtrics (<https://www.qualtrics.com>).

Videoconferencing platform: For creating meetings to carry out the social interaction task. We use Microsoft Teams (<https://teams.microsoft.com>).

Measures of subjective anxiety and mood: Questionnaires to measure anxiety and mood at baseline, during anticipation, and during the social interaction task. We use a modified version of the generalised anxiety disorder 7-item (GAD-7, (Spitzer et al., 2006)), where each question is represented by a visual analogue scale ranging from “not at all” to “nearly every day”. This version of the GAD-7 has been shown to be sensitive to state changes in anxiety with high resolution (Huneke et al., 2020). Further, the GAD-7 questionnaire also captures social anxiety symptoms with good sensitivity (Kroenke et al., 2007). We

assess subjective mood with the Positive and Negative Affect Schedule (PANAS, (Watson et al., 1988)). Other measures can be included depending on the research question.

Procedure

PRIOR TO TESTING SESSION

1. 15 minutes prior to testing session, ensure a videoconference has been set up for the social interaction task on your chosen platform and other experimenters or dummy accounts are logged in and have joined the meeting. The observing panel's video feeds (cameras) and microphones should be turned off throughout. You should ensure that all experimenters and observers are named to indicate a balance of genders and ethnicities.

NOTE: We suggest enabling the 'waiting lobby' and forcing participants to enter the lobby on joining the meeting so that the experimenter has a warning that the participant has joined the meeting.

2. Set up your method for sending the participant a link to join the social interaction videoconference. We embed the link within an online survey used for collecting behavioural measures.

TESTING SESSION

3. Send participant a personalised link to join an online survey. This survey will be used to collect behavioural measures. The participant should be instructed to start their testing session by clicking the link. The first screen of the session should include participant information and a facility by which they can provide informed consent.

WARNING: Do not continue if participants do not provide informed consent. Participants should be advised to close the survey if they do not want to continue.

4. Participants will make their way through the survey (initial baseline questionnaires can be included following the informed consent procedure). Qualtrics allows an experimenter to follow a participant's progress under the 'Data and Analysis' tab -> 'Responses in progress'. We suggest following the participant's progress if possible to ensure the participant has no issues completing the survey.

5. The ITSSAD begins with a 5-minute anticipatory period. This can be placed after baseline questionnaires, or if no baseline measures are being taken, then the survey can begin with this period immediately after informed consent. We include a time that counts down from 5 minutes to 0 on the participant's display during this period. During the anticipatory period the following instructions should be displayed:

In 5 minutes you will take part in a social interaction online using videoconferencing software. Your task will be to take some time to get to know the other person as you normally would. Just be yourself. You can talk about anything you want other than this experiment. You will be watched by 3 other

experimenters who will be assessing your behaviour. We would like you to have your camera on during this interaction.

Additional instructions can be included as necessary.

6. After the anticipatory period, participants complete subjective measures of anxiety and mood.

7. Next, either ensure the survey presents the link to your currently running videoconference (set up in Step 1) or use an alternative method for sending the link to the participant. Provide the following instructions:

Please copy the link below into a new browser tab on your device to begin the social interaction. Leave this tab open while you run the link so you can return to complete the questionnaire following the speaking task

IMPORTANT: These instructions are necessary to ensure that participants do not accidentally close the survey and lose their progress (and your data!).

8. The participant should now join the videoconference. The experimenter should start a recording for the meeting and introduce the social interaction task with the following script:

Hello, can you hear me okay? This is the speaking task, I am the person you will be getting to know. Also in the call we have 3 experimenters [introduce them by name] who will be observing. I have pressed record and I'll start the timer now

At this point start a 5 minute timer.

During this task, the experimenter should not initiate conversation, instead allowing the participant to ask questions. If there is a silence lasting longer than 30 seconds then the experimenter can prompt the participant with a simple statement, e.g. "I am a student at the university". The experimenter should try to provide minimal verbal and non-verbal feedback to the participant regarding performance.

9. When the timer is complete, read the following script:

Okay, thank you, time is up. Can you please leave this window open and return to the survey for some post task questionnaires.

The participant will complete subjective measures of anxiety and mood. During this time, the experimenter should mute, turn off their video feed (camera), stop any recordings, and remove other experimenters and dummy accounts from the meeting.

RECOVERY AND DEBRIEF

10. After the post-task questionnaires, ensure there is a screen that asks participants to return to the videoconference.

11. When participants return to the call, the experimenter should turn their video feed (camera) and microphone back on. Read the following script:

This task is designed to be anxiety-inducing – and I am instructed to not be very forthcoming in my responses.

12. The experimenter should fully debrief the participant regarding the purpose of the experiment, and that some or all of the observers were dummy accounts. Allow the participant to ask any questions they may have.

13. Ask the participant to return to the survey to complete a re-consent form. This allows the participant to provide fully informed consent for use of their data now they are fully aware of the deception that occurred. The call can be ended at this point.

Troubleshooting

Time Taken

Approximately 20-30 minutes

Anticipated Results

Subjective anxiety will increase during anticipation and remain high during the social interaction task (Huneke et al., 2022). Similarly, negative affect will also be increased, while positive affect will be reduced (Huneke et al., 2022). In a proof of concept study, there was evidence that anxiety during the social interaction task was predicted specifically by social anxiety symptoms, and not by symptoms related to generalised anxiety disorder (Huneke et al., 2022).

References

1. Huneke, N. T. M. *et al.* A Novel Procedure to Investigate Social Anxiety using Videoconferencing Software: A Proof-of-Concept study. *Psychiatry Research* 114770 doi:[10.1016/j.psychres.2022.114770](https://doi.org/10.1016/j.psychres.2022.114770) (2022).
2. Huneke, N. T. M., Broulidakis, M. J., Darekar, A., Baldwin, D. S. & Garner, M. Brain Functional Connectivity Correlates of Response in the 7.5% CO₂ Inhalational Model of Generalized Anxiety Disorder: A Pilot Study. *Int J Neuropsychopharmacol* vol. 23 268–273 (2020).
3. Spitzer, R. L., Kroenke, K., Williams, J. B. & Löwe, B. A brief measure for assessing generalized anxiety disorder: the GAD-7. *Arch. Intern. Med.* 166, 1092-1097 (2006).
4. Watson, D., Clark, L. A. & Tellegen, A. Development and validation of brief measures of positive and negative affect: the PANAS scales. *J. Pers. Soc. Psychol.* 54, 1063-1070 (1988).

5. Kroenke, K., Spitzer, R. L., Williams, J. B. W., Monahan, P. O. & Löwe, B. Anxiety Disorders in Primary Care: Prevalence, Impairment, Comorbidity, and Detection. Ann. Intern. Med. 146, 317, doi:10.7326/0003-4819-146-5-200703060-00004 (2007).

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Figures

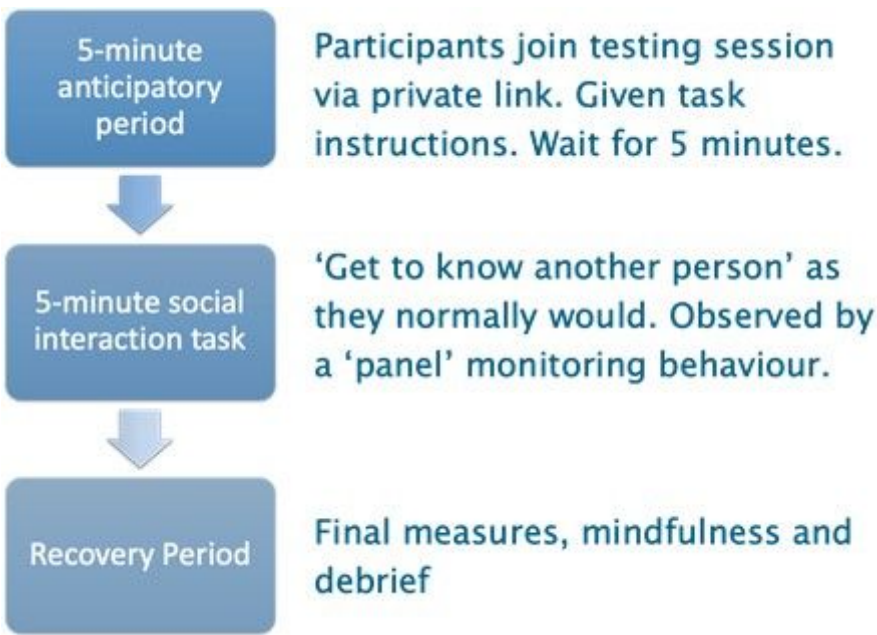


Figure 1