

# Anendophasia (supplemental materials)

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2023-07-03

## **Intertask correlations**

In addition to finding (or not finding) differences in task performance as a function of inner speech, it is often informative to see whether correlations between tasks and conditions show a different pattern in people with more vs. less inner speech (Keogh, Wicken, & Pearson, 2021).

Figure 1 shows the task correlations for both inner speech groups: more inner speech in the upper triangle and less inner speech in the lower triangle.

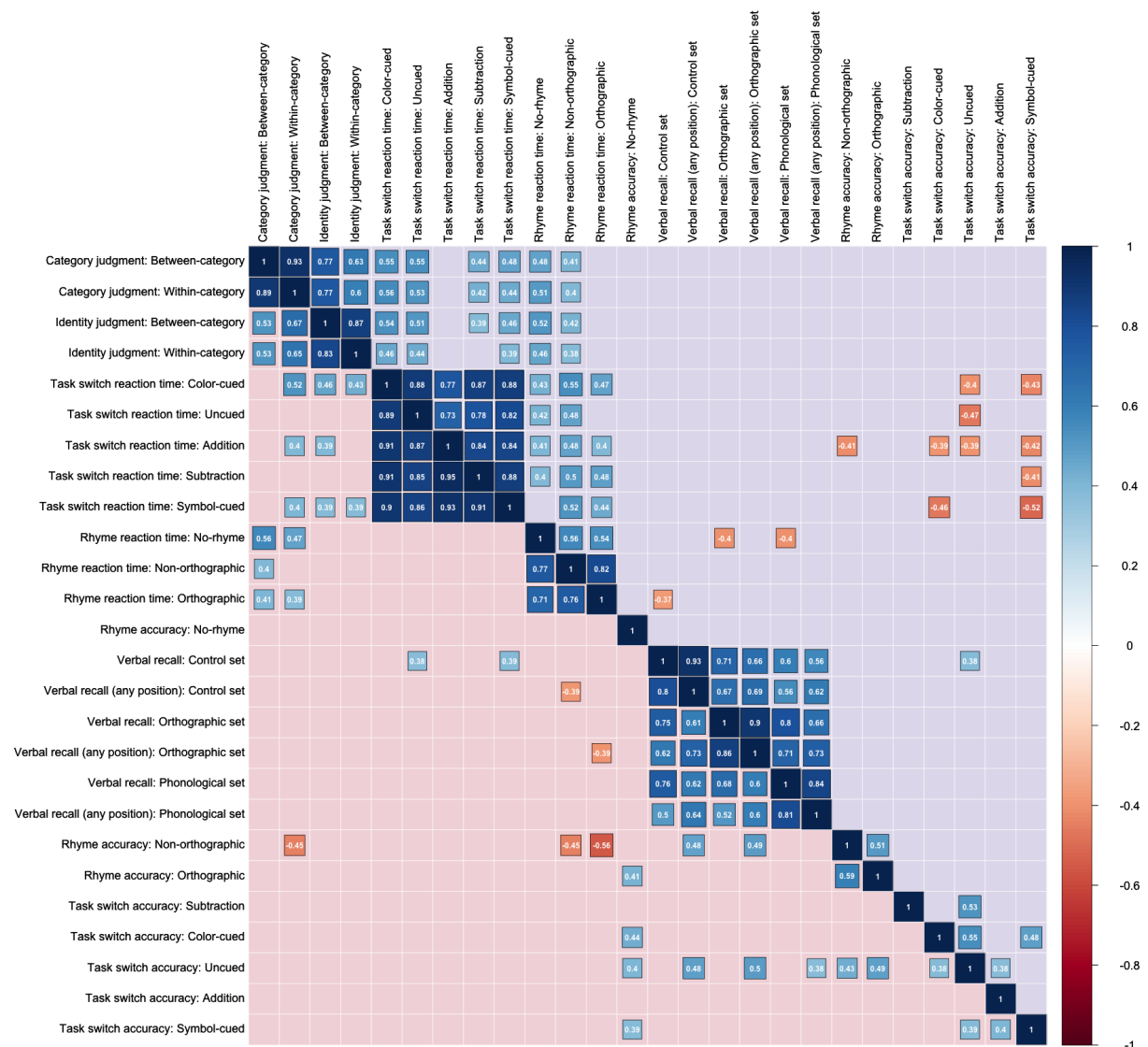


Figure 1: Intertask correlations in the total sample of participants with more and less inner speech. Colored squares represent significant correlations at  $p < .01$ . The upper triangle represents intertask correlations for the participant group with more inner speech while the lower triangle represents intertask correlations for the participant group with less inner speech.

## All custom survey questions

Question	Options
If you have to ask a question in front of an audience, which of these best describes what you typically do?	<p>I rehearse in my mind the exact phrasing of what I am going to ask (5)</p> <p>I rehearse in my mind some of what I am going to ask before asking it (4)</p> <p>I think of a question I want to ask and just ask it (3)</p> <p>Other (2)</p> <p>I'm never in a position to ask questions in front of an audience (1)</p>
How often do you experience trouble focusing on a face-to-face conversation you are having because of a conflicting conversation happening in your mind at the same time?	<p>Never (1)</p> <p>Rarely (2)</p> <p>Sometimes (3)</p> <p>Often (4)</p> <p>Always (5)</p>
How often do you have songs stuck in your head?	<p>Multiple times a day (5)</p> <p>A few times a week (4)</p> <p>A few times a month (3)</p> <p>A few times a year (2)</p> <p>Never (1)</p>
If you had to recall a short conversation about a specific topic that you had yesterday with a friend, how easily can you recall the exact words your friend said?	<p>I can easily recall it. If I wrote it down and matched to a recording of the conversation, there'd be an almost perfect match (5)</p> <p>I remember the topic and remember much of what was said. If I matched it to a recording of the conversation, a lot would match up. (4)</p> <p>I remember the topic, but remember only a few of the specific words/sentences. (3)</p> <p>I remember the topic, but can't remember any of the specifics. (2)</p> <p>Other (1)</p>
If you had to recall a short conversation about a specific topic that you had yesterday with a friend, how easily can you recall the exact words you said?	<p>I can easily recall it. If I wrote it down and matched to a recording of the conversation, there'd be an almost perfect match (5)</p> <p>I remember the topic and remember much of what was said. If I matched it to a recording of the conversation, a lot would match up. (4)</p> <p>I remember the topic, but remember only a few of the specific words/sentences. (3)</p> <p>I remember the topic, but can't remember any of the specifics. (2)</p> <p>Other (1)</p>
When you recall a conversation like the one you were thinking about for the last 2 questions, do you hear the words in your mind?	<p>It's just like I'm hearing the conversation again. (4)</p> <p>I hear a condensed version (e.g. only some words). (3)</p> <p>I hear something but I can't describe it. (2)</p> <p>I can't hear it, but I can still recall it. Please briefly say something about how you are recalling it. (1)</p>
Can you "sing along" to music without singing out loud?	<p>Yes - definitely (4)</p> <p>Yes - somewhat (3)</p> <p>No - but I can imagine how others can do it (2)</p> <p>No - I can't imagine how anyone could do this (1)</p>
If you can "sing along" to music without singing out loud, to what extent does this feel like regular thinking?	<p>Not at all (1)</p> <p>Mostly different from regular thinking (2)</p> <p>Neutral (3)</p> <p>Mostly similar to regular thinking (4)</p> <p>Exactly like regular thinking (5)</p>
If you imagine someone else speaking, how do you experience their voice?	<p>I can't sing along without singing out loud (6)</p> <p>I hear what they say in their voice. (4)</p> <p>I hear what they say but in my own voice. (3)</p> <p>I hear the words but I can't tell whose voice it is. (2)</p> <p>I don't "hear" anything, I imagine it by... (please specify) (1)</p>

(continued)

Question	Options
Many people feel that a lot of their thinking, planning, and decision-making takes place in the form of a conversation with themselves. They describe that when they think, they hear words in their mind. Other people don't have this experience and instead say that they "think in ideas". Is your experience more like the first or the second? To what extent do you agree with this statement: 'It is generally difficult and takes effort to express in words how I think and feel'.	More like a conversation (2) More like "thinking in ideas". Can you elaborate or give an example of what this means to you? (1)  Strongly agree (1) Agree (2) Neither agree nor disagree (3) Disagree (4) Strongly disagree (5) Yes, very (3) Maybe a little (2) No, I don't think so (1) It's just for the viewer/reader's benefit (1) It might be like real life but mostly for the viewer's/reader's benefit (2) It's exactly like real life (3) Yes, officially diagnosed (1) Yes, self-diagnosed (2) No, never (3) Never (1) Rarely (2) Sometimes (3) Often (4) Very often (5)
Do you think it is stressful and annoying to have an inner monologue?	Never (1) Rarely (2) Sometimes (3) Often (4) Very often (5)
In books and movies, we often see characters talking to themselves at length. How much do you think this reflects real life?	Never (1) Rarely (2) Sometimes (3) Often (4) Very often (5)
Have you been diagnosed with dyslexia or another reading disorder?	Never (1) Rarely (2) Sometimes (3) Often (4) Very often (5)
Do you ever revise past conversations in your mind (i.e. think of a better comeback, a way of phrasing what you wanted to say)?	Never (1) Rarely (2) Sometimes (3) Often (4) Very often (5)
Do you ever rehearse a conversation before you have it in real life where you simulate what you will say and how the other person will respond?	Never (1) Rarely (2) Sometimes (3) Often (4) Very often (5)
Imagine you are lying in bed with your eyes closed trying to fall asleep. Is your inner experience then...	Primarily verbal (you "hear" or "speak" words and sentences in your mind) (1) Primarily visual (you "see" situations, objects, people etc. in your mind) (2) Primarily about sensory awareness (what you are hearing, smelling, and feeling in the moment) (3) Primarily emotional (4) An even mix of verbal, visual, sensory, and emotional (5) My inner experience in that situation does not have a specific "format" (6)
To what extent do you agree with this statement: "I do not know why I do some of the things that I do."	Strongly disagree (1) Disagree (2) Neither agree nor disagree (3) Agree (4) Strongly agree (5)
To what extent do you agree with this statement: "I am a firm believer in thinking things through."	Strongly disagree (1) Disagree (2) Neither agree nor disagree (3) Agree (4) Strongly agree (5)
To what extent do you agree with this statement: "I like to act on a whim."	Strongly disagree (1) Disagree (2) Neither agree nor disagree (3) Agree (4) Strongly agree (5)
For each scale, please indicate what percent of people you know you think have each of these three experiences: - Experience their thoughts in the form of a conversation with themselves - Can see vivid images in their mind's eye - Hear words in their mind's ear when they silently read	No one (0%) to Everyone (100%)

## Correlations between custom questions and Varieties of Inner Speech Questionnaire (VISQ)

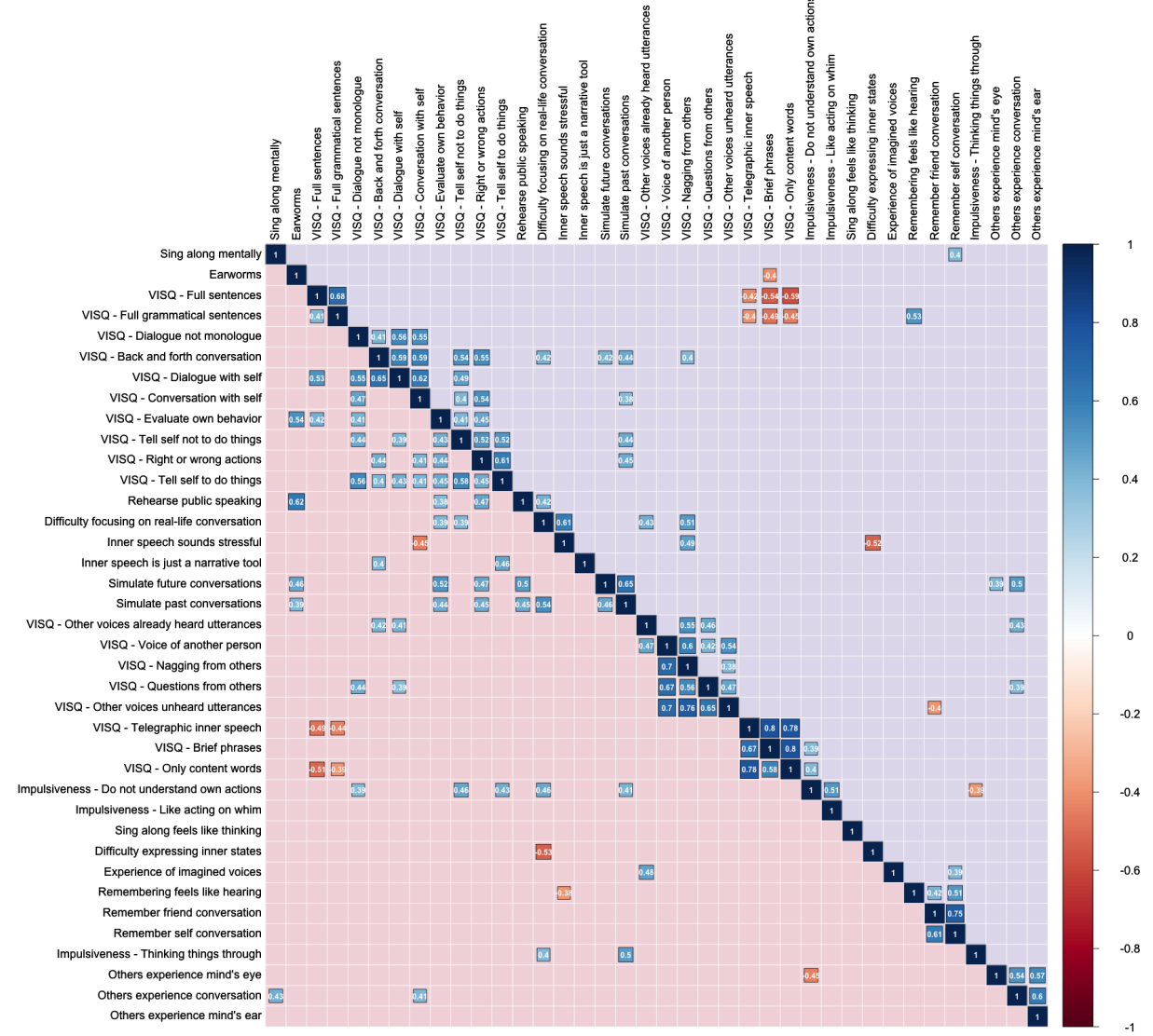


Figure 2: Correlations between survey measures in the total sample of participants with more and less inner speech. Colored squares represent significant correlations at  $p < .01$ . The upper triangle represents intertask correlations for the participant group with more inner speech while the lower triangle represents intertask correlations for the participant group with less inner speech.