

Comparison of Autistic Traits with Visual and Verbal Thought Patterns

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BACKGROUND

- **Visual Ease Assumption (VEA)** = the widespread assumption that pictures are “easier” to process and are therefore beneficial for individuals who experience difficulties with language processing, such as many autistic individuals [1].
- However, recent evidence has demonstrated similar processing patterns across visual and verbal modalities in autism, particularly for more complex stimuli such as narratives.
- The VEA may be based on more anecdotal evidence of autistic people being “visual thinkers” [2]

Research Gap:

- No studies have explored autistic experiences of being “visual” versus “verbal” thinkers.

METHODS

- We asked an open-ended question about thought patterns and personal reflection styles, particularly whether participants tended to think:

more concretely or visually
(they see detailed images)



or more abstractly or verbally
(they hear their own voice as an inner dialogue for their thoughts)

When I think...

Participants

- Adults ($n=25$) with varying levels of autistic traits (measured using the Autism Quotient questionnaire [3])
Avg. Age = 24, range 18-65 **Avg. AQ score = 21, range 5-43**

Question/Prompt

I'm interested in your personal experience with language and visual processing. For example, some people say they are “visual thinkers” or that they see very specific images when asked to imagine something. Other people say they “think in words” and imagine things in more general, abstract ways. Can you (try to) tell me what it is like for you when you try to imagine something?

Data Analysis

- Mixed methods approach
- Responses were analyzed for themes and descriptive statistics (i.e., means and ranges)

RESULTS

I will need to go to the store for bread.

“I have the words in my head all day all the time.”
VEA 001, AQ=15

Words

$N = 10$
Avg. AQ = 21.2
Range = 5-41

It was so incredible to see the Eiffel Tower!

“I'd say 50/50 depends on the situation. I'd say that I have an inner voice like an inner monologue...but also if I'm reading something, or a book, I will completely visualize the scenarios in my head.”
VEA 044, AQ=18

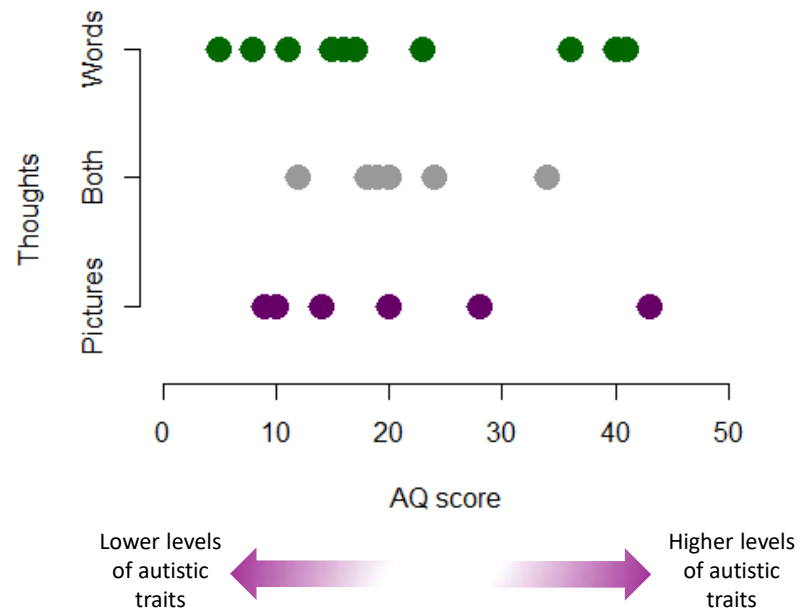
Both

$N = 8$
Avg. AQ = 20.6
Range = 12-34

“Well usually I think in pictures...Like when I'm reading a book I can get a whole layout of the story and like I imagine what the characters look like or like what the scene would be.”
VEA 016, AQ=9

Pictures

$N = 8$
Avg. AQ = 23.5
Range = 9-43



No clear patterns emerged to suggest that individuals with higher levels of autistic traits more frequently reported “thinking in pictures”

REFERENCES

- [1] Coderre, E. L. (2020). Dismantling the “visual ease assumption.” A review of visual narrative processing in clinical populations. *Topics in Cognitive Science*, 12(1), 224-255.
- [2] Grandin, T. (2009). *Thinking in pictures*. Bloomsbury Publishing.
- [3] Baron-Cohen, S., Wheelwright, S., Skinner, R., Martin, J., & Clubley, E. (2001). The autism-spectrum quotient (AQ): Evidence from Asperger syndrome/high-functioning autism, males and females, scientists and mathematicians. *Journal of Autism and Developmental Disorders*, 31, 5-17.