

Lena's NURA (Spring 2024) Study Instructions

1. Ensure the participant is here for - "(2 Credit) Color and Working Memory"

- Verify the participant by their first name and name in the description of Google Calendar.
- **Open Google Sheets** and "**Researcher Sheet_NURA_LK**"

2. Seat the participant in the black chair, assent them:

- "This is the assent form for the study. Go ahead and read over it front-to-back. Let me know if you have any questions, and once you finish!"
- **While the participant is reading assent:**
 - Turn on the computer in the study room, and open Matlab (on the bottom toolbar). Open the "**Lena-NURA-24**" folder on the Desktop (it has a **green** tag) and the PowerPoint called "**Lena_NURA_24.pptx**."
- **Ask the participant whether they are interested in the SONA, or the gift card option.**
 - If they are interested in the gift card option, have them say their email (type it into the researcher sheet under the SONA/gift card column). **Double-check this!**
 - If they are interested in SONA, let Lena know (text her if she is not in the lab), the name of the participant/which timeslot, and to grant them SONA.

3. Ishihara's Color Task

- "Next, we will do a quick **color** test. You will be shown **dotted** images one at a time and be asked whether you see a **number and what it is**. Please respond as quickly and accurately as possible."
- Stand right behind the **red tape** in the lab. The edge of your toes and the edge of the chair legs should touch the bottom of each line. Make sure the **book is held at eye level**.
- Show numbers with sticky notes - clarify which page they should look at. "Do you see a number?" If they answer, "What number do you see?" - ***last plate - normal vision sees NO number.*** Each answer should be given with no more than a 6-second delay.
- Normal vision - **all** correct. Continue to the next task.
- Non-normal vision - "First off, I want to clarify that we are NOT clinicians, so we cannot diagnose anything. But based on your answers, we suggest you consult an optometrist to see if you have color deficiencies. Unfortunately, we have strict inclusion criteria and cannot ask you to participate. Thank you for coming in today. We will still be granting you SONA credit. If you do not see this within 2 days, please feel free to contact our lab, and we can help resolve any issues. Thanks again!"

4. Starting the computer tasks:

- "You will be doing a series of tasks (a practice task, then a main task). I will explain the instructions before each one. During each task, there will be opportunities to take a break.

If at any point you have a question or feel discomfort or pain, or if you feel like something is wrong with the computer, please ring this bell and let us know. When you finish a task, ring the bell to move on to the next task. We ask that you refrain from using your phone during the experiment. Any questions?”

1. Recall and Recognition (Practice)

- Open the researcher sheet and review the value for “**Practice Mouse Condition**” (either 0 or 1), and make sure **Recall_Recog_Practice.m** is open.
- Show the **PowerPoint presentation** in the folder “**Lena-NURA-24.**”
- “This is a working memory task that requires you to remember colors. There will be 'matching' and 'color wheel' blocks, and blocks that are ‘matching and color wheel.’
- “In 'matching' trials, you will see three differently-colored squares pop up quickly on the screen. After that, there will be a delay, and then you will see another colored square pop up. It is your job to say whether that square is the same color as the one in that position before.”
 - **Mouse condition 0:** “If it is a match, you will right-click on the mouse. If it is a mismatch, you will left-click on the mouse. Any questions?” **Walk through the example on PowerPoint of how you would respond.**
 - **Mouse condition 1:** “If it is a match, you will left-click on the mouse. If it is a mismatch, you will right-click on the mouse. Any questions?” **Walk through the example on PowerPoint of how you would respond.**
- “In ‘color wheel’ trials, you will again see three differently-colored squares pop up quickly on the screen. After that, there will be a delay, and you will see a screen with a color wheel and three gray squares (one of them light gray). It is your job to select the color of the lightest square using the mouse. Any questions?” **Walk through the example on PowerPoint of how you would respond.**
- “The computer will show a message on the screen before each set of trials letting you know what to expect (color wheel, matching, both). Feel free to use these as breaks, and continue whenever you are ready. When you finish the task, a message will tell you to ring the bell (**show them the bell**). **Go ahead and respond as efficiently and accurately as possible.** This first part is just a practice. Any questions? Please start after I have **turned off the lights and shut the door.**”
- **If Recall_Recog_Practice.m is not open in Matlab, open folder “Lena-NURA-24” folder, and open this file AND Recall_Recog.m.**
- In Matlab - Press **RUN**. If you do not have this option, click the code, and then the Editor tab, the **RUN**. If prompted, press CHANGE FOLDER. A GUID will pop up. **Input the**

participant ID (participant number, look in the researcher sheet) and the **mouse condition** (look in the researcher sheet) and click “OK.”

- **Double-check these values!**

- **Turn off the lights and shut the door. Make sure the “Quiet Please” sign is on the handle.**
- When participant is done: Check the command window.
 - If it says “Practice data did not save!” - the participant needs to complete the practice again. Go over the presentation example one 0more time. Follow the same steps above again (This will overwrite the first practice).
 - We will only have participants re-do the practice up to three times. If they fail the third time, we probably do not want their data - let Lena or a grad student know, and we will probably dismiss them.
 - If it says “Practice data saved!” - move on to the main task.

2. Recall and Recognition (Main)

- Open the researcher sheet and review the value for “**Practice Mouse Condition**” (either 0 or 1) and “**Order Condition**” (either 0 or 1). Make sure **Recall_Recog.m** is open, and start the task as you did for the practice (this time you are entering the participant ID, the mouse condition, AND the order condition, though).
 - **Double-check these values!**
- “Now, you will be asked to do the same thing for the main task but for a longer period. Just a reminder, the computer will show a message on the screen before each set of trials letting you know what to expect (color wheel, matching, both color wheel/matching). Feel free to use these as breaks, and continue whenever you are ready. **Go ahead and respond as efficiently and accurately as possible.** At the halfway point, a message will tell you to ring the bell. When you see this, do exactly as it says, and we will check in on you. At the end of the task, you will also ring the bell. Any questions? Please start after I have **turned off the lights and shut the door.**”
- At the halfway point, ensure they are fine to continue – turn off the lights and shut the door before they start again. Remind them they will ring the bell again at the end.

3. Questionnaires + Demographics - Qualtrics

- Close MATLAB. Open **Chrome on the computer**- Qualtrics survey is in the favorites bar (tab should already be open, called **Lena_NURA**).
- Input participant ID on Qualtrics survey - “Questionnaires + Demographics Survey”
- “This is the last part of the study. Here, you will be asked to answer a few questions about yourself. When the survey is complete, please come out of the room (no need to ring the

bell). Afterward, I will check to make sure your response was recorded. Then, you will be good to go!”

- Check that they finished and **refresh** the Qualtrics survey.

End of study.

- “Thank you for participating in our study. You will be granted SONA credit (or gift card) today. If you do not see this within 2 days, please feel free to contact our lab, and we can help resolve any issues. Thanks again!”
 - If they want a gift card: “If you have any questions or issues with redeeming this, please let us know right away.”

Other Things

- You will not be responsible for granting SONA credit.
 - If I am not in the lab, text me (my number is on the board) – and I will take care of it.
 - If a participant is a no-show or goes over their time slot, also please let me know.
- You will not be responsible for granting gift cards.
 - Make sure their email is recorded, and let me know that they need a gift card (texting is fine here, also).