PROTOCOLS FOR PHIPPS PROPEL STUDY

Working Memory Task (PrePreTesting)
Materials: pen, scoresheet, computer with 1366 x 768 resolution and Psychopy "digit_WM_experiment.py" file on it. Child sits on left side so experimenter can mark correct/incorrect with right and press buttons with left.

Button presses: to proceed to the next screen, press space bar. To record a response, press 0 for incorrect and 1 for correct. It is important that you input the response correctly, because that will determine how the next part of the test proceeds. You will also mark correct or incorrect for both practice and real trials on the score sheet, to ensure that the code-calculated final score and the human-calculated final score match.

Instructions: "You are going to see some numbers one at a time on the screen. After each set of numbers, you will see a question mark. When you see the question mark I want you to tell me the numbers you saw in size order from smallest to biggest. For example, if I show you 37, 15, 52, I want you to say 15, 37, 52. Do you have any questions? Let's practice."

Following instructions, there are two practice rounds. As the numbers appear, say each number aloud, but intonate each number as if it's the last number in a sequence (so that they can't use the way you tone your voice as you're reading them to mark a number as the last one)

When the question mark appears, if the subject doesn't immediately start saying the numbers, prompt them to say the numbers in size order. If they say them correctly, say, "good" (we can give them feedback during practice so they know they're doing it right, just not during the actual trials). If they say them incorrectly, say "Actually, 15 is less than 37 and 37 is less than 52, so you should say 15, 37, 52" or something along those lines. Hopefully if they get the first practice wrong, they'll get the second practice correct after this initial correction. If they don't, make sure they understand why they were wrong, and ask them if they have any more questions before you start the real thing.

After two practice rounds, a new set of instructions appears. "Let's look at some more numbers. Remember, after you see the numbers, you will see a question mark. Once you see the question mark, I want you to tell me what you just saw in size order from smallest to biggest." Explain that if you don't wait until you see the question mark, you might miss some numbers, because you don't know how long the list is, so make sure to wait until the question mark appears so you don't start saying the numbers back too early and miss the last one in the display. Also, make it clear that you cannot give them feedback, tell them if they're right or wrong or remind them of a number if they miss one, so "just do your best".

During the actual trials, again read the numbers aloud as they appear, intonating each number as if it's the last of the sequence. When the question mark appears, look at the score sheet, not at the subject, and do not nod or shake your head as they're saying numbers. Keep waiting until they've said a list of the proper length or until they say they can't remember any more, then say "ok" and enter either 0 or 1 on the laptop, referencing the sequence on the scoresheet. Also mark the scoresheet accordingly. When the task ends ("Good job! (End Test)" screen shows), wait for the program to quit (shows final screen for 5 seconds then leaves automatically) and then look at the python output for the total score (says "Score for [participantName] is ___") and circle that total score at the top of your scoresheet.

Word Recognition in Isolation Task (PrePreTesting)

Materials: scoresheet, pen, timer (on phone is ok), and computer with WordRec_advanced.ppt on it, with 1366 x 768 resolution.

Instructions: "We're going to play a game where I'm going to show you words on the computer screen and if you recognize the word, you're going to say it out loud and if you don't recognize the word, that's no big deal, you're just going to say 'skip' and we'll move onto the next one. You're not going to even try to sound out these words, because I'm actually trying to move through this game quickly. So what I'm going to do is I'm going to keep track of the time to make sure we don't spend too much time on this game.

Ok so if you recognize the word, say it out loud, if not, just say skip. Ready?"

Set the timer for 90 seconds, and see how many words you can move through in that time. Press the right arrow to move to the next word as soon as they've finished saying the current word- be careful not to accidentally press the arrow while they're still saying the curren word. If they don't say anything for five seconds on a particular screen, just move to the next one. If they say skip, take too long and you move to the next slide, or pronounce incorrectly to the point where you know they haven't correctly recognized it (such as "leg end" instead of "legend" or "challenge" instead of "change") mark an X on the scoresheet next to that word. Draw a bold line under the last word they read aloud before the timer went off. Include the word if they say it just as the timer goes off.

Passage Reading (Pre- and Post-Testing)
Materials: passage book, scoresheet, pen

1. Check which ordering option should be used for this subject, and make sure to use the corresponding book AND scoresheet. Make sure you are familiar with what all of the words in these passages mean.
2. Tell the child: "Today we are going to learn about some new things. But first, I need your help answering some questions. Maybe you won't know the answer to some of these questions, and that's OK! If you don't know the answer for sure, I want you to take your best guess. Ready? Here we go... "
   a. Read the question out loud to the child and ask them to point to the picture they think is the right answer. In the case of the 4-choice questions, if they say the word that they think is the answer, ask them to point to the picture for you. If they point and it's not clear which picture they pointed to, ask them to point again, and say you couldn't tell which one they chose. Record their answer on the scoresheet. If it is a 4-choice question, write their choice as "TL", "TR", "BL" or "BR" for top right, etc
   b. Don't give feedback, but you can listen attentively to anything they might say and tell them they are doing a good job. Neutral encouragement like "hm" or "I like how hard you are thinking" or "ok" is good.
   c. If they ask what a picture is supposed to be, or say they don't know, say "What do you think?" or "Just give it your best guess".
   d. If they hesitate to point to an answer, give them about five seconds, then tell them to take their best guess.

3. When they are done with the first section, tell them: "Great work so far! Now we are going to learn more about some of these new things. You will read a few short paragraphs and answer some questions about each one. You'll be able to look back at the paragraphs any time you want while answering the questions. The paragraph won't always give you the specific answers to the questions – that's okay! Just give it a try. Ready? Here is the first one... " (Read the title, point to each word in title as you read it). "Can you read aloud from here?" (point to first word of paragraph itself).
   a. Child reads paragraph. Read each question to them. At the end of the questions for each lesson, tell them "Great work! Here we go, next one." Remind them when they start answering questions for the first and third paragraphs that they can look back at the text whenever they want.
   b. If they explain their logic when reading and/or answering the questions, listen and nod, you can say "hm" or "I like how hard you are thinking". We are interested in any thoughts they have but don't want to bias their choices or confirm their answers – so your encouragement should be warm but neutral.
   c. If they are struggling with a word, you can read them the word. However, if they misread a word not pivotal to the sentence's meaning, or they move past the error quickly, don't correct them.
   d. If they ask the meaning of a word, ask them what they think it means. Confirm if correct; give a synonym / short definition if incorrect (and make a note about it).
   e. If they hesitate to circle an answer, give them a few seconds, then tell them to take their best guess.
   f. If they skip a line while reading, tell them that they skipped a line and have them start at the beginning of the interrupted sentence.

Spatial Arrangement Task (Pre- and Post-Testing)
Materials: Grid, picture cards, phone to take photos and upload with.

1. Check to see what order (living things then food or food then living things) this subject should be tested in. Do this same protocol with each set of items, in the assigned order.

2. Make sure that both stacks have been shuffled into a random order for when you're laying them down and naming them. Check that you know the word we're using for each picture (words should be written on the back of the card).

3. Tell them the instructions first: "I'm going to give you some pictures. I want you to arrange them on this grid so that pictures of the same kind of thing are closer together, and pictures of different kinds of things are further apart. But first, I'm going to show you all the pictures so that you know what they are. Ready?"

4. Then lay each item down on a surface that is NOT the grid and name them as you lay them down.

5. Then remind them of the instructions: "Okay, now I'm going to give you each of these pictures, one at a time, and I want you to put them on the grid so that pictures of the same kind of thing are closer together and pictures of different kinds of things are further apart. Does that make sense? And just so you know, just because you put a picture down in one spot doesn't mean it has to stay there – you can move all the pictures around to new places on the grid, any time you want to." Check that they understand, and then say, "Okay, let's get started!" and hand them the first item, naming it as you hand it to them.

6. Then hand them each picture one at a time and name the picture as you hand it to them. After you've handed them half of the items, remind them that they can rearrange the pictures they've already put down if they want to.

7. When they've finished placing all the pictures on the board and are no longer looking at the board, say, "Would you like to move them around a bit more, or are you happy with them the way they are?" When they're done, take a picture of the grid and upload it to the box link with "subjectID_food" or "subjectID_LT" as its title (filling in their ID for "subjectID")