Verbal Instructions Protocol – Emotional Elicitation Using Immersive 360-Degree Videos

# Document Instructions

* Verbal instructions to the participant are written in **bold**. Please read all instructions in bold out aloud to the participant.
* Instructions to the experimenter are underlined. Please read all underlined instructions silently to yourself.
* References to materials are shaded in grey, such as document materials, i.e. consent form. List of used materials is provided at the end of the document.

# Stage One – Introduction, Participant Information Sheet & Consent

The experimenter meets the potential participant and introduces themselves. Say nothing about the study and walk them to the laboratory. Once the individual is seated, they are expected to read the "Participant Information Sheet", ask questions if any, and if they are happy to participate, sign the consent form.

Read instructions: **Welcome to this laboratory. We would like to thank you for coming here today. Here is an information sheet** (hand the "Participant Information Sheet") **that I would like you to read it through, if you have any questions or concerns, please do not hesitate to ask. If all your questions are addressed, or you have no questions, and you are happy to participate, please read this consent form** (hand the "Consent Form") **and sign your initials** (point with your finger on where the individual is expected to sign) **here, here, and here, and write your full name, date and signature here. Please fill all original copies of this form; one original copy will be given to you, and two original copies are for our records. After you are done, please let me know that you are ready.**

Have the potential participant read the "Participant Information Sheet", allow time for questions, and have the three original copies of the "Consent Form" signed. Make sure that the consent forms are correctly filled and signed, keep one copy for the participant, and file the other two in the appropriate file storage.

# Stage Two – Participant Profile & Exclusion Criteria

The "Participant Profile Questionnaire" consists of five parts. The online questionnaire is meant to take the user step by step through all parts, as they cannot proceed to the next part until the current part is completed.

These two parts cover general information related to the individual's profile and health & wellbeing state. There are excluding criteria in parts one and two of the questionnaire that results in terminating the participation in the study. These excluding criteria were already asked when the timeslot for participation was booked; however, these questions are asked again to reconfirm.

Part one includes information about the participant profile, such as age, sex, ethnicity…etc. Herein, only two parameters can exclude an individual from participating: 1. Age: if they are younger than 18 years old. 2. English Language Competency: if they score their English language competency as "limited working proficiency, or lower intermediate" or "elementary proficiency, or a beginner".

Part two contains all items that are related to the individual's health & wellbeing. In all YES/NO questions, if the individual answers "yes" to any of them, they should be excluded from the study. Furthermore, if they respond to question 15 (if they had felt dizzy whilst using VR before) as yes, indicating they have had problems with using VR before, they are excluded from participation. If the user answered five or greater at the "motion sickness" question, indicating they can "get motion sickness very easily", they should be excluded from participation. Finally, they should be excluded from participation if they answered "wearing glasses or contacts, but even with them, my vision is less than perfect" in the "what best describes you" question.

Read instructions: **This laptop will be used throughout this study to fill all the questionnaires that I will ask you to fill today. You can use the mouse or the touchpad to help you fill the questionnaires. I will ask you now to fill this questionnaire** (open the "Participant Profile Questionnaire")**. This questionnaire is divided into five parts. In here, the first and second parts consist of questions that are related to your profile, including health history. It is vital that you answer all the questions truthfully and to the best of your knowledge. If you have any questions, please don't hesitate to ask. Suppose, for any reason, you failed to meet our eligibility criteria. In that case, the survey will let you know by preventing you from proceeding to the next step and flag a red comment or comments on which part or parts you failed to meet our criteria. If that happens, I ask you to let me know, and I regret that we will not proceed further with the study. Otherwise, if you successfully complete parts one and two, the questionnaire will remind you that you need to let me know. Please let me know when you are done before we proceed to parts three, four, and five.**

If the participant failed to meet the criteria, read the instructions: **I regret to tell you that your answer** (read the item(s) that are red-flagged) **does not qualify you to proceed in this study. I apologise to let you know that we will not proceed any further now. Thank you for your time and interest.**

If the participant successfully meets the criteria: **Thank you, now we will proceed to the third part of this questionnaire. In here, I ask you to read the questions and then indicate your preferred answer by clicking on the appropriate circle of the seven-point scale. Please consider the entire scale when making your responses, as the intermediate levels may apply. For example, if your response is once or twice, the second circle from the left should be marked. If your response is many times but not extremely often, then the sixth (or second circle from the right) should be marked. Please let me know when you are done and ready to proceed.**

Await for the participant to fill this part and be notified when they are ready.

Read instructions: **Thank you, the fourth part of this questionnaire is here. As you can see, these questions ask you to rate certain emotions based on how you feel right now. We will use this tool to express how you feel after watching every video. Therefore, it is crucial that you understand how to use this tool, so you will be able to fill in answers later accurately. Please drag the sliders on the line below to indicate the best describes the greatest amount of each emotion you feel right now, at this moment. On this scale, the far left means you did not feel even the slightest bit of the emotion and the far right is the most you have ever felt in your life. All you have to do is make sure you rate the correct emotion the way you feel right now as accurate as you can. There are no right or wrong answers, just honest answers. Note that if you need to place a zero at any point, you can't leave the slider as it is. You need to press and drag it towards the left end of the slider. Again, once you are done and ready to proceed, please notify me.**

Await for the participant to fill this part and be notified when they are ready.

Read instructions: **Thank you. This is the last part of this questionnaire is here. If you look at the two questions below, you will see two sets of nine figures, each arranged along a continuum. We call this set of figures SAM, and you will be using these figures to rate how you feel right now at this moment and then later how you felt while watching each video. Therefore, it's very important to understand how to use this tool so you will be able to answer this question later on accurately. SAM shows two different kinds of feelings: Happy vs Unhappy and Excited vs Calm. Later on, you will see lots of videos and different things that may make you feel happy or unhappy, excited or relaxed, or maybe even angry, scared, or thrilled. Every person will feel differently about each video. There are no wrong answers, so simply respond as honestly as you can. Whatever you feel is the right answer to put on the rating scale.**

Now you will explain Happy vs Unhappy SAM; read instructions: **This SAM scale is the happy-unhappy scale, which ranges from a smile to a frown. Notice that on one side** (point with your finger)**, SAM is frowning. On the other side, SAM is smiling, and in the middle, SAM is not smiling or frowning.**

* **At one extreme of the happy vs unhappy scale, you feel happy, glad, cheerful, pleased, good, pleased, satisfied, contented, or hopeful. You can indicate feeling completely happy by choosing this figure** (point at the happy SAM) **on the far right of the scale here.**
* **The other end of the scale is when you feel completely unhappy, annoyed, unsatisfied, melancholic, despaired, bored, scared, angry, bad, or anxious. You can indicate feeling completely unhappy by choosing this figure** (point at the frowning SAM) **on the far left of the scale.**
* **If you feel completely neutral, neither happy nor unhappy, choose this figure** (point at the neutral SAM in the middle) **in the middle that is not smiling nor frowning.**
* **The figures also allow you to describe intermediate feelings of pleasure by choosing any of the other pictures in between** (point at all the figures in between)**.**

Now you will explain Excited vs Calm SAM; read instructions: **This SAM scale is excited vs calm scale. Notice that on one side** (point with your finger)**, SAM is very still, and his eyes are closed, on the other side, SAM is jumping up, and his stomach is excited. Note that excitement or calmness doesn't necessarily mean excitement or calmness positively nor negatively, as we have the happy vs unhappy SAM above to express that.**

* **At one extreme of the scale, you feel stimulated, excited, frenzied, jittery, and wide-awake, or aroused. You can indicate feeling completely excited by choosing this figure** (point at the excited SAM) **on the far-right side of the scale. Notice how it looks like SAM is jumping up and down, and his stomach is excited. This is like when you get excited and can't sit still or like you have butterflies in your stomach when you are very nervous.**
* **On the other hand, at the other end of the scale, you feel completely relaxed, calm, sluggish, dull, sleepy, unaroused. If you feel completely calm, you can choose this figure** (point at the calm SAM) **on the far-left side of the scale.**
* **If you are not at all excited nor at all calm, choose this figure** (point at the neutral SAM in the middle) **the figure in the middle of the row.**
* **The figures also allow you to describe intermediate feelings of pleasure by choosing any of the other pictures in between** (point at all the figures in between)**.**

**Do you have any questions? Is SAM happy vs unhappy and calm vs excited clear for you?**

Await response, answer questions if there any. If not, proceed.

Read instructions: **Great, so I'd like you to use SAM to describe how you feel right now, at this moment. Once you're done and ready to proceed, please notify me so that we can move to the next step.**

# Stage Three – Equipment Setup

Now you will set up the physiological equipment and test them, making sure they are recording correctly and recording a baseline. Read instructions: **I will now be applying the physiological recording equipment. I will place this electrode on your left calf here, and here** (point at your own calf)**, then I will place another two electrodes on your fingertips of your right arm here, and here** (point at your own fingers)**, and one last electrode on your forearm of the right arm here** (point at your own arm)**. I also might use rubbing alcohol to clean the equipment like the watch or clean the skin area before applying the electrodes. Is that okay with you?**

Await response, if okay, then proceed to place all equipment as follows:

* ECG Left Leg: middle of the calf, on the side (red electrode).
* ECG Right Arm: middle of the forearm (white electrode).
* GSR: place one electrode on the index finger and another one on the middle finger.

Read instructions: **Throughout the study, it is extremely important that you do not move your right arm and fingers as the equipment is very sensitive to movement. This includes any repetitive movements like tapping or shaking. I will use this Velcro to strap your arm, and it will not be tight. It is only there to remind you not to move your arm. Is that okay for you?** Await response, of okay, proceed to apply the strap. **I would also ask you to please not move your left leg as this equipment are also very sensitive to movement. This includes any movement like restless shaking.**

Now you will test the equipment; read instructions: **Now I'm going to test the equipment. In a minute, I will ask you to take a deep breath and hold, count a slow 5, then release. Is that okay with you?** Awaits response, check that GSR signal responds to the breath-hold and release and that both ECG/GSR signals are recording as expected. If the experimenter is satisfied, they can proceed; if not, they must detect and resolve the issue before proceeding any further.

Read instructions: **Okay, thank you. Now I would like to record 3 minutes of pure relaxation. I would like to ask you to relax and sit quietly. Please do not move your arms, your head, adjust seating, tremble your fingers, or shake your legs. Feel free to close your eyes. Please try not to move or think or anything exciting or stressful. Are you ready?** Await response, then record 3 minutes as a baseline. If the participant spoke, laughed or did anything that might compromise the reliability of the baseline data, the timer should reset and record a new 3-minute baseline.

Now the VR headset will be introduced, and eye-tracking will be calibrated. Read instructions: **This is the Virtual Reality headset we will use to view the videos we have for today. As you can see here** (point at the three straps on the VR headset), **using these straps, you can adjust the headset so that it can suit you. Once you put on the headset, I ask you to watch the video from beginning to end. The videos you will be watching are 360-degree videos. Please feel free to navigate the 360-degree world the way you like or enjoy by rotating your head and upper body. In order for the headset to work properly, we will need to calibrate it, meaning the headset needs to identify your eyes movement. Let's put on the headset first, and then we'll proceed to the calibration instructions, don't worry, we will only have to do this once.** Await and assist the participant in putting on the headset. **The program will now start. You will see a grey screen and a green dot. I will ask you to follow the green dot with your eyes and not your head. Are you ready?** Await response and activate calibration, then wait until calibration is successfully done. If not, repeat the process.

# Stage Four – Exposure

Read the instructions: **Fantastic. You can remove the headset now. Along with this headset, these are the headphones we will use to listen to the audio/music in the videos. The audio levels should be loud to a limit where you can't hear your surroundings but also not painfully loud. If the sound is too low or annoyingly loud, please let me know to adjust it. We will play one video, fill some questionnaires, have two minutes rest that is purely dedicated for you to relax and get ready for the next video, and so on. Is that okay with you?** Await response. **Great, thank you. We will start the video in a bit. I will be in the other room the entire time and will come around when the video ends. If there are any problems with the video or you needed me, please wave at this camera with your left hand** (point at camera)**. Please put your headphones and headset on.** Await until the participant puts on the headphones and VR, assist if needed. **I also would like to remind you not to move your right hand or leg as much as possible and to watch the video from beginning to end. I will play the video whenever you're ready. Are you ready?** Await response, play video.

# Stage Five – Post Exposure

The "Post-Exposure Questionnaire" per one video exposure consists of questions regarding emotional effect and presence while watching the video. The online questionnaire is meant to take the user step by step through all parts, as they cannot proceed to the next part until the current part is completed.

Once the video is done, read the instructions: **You can remove the headphones and VR headset now. Thank you for watching the video. I would like you to fill this questionnaire now. This questionnaire consists of various questions regarding how you felt while watching the video. Please read the instructions of each part carefully and provide an answer that is as accurate and honest as you can. There are no right or wrong answers, just honest answers. If you feel unsure about how to answer a question or you have any questions at all, please do not hesitate to ask. It is very important that you fully understand every question. I will be waiting for you here. Also, I would like to remind you that your rating of this video should reflect your immediate personal experience and no more. Please rate each one AS YOU ACTUALLY FELT WHILE YOU WATCHED THE VIDEO. Lastly, please notify me when you've completed the questionnaire and are ready to proceed to the next step.**

Await until the participant completes the questionnaire and is ready to proceed, then read instructions: **Okay, thank you. Now I would like to have two minutes of pure relaxation. I would like to ask you to relax and sit quietly. Please do not move your arms, your head, adjust seating, tremble your fingers, or shake your legs. Feel free to close your eyes. Please try not to move or think or anything exciting or stressful. Are you ready?** Await response, then record 2 minutes as a baseline. If the participant spoke, laughed or did anything that might compromise the reliability of the baseline data, the timer should reset and record a new 2-minute baseline.

Repeat stages four and five for all videos.

Stage Six – Completion

Read instructions: **This is the end of the study now. First of all, I would like to remove the electrodes and the Velcro wrap. Are you okay with me doing that?** Await response, then proceed to remove all equipment. **Great, thanks. I would like to thank you for your time. Your participation is very valuable to us. This sheet** ("Debriefing Sheet") **provides further information about the study purpose and details. Please feel free to read** (hand the "Debriefing Sheet")**.**

Read instructions: **Now, I'm pleased to present a £10 Amazon Voucher as a token of appreciation for participating in this study. First, I would like you to fill in this sheet to confirm that you have received the voucher** (provide the "Participant Payment Sheet" and allow the participant to fill in the relevant information, after signing, hand in the "£10 Amazon Voucher").

Read instructions: **Thank you, please make sure you take the consent form, participant information sheet, and debriefing sheet. Please don't hesitate to contact us in the future if you have any questions or concerns. Thanks again.**

The experimenter takes the participant outside the laboratory to the hall.

List of Referenced Materials

* Participant Information Sheet.
* Consent Form.
* Participant Profile Questionnaire.
* Post-Exposure Questionnaire.
* Debriefing Sheet.
* £10 Amazon Voucher.

Other Materials

Verbal instructions related to the Self-Assessment Manikin (SAM) are based on the Lang et al.'s technical manual; Lang, Peter J., Margaret M. Bradley, and Bruce N. Cuthbert. "International affective picture system (IAPS): Technical manual and affective ratings. *"NIMH Center for the Study of Emotion and Attention"* 1 (1997): 39-58.