

## Procedures for Running Category-VR, VR Condition:

### Upon Arrival:

- Set up Vive using full room setup procedures and ensure that the room is calibrated in the same direction as indicated by the tape on the floor when it asks to "point controller at screen and pull trigger"
- When ready, collect a participant from the upstairs running room and bring them into the main lab area.
- Thank the participant for helping out science and introduce the participant to the experiment briefing:

Say: "Today we're going to be conducting a study on human attention and learning inside of a virtual environment"

- Introduce participant to the hardware being used in this experiment:

Say: "We are going to be using the HTC Vive during our experiment. Alongside the headset, there are two controllers which you will use to interact with the world, while two cameras *point to cameras* will monitor your movements."

- Have the person enter the play area for the experiment.
- Open the calibration room file and run the program.
- Introduce the participants to the safety procedures:

Say: "I'm going to get you to place this headset on. Take note of the three straps (point to each as you describe them) - one on the top, here; and two on the sides; here, and here. Once you've placed the headset on, we're going to adjust these straps until everything appears clear inside the virtual environment. As well, there is also a knob, here (Point to the interocular distance adjustment knob), which will move the lenses inward and outward (demonstrate this by turning the knob), depending on how wide your face is.

- Inform the participant of the risks of VR

Say: "Some people have reported feeling dizzy or nauseous while in Virtual Reality. While we do not anticipate that this environment will cause this kind of reaction, please let me know if this happens at all, and I'll get you out right away. You won't be penalized at all if this happens, though it will mean that we end the experiment."

- At this point, guess the interocular distance of the person's eyes, and adjust the lenses accordingly using the small knob on the side of the headset before handing it to the participant.
- Hand the headset to the participant and instruct them to place it on their heads.
  - *NOTE: Once the headset is placed over their eyes, it is important to announce your actions on a more regular basis as you perform them.*

- Help them with any adjustments, ensuring that the headset is on tight enough, and will not move too much during movement. Ensure that the participant reports seeing clearly.
  - *NOTE: Our calibration environment should have some typed text on a wall so that we can adjust the headset more accurately based on how clearly the participant can read the text, ask the participant about the clarity of the text to ensure that they can see clearly.*
- Grab Vive controllers and bring them into the play area:

Say: "Okay. Now that the headset is on, I'm going to bring you your controllers. These will act as your hands while you are in virtual reality.

- Hand the participant the first controller

Say: "Please make sure to put your hand through the wrist strap please"

- Let them have the other controller and help them with the wrist strap if needed
- Help them to find the triggers and let them know that this is the only button they will need.

#### **After Entering VR:**

If participant is not currently sitting in the starting location for experiment beginning:

Say: "Okay, I will now guide you to the starting point for our experiment

- If necessary, announce that you will be placing your hand on their shoulder, and then place your hand there, gently pressing them in the direction of the chair.

Otherwise:

Say: "Wonderful, I will now be ending this calibration area, and transporting you into the experimental environment shortly."

Say: "Please remember that the results of your will be published in an actual research paper; it is therefore important that you try your best as you go through each trial. "

Say: "However, if you, at any point in time, feel like you would like to take a break or leave the experiment entirely, you are totally okay to do so. You will not be penalized in any way for leaving and will still receive your credit for participating."

#### **Starting the experiment:**

Say: "Do you have any questions at this time?"

- Give a moment for the person to ask a question.

Say: "Alright then – we'll begin. If at any point in time, you need my help, or wish to ask any questions during the experiment, just let me know and I'll do my best to help out."

Say: "Have fun in there, and once again, thanks for helping out science!"

**During experiment:**

- Maintain constant supervision during trials to ensure that participant does not cause harm to themselves or facilities.
- Supervision must also be maintained to ensure that participant requests for information are promptly answered to limit the effect of these interruptions on data collection.
- As well, supervision must be maintained in order to promptly respond to requests to exit the study, or offer such options should participants at any time appear to be distressed while undergoing exposure to the virtual environment
- End of experiment room will instruct participants to notify the experimenter that the experiment has finished. Be sure to respond promptly to participant declarations of completion.

**IF EXPERIMENT RUN TIME EXCEEDS PREDETERMINED PARTICIPATION LIMIT:**

- Instruct the participant to finish their current trial:

Say: "Hey there, the experiment has exceeded the time limit, please finish your current trial and stop. We will now end the experiment."

- Enter keyboard commands which will trigger the end of experiment room to appear

**When Experiment is finished**

Say: "Hold out your hands in front of you, and I'll come grab the controllers from you"

- Retrieve the controllers, grabbing only the circular sensors at the front to avoid touching the hand grips which may be covered in sweat at this time. Begin using an alcohol wipe to sanitize the controllers while saying the following:

Say: "You can remove the headset now"

- Allow the participant to remove their own headset and hand it to you. Grab only the external plastic to prevent contact with participant sweat and other fluids.
- Place the headset on the desk and begin sanitizing the inside of the helmet with an alcohol wipe in order to prevent.
  - During the sanitization process, there is an opportunity to discuss the experience with the participant, probing for any feedback they might have on how the experience might have been better. Please note any feedback in the participant notes.
- Upon finishing the sanitization of the headset and controllers, give the participant a debrief form and guide them back the stairs to the running room; you may grab the next participant right away if you are ready for them.