Alternative Assignment

Walk Through Script for Dysphoria and Theory of Mind

In previous research, we have found that people who are in a chronic negative mood or dysphoric are better at identifying complex emotions or mental states than are people who are nondysphoric. In this study, we were interested in determining what they are doing differently that might lead them to perform better on the task. So if you had been in this study, you would have completed several tasks on a computer. First would have completed some demographic information, and then we would have introduced what is known as the Eyes Task or more formally the "Reading the mind in the eyes" task (Revised Version: Baron-Cohen et al., 2001). The Eyes task is comprised of 36 black-and-white photographs. These photographs depict only the area of the face between the eyebrows and halfway down the nose and were edited to be 15 cm x 6 cm in size. Each photograph is accompanied by four adjectives. Three of the words are distracters and one of the words is the correct response. For each picture, you would select the adjective that you believe is the best description of the emotional state of the person in the photograph.

Show student a sample item: **What do you think is the right answer for this one?**

The eyes stimuli can be classified into three emotional valence categories: 8 positive (e.g., "affectionate"), 12 negative (e.g., "hostile"), and 16 neutral (e.g., "pensive") items.

What do you think the example one is: positive, negative, or neutral?

Now for this study, we also use an eye tracker, so we could see where the participants first looked and where in the picture they spent the most time looking – such as the eyebrow, the bridge of the nose, etc. The eye tracker is the equipment here: Some eye trackers are portable, but this one is desk mounted and looks a bit like what you might see at an eye doctor's office. If you were in the study, you would put your chin in the rest here and your forehead against the bar here. We do this to secure your head in one spot so the machine can better track your eye movements. It uses an infrared camera to gauge light off the pupil to see where the participant is looking. The headrest is mounted about 12 inches away from the computer screen.

Why do you think that is? What would happen if it was too far away or too close?

Because if you are too far away, then it is harder to accurately determine where your eyes were fixated. For example, it would be harder to judge if you were looking at say the top of the stimuli vs. the top of the computer. We also don't want you to be too close because that wouldn't feel natural and wouldn't allow you to look at the whole picture.

Before we can collect data using the eye tracker, we first need to calibrate it. To do this, we use a test screen on which 9 different dots are shown – appearing one at a time in random order. The dots will appear in each corner, the midpoint of each side of the screen, and the center of the screen. We have participants go through this two times initially, and we can see here on this second screen how well the eye tracker is lining up between where the participant looked and where the eye tracker measured their fixation.
Let me show you what that looks like (*do a little demo of the calibration trials*).

Now a few things can throw the eye tracker off. **What do you think those things might be?**

We aren't able to run people who wear glasses or hard contact lenses because it is harder to get an accurate measure of their pupil gaze. Soft contact lenses though are less of a problem. We also ask participants not wear heavy make up because things like heavy eyeliner can throw off the measurements. Sometimes though we have had problems even if people don't wear make-up but naturally have very dark eyelashes. If we find that measurements are off, then we can make some changes: 1) we could change the pupil shape used by the eye tracker to see if we get a better match, 2) we could adjust the refresh rate on the computer so the dots stay on the screen longer, 3) we could adjust how you sit to make sure your eyebrows are more in line, etc.

Once we are satisfied with the calibration, then the real trials would begin. The stimuli are presented in the center of the desktop computer screen with the four response choices in the corners of the screen. You would indicate using a joystick which of the four adjectives you believe best matched the emotion depicted in

the picture – so you would click on upper right, upper left, lower right, or lower left. In between each picture, you would see a dot in the center of the screen. We use that for drift correction. That is, we want to make sure that you haven't moved. If we find that you have, then we would do another calibration.

Would you like to try one trial? I won't be keeping your response.

You would continue for all 36 trials (*go through some more examples*). To eliminate various other explanations for any group differences in Eyes task performance, we also would interweave two control tasks: The first control task ("Animal task") consists of 12 black-and-white pictures of various animals that were presented in a similar manner as the eyes stimuli. You would make a forced choice between four adjectives that you believe best describe the animal (*show a sample item*).

What would you say is the right answer for this one?

The second control task ("Gender task"), like the Eyes task, also employs various pictures of eyes. However, rather than decoding the emotion depicted in the eyes, participants determine the gender of eyes. Twelve pictures from the eyes task were randomly selected and presented with the response choices (i.e., male, female) at the bottom corners of the screen (*show a sample item*).

What would you say here? Male or female?

The three experimental tasks (Eyes, Animal, and Gender tasks) are presented in a block of 60 randomly ordered trials (36 eyes items, 12 animal items, and 12 gender items). In addition to recording, participants' responses and eye movements, we also record how long it takes them to respond. Once participants finish with the eyes task, then they answer several different personality measures, some of which are intended to assess their mood and how long they have been feeling that way. You might have answered some of these questionnaires in prescreening or in other studies if you have participated in any.

We will be looking at overall trends across participants and not findings for particular individuals. All results will be reported at the aggregrate level, so participants are not be identified in any way. Also, we will be

running this experiment for some time. Sometimes if people know what the study is about, that knowledge will affect their responses even when they don't mean for it to**,** SO WE WOULD REALLY APPRECIATE IT IF YOU WOULD NOT TALK TO ANYONE ABOUT THE STUDY.

Do you have any questions?

If you are interested in this area of research, you may wish to read the following references:

Harkness, K. L., Sabbagh, M. A., Jacobson, J., Chowdrey, N., & Chen, T. (2005). Sensitivity to subtle social information in dysphoric college students: Evidence for an enhanced theory of mind. *Cognition and Emotion, 19*, 999-1026.