Electronic Supplementary Materials

Exploring the relationship between loneliness and social cognition in older age

Task Instructions given by the experimenter for the three ToM tasks:
Interactive Reference Assignment task

Starts with two practice trials, then goes on to two test blocks (26 trials total).

This task is looking at how well we are able to consider things from someone else's perspective. You will see an image on the screen, such as on the left here, in which there is a grid and a lady standing behind the grid. This lady is going to give you instructions on objects she would like you to move around the grid. Importantly, we can see that some of these squares in the grid have a green back ground, and that means she can't see those objects, and therefore doesn't know they exist – so will never refer to them. The image on the right is just to illustrate what she can and can't see. When you are following her instructions, you need to keep this in mind.

For example, if she asked you to move the banana up one slot, we can see that there is just the one banana here, and we can both see it, so it must be this one she is referring to. Using the mouse you would click on the banana and, keeping the mouse clicked down, move it up one slot. In this case, that would mean that the banana is moved into a green slot (i.e., the lady can no longer see it) – this is fine, it's just about which object you select, but it doesn't matter if you move an object out of her sight.

If she asked you to move the small vase one slot right, we need to keep in mind that we can see three vases – a big vase, medium vase, and a small vase. However, the smallest vase from our point view cannot be seen by the director, and therefore when she asks to move the small vase, she is referring to what we see as the medium sized vase, and this would be the correct one to move. If she asks you to move an object to the left/right, it is YOUR left/right – you do not need to try and work out which is her left or right.

Finally, remember that as soon as you press on the mouse that counts as your response so, if you make a mistake or the object doesn't move like expected, don't worry and don't try to

correct it, just move on to the next trial. Please try to respond as quickly and as accurately as you can.

Strange Stories task

Two blocks of stories. Turn volume up to full. Researcher should leave the room during this task.

In this task, you will be listening to a series of stories. After each of the stories you will be asked a question about why a particular event happened or why a character may have done something. You will give your answer by speaking into this microphone. I am going to leave the room during this task, just so you can speak freely, but I will be right outside if you need anything. I will come back at the end of the task, or if I don't appear come and get me from the room next door.

Visual Perspective-taking task

Starts with a practice block, then four test blocks each separated by a break.

In this task you will see an image of a person standing in a room. Before seeing these images, you will see two prompts. The first that will say either 'You' or 'She/He' [depending on participant's gender], which tells you whose perspective you should respond from on that trial. If, for example, it says 'you' that means what you yourself can see, or if it says 'She/He', it's asking what that person in the room can see. You will then see a number. This number responds to the red dots that will appear in the room.

If, for example, it said 'She' and then '2', that could be interpreted as the question 'Can she see two dots?'. In the example on the right, the answer would be 'yes, she can see two dots', so you would hit the GREEN button. In the example on the left, although there are two dots, because of the way she is facing she can only see one, so the answer would be 'no, she can't see two dots' and you would hit the RED button. Green means 'matched' or 'correct' and Red means 'mismatched' or 'incorrect'. If it said 'You' and then '2', the answer would 'correct' in both of these examples, as you can see two dots in both pictures.