S-DAT: A Multilingual, GenAI-Driven Framework for Automated Divergent Thinking Assessment

Jennifer Haase, Paul. H. Hanel & Sebastian Pokutta

MIC Conference 2025, Bolzano, Italy

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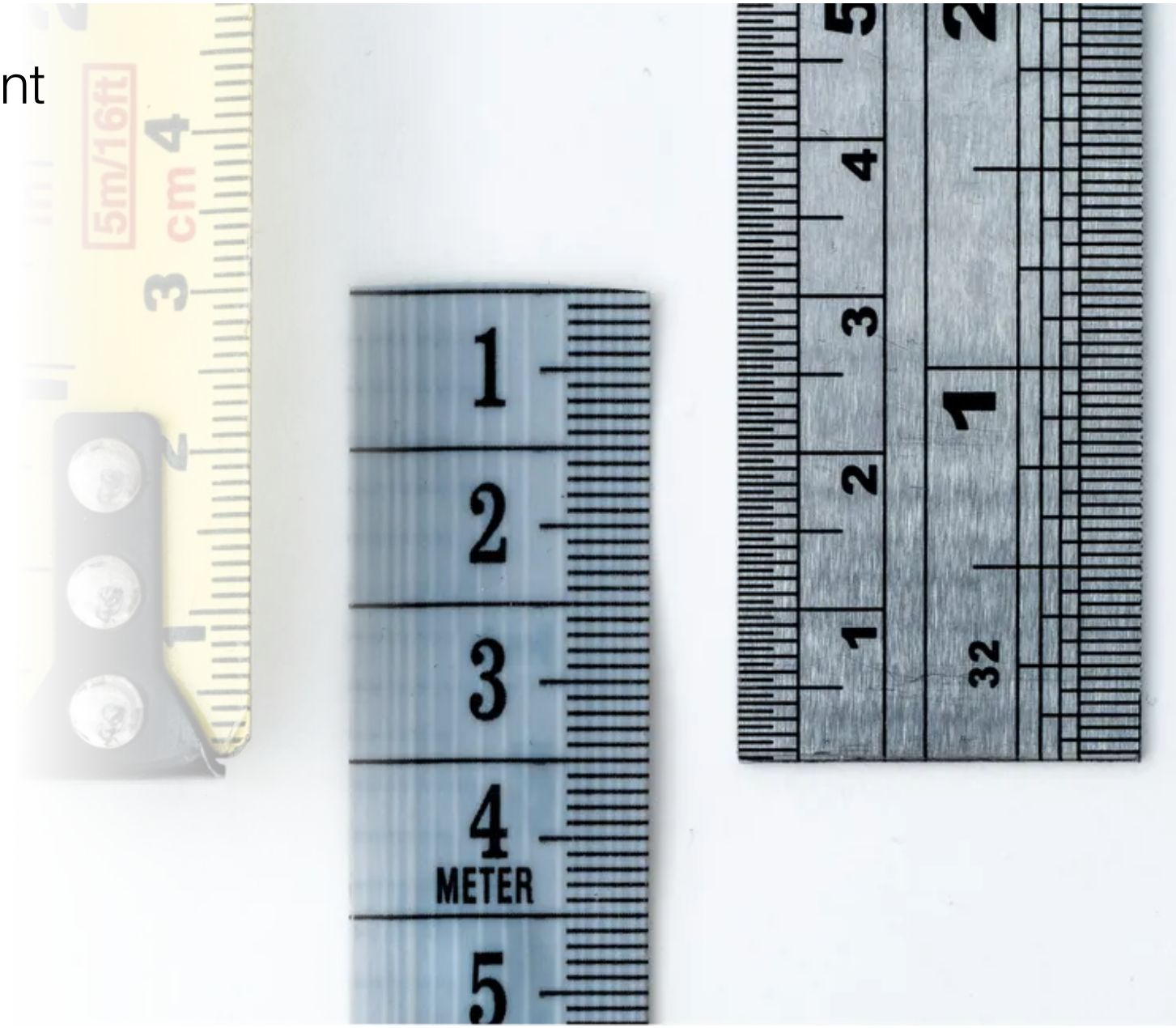
- LLMs have already been used successfully to run and score creativity tests

The Problem with Current Creativity Assessments



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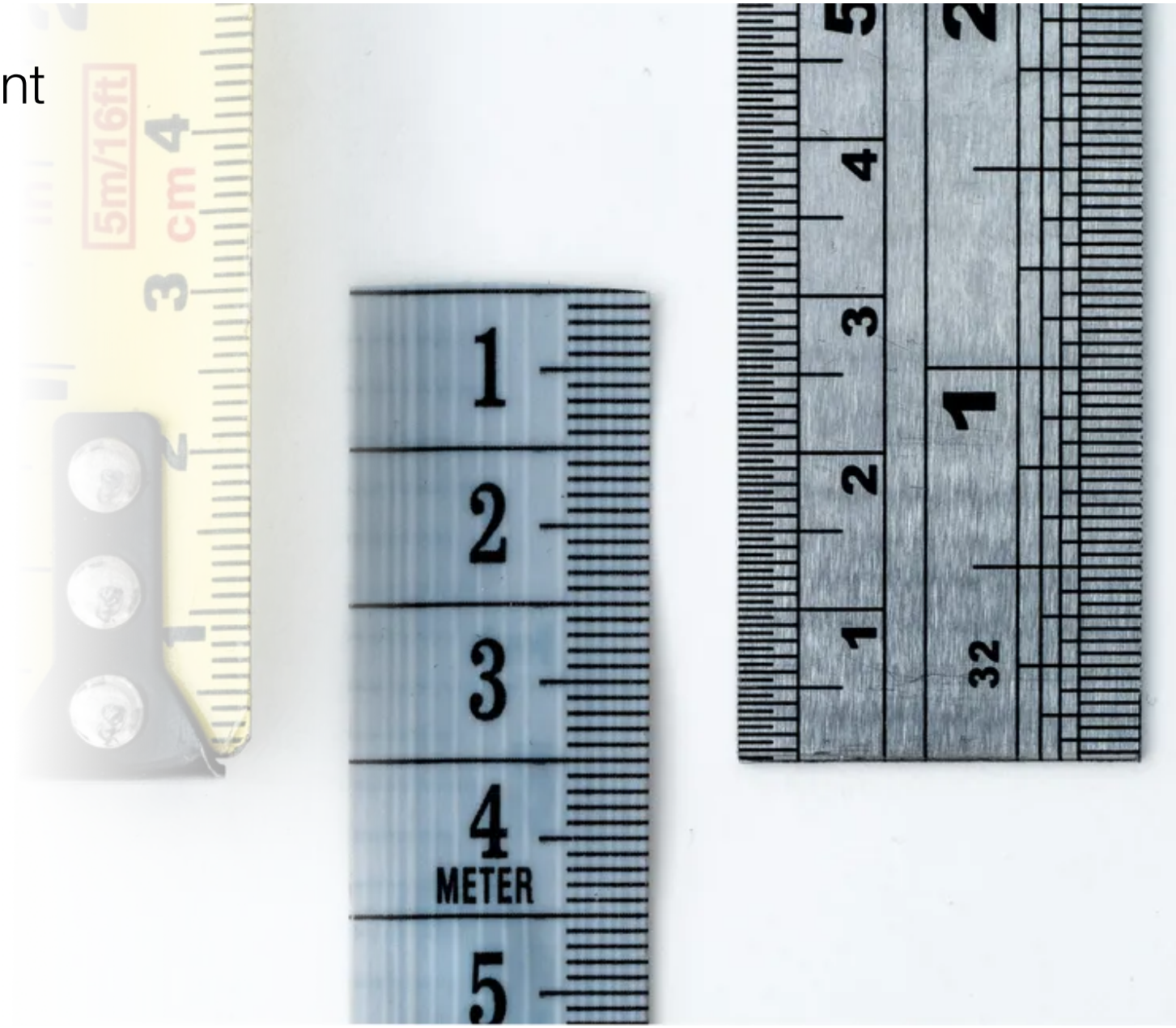

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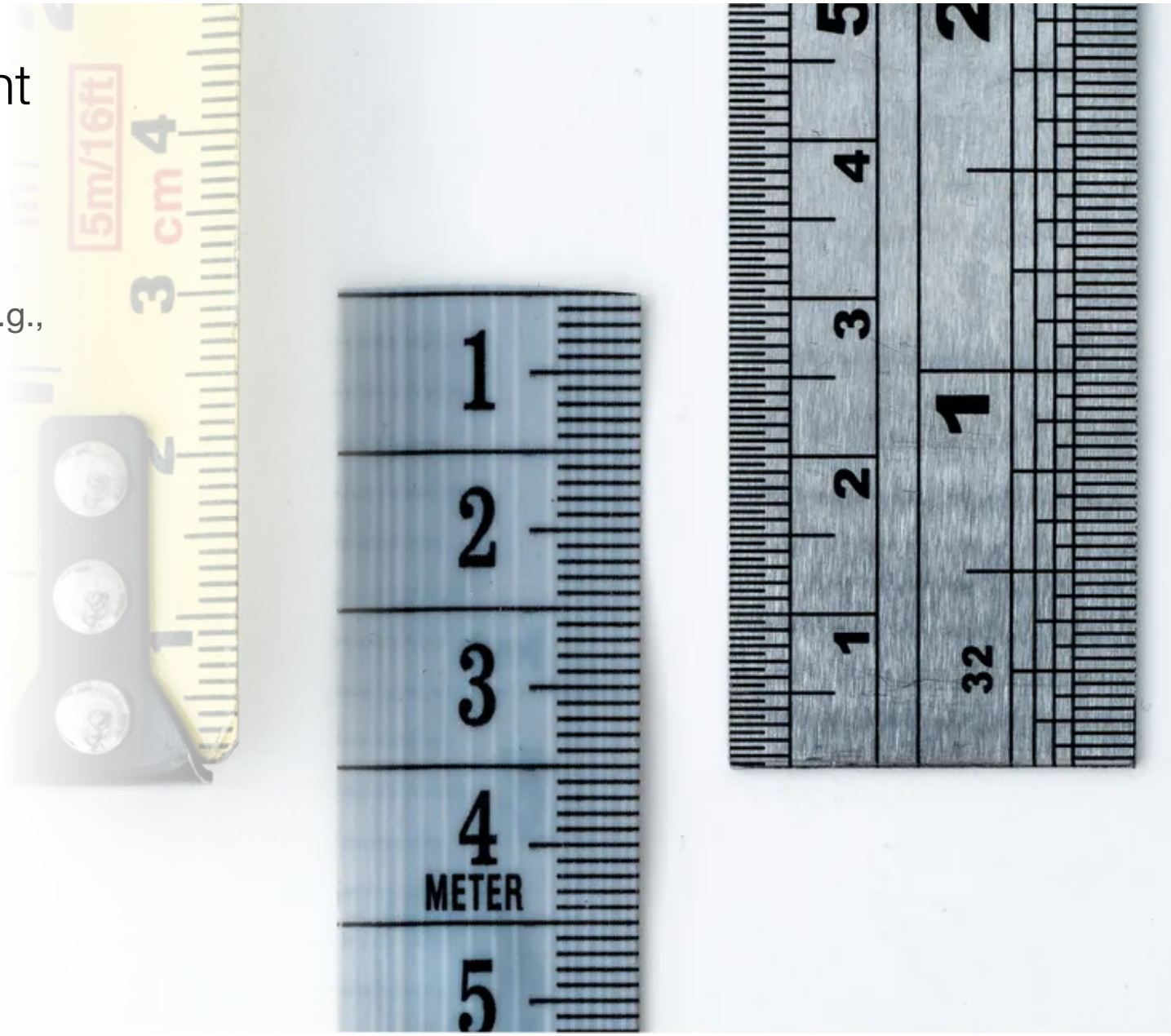

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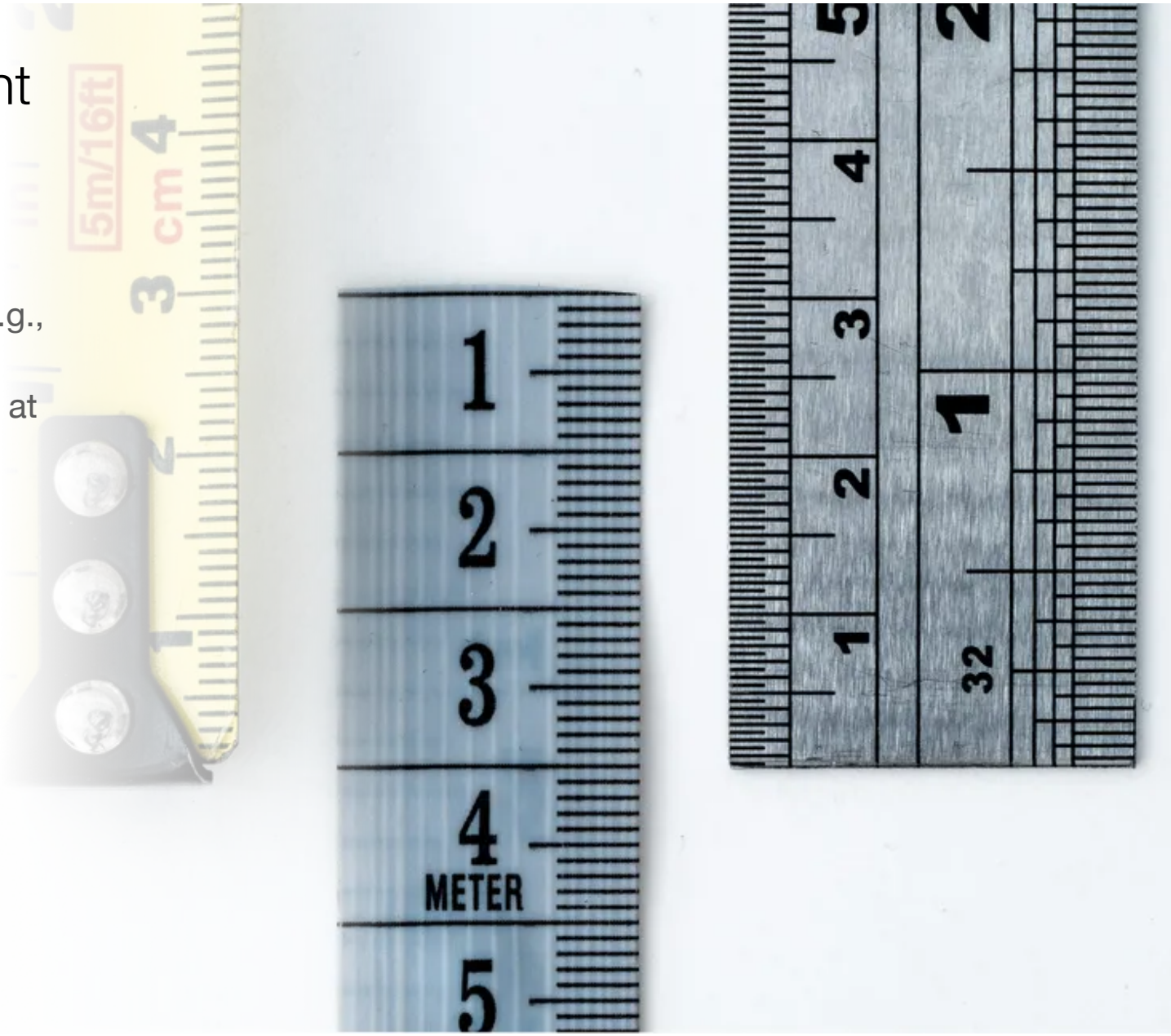

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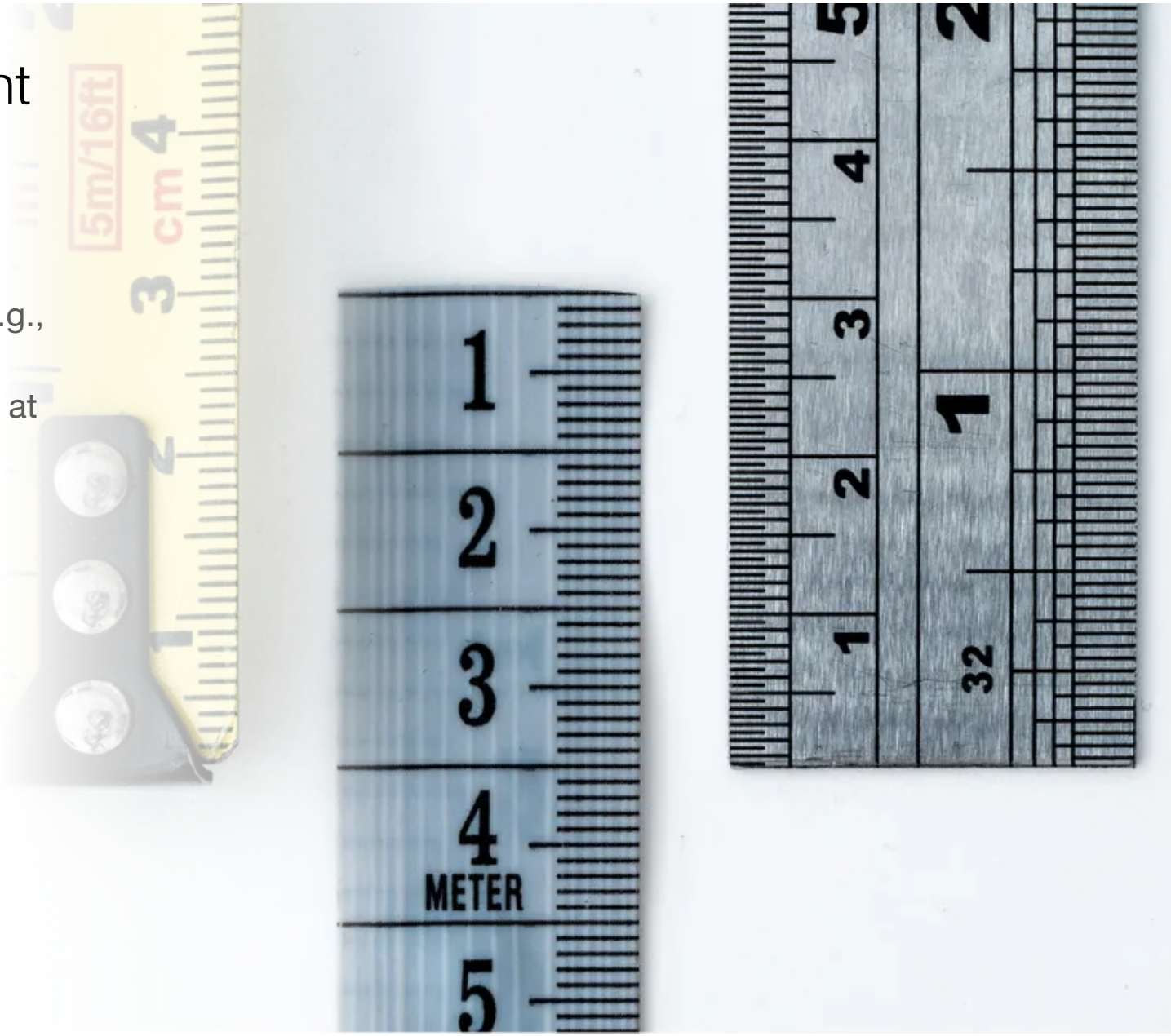

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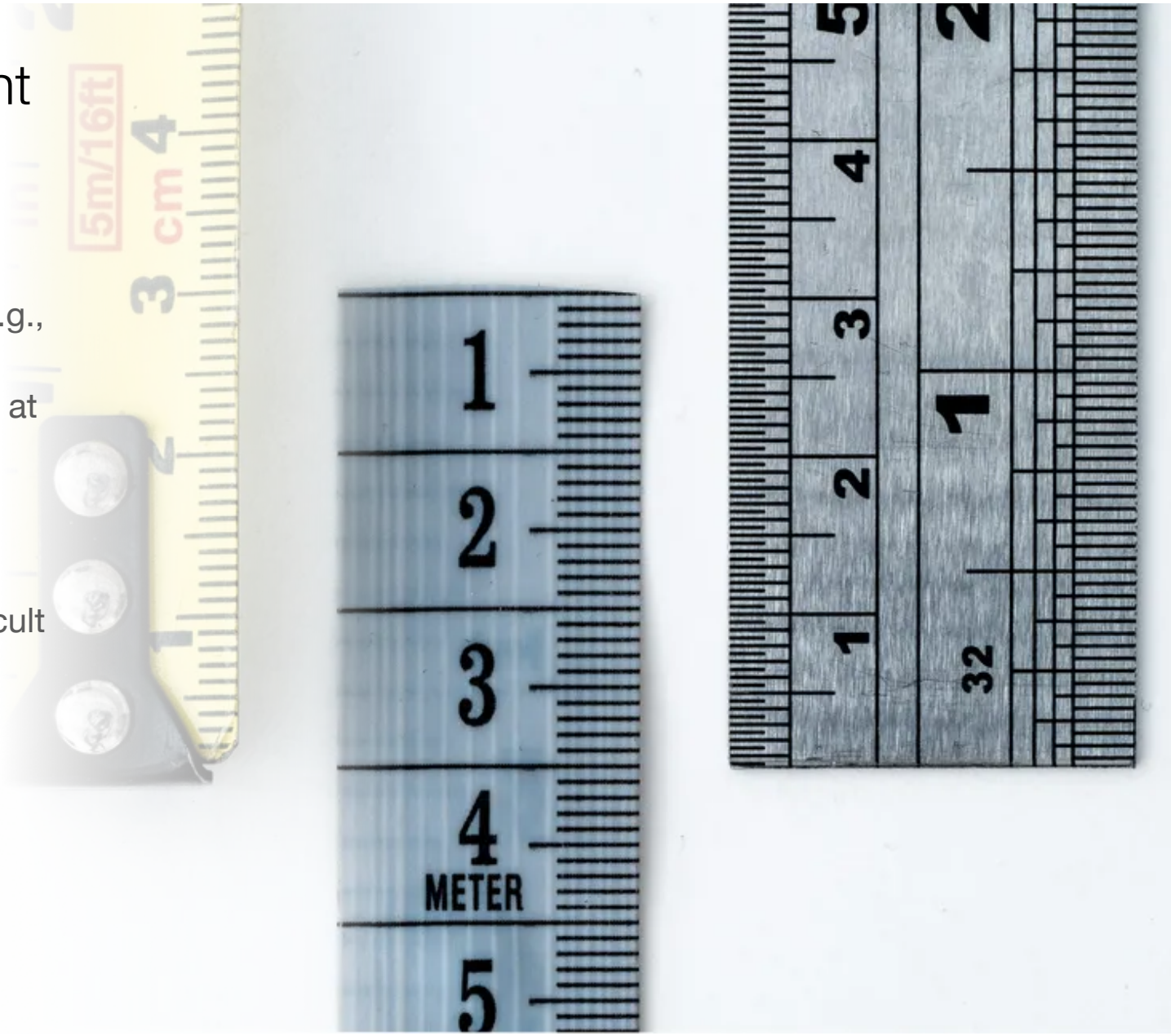

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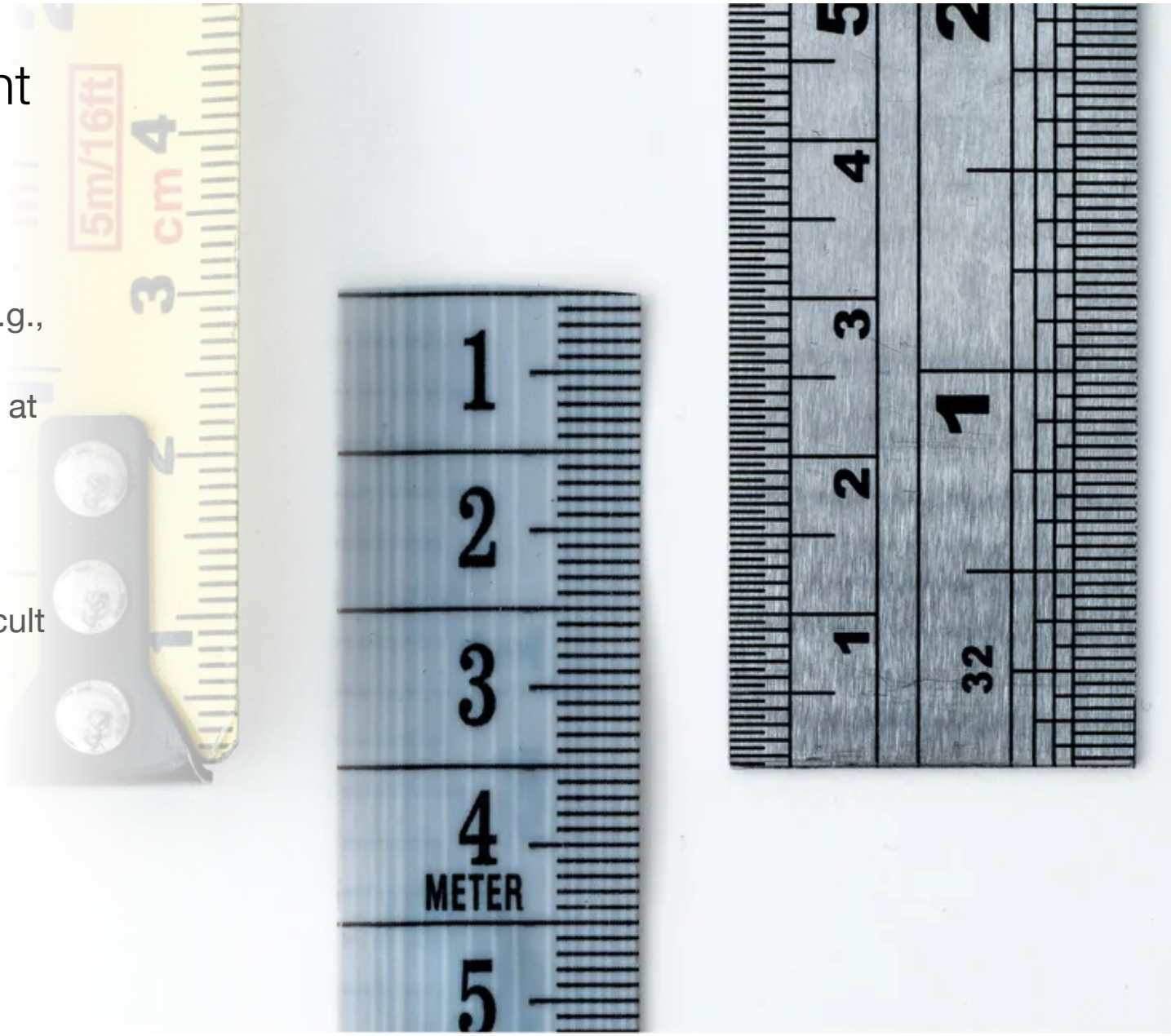
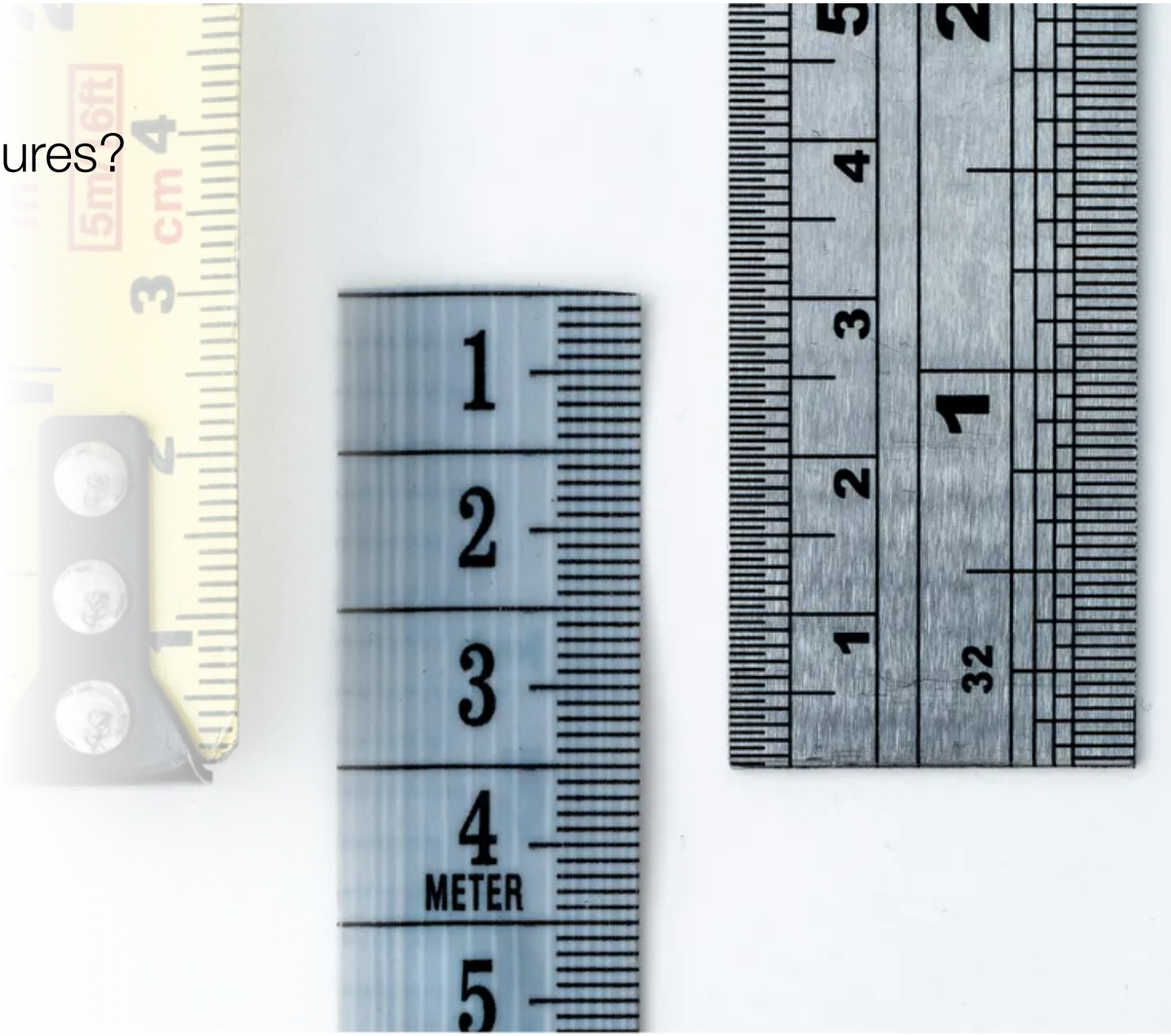
- We need tools that are:
  - **Fast** (low burden)
  - **Fair** (language-agnostic)
  - **Comparable** (across cultures)



Why Leverage LLMs and GenAI for Creativity Measures?



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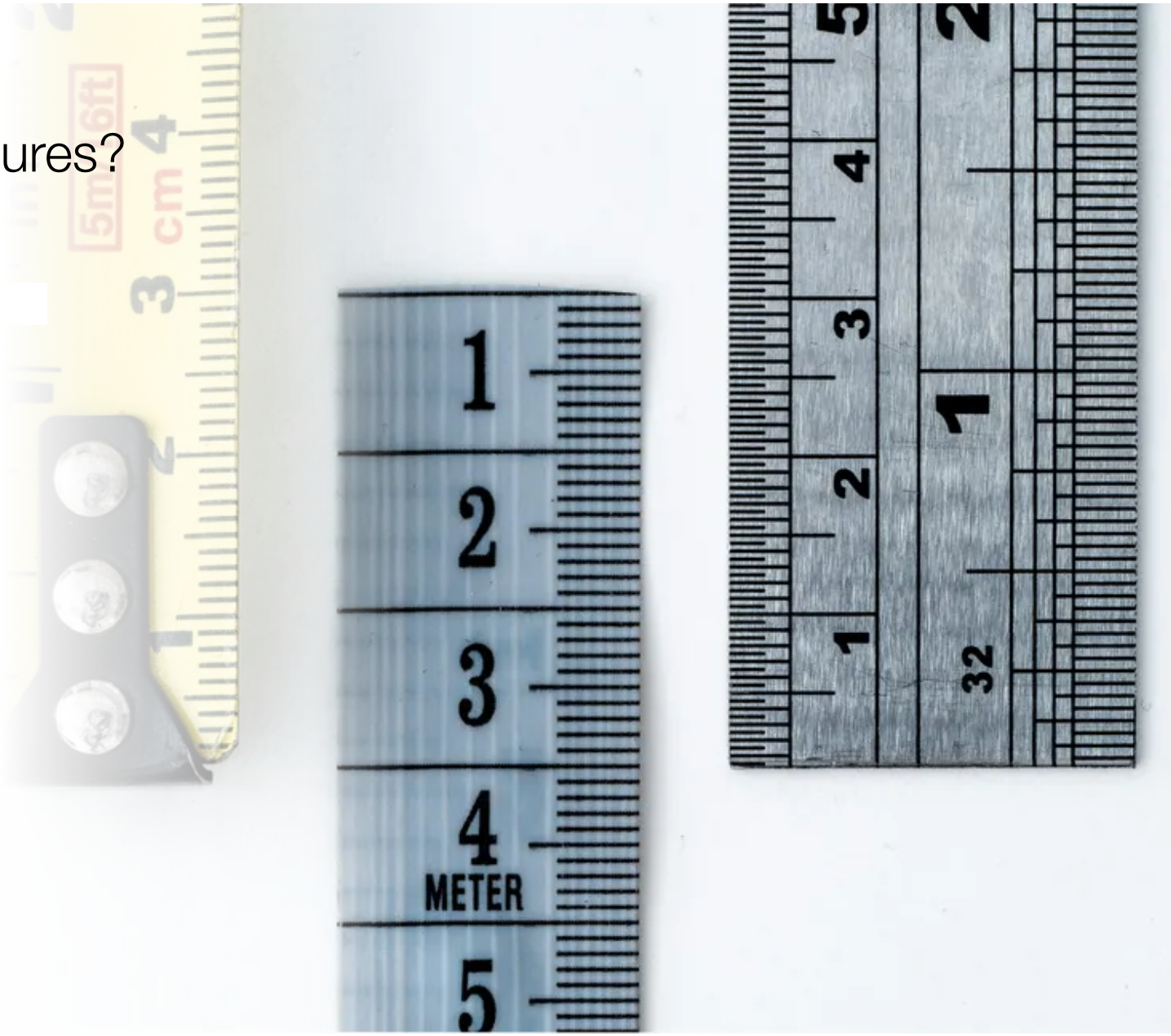

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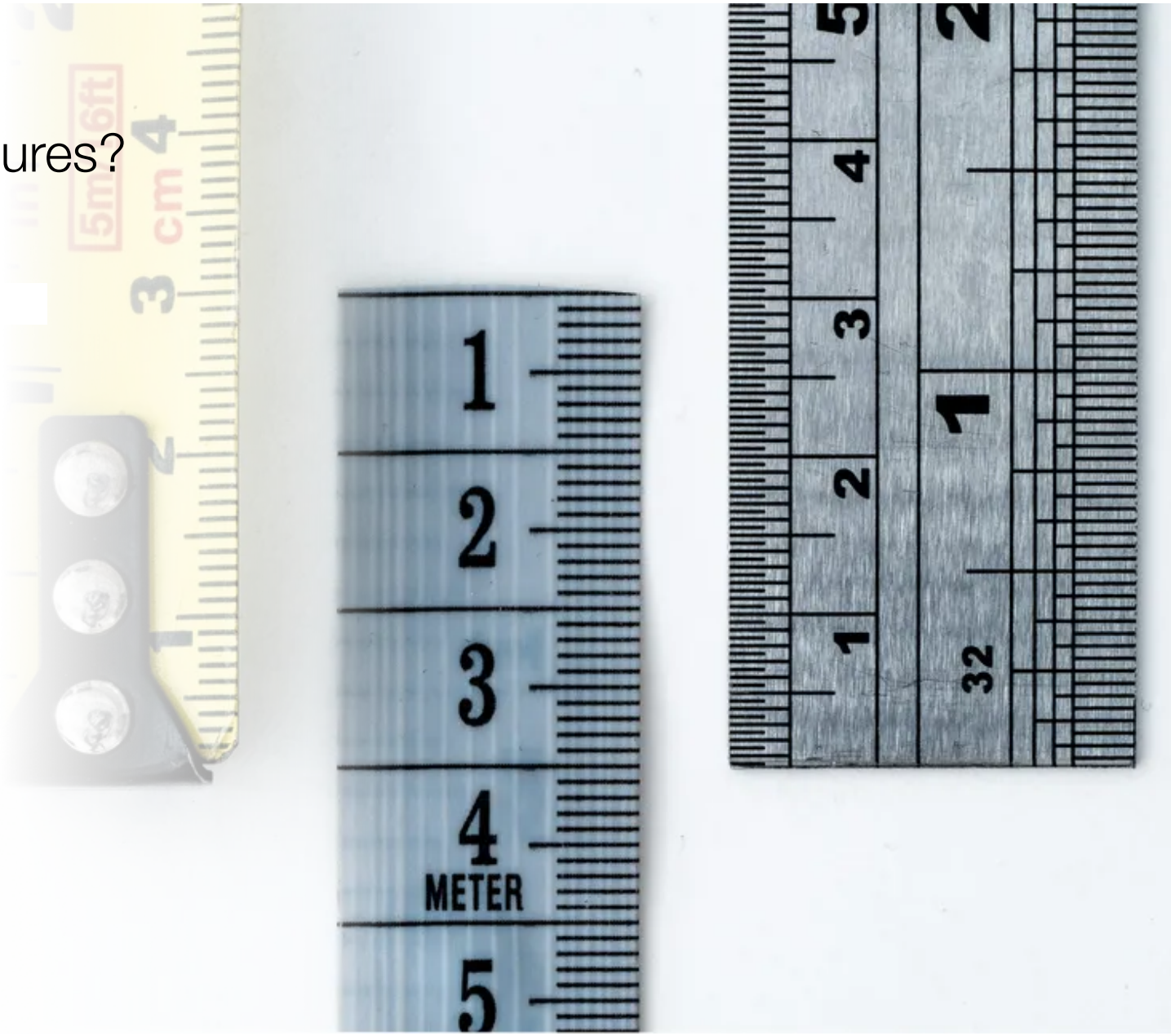
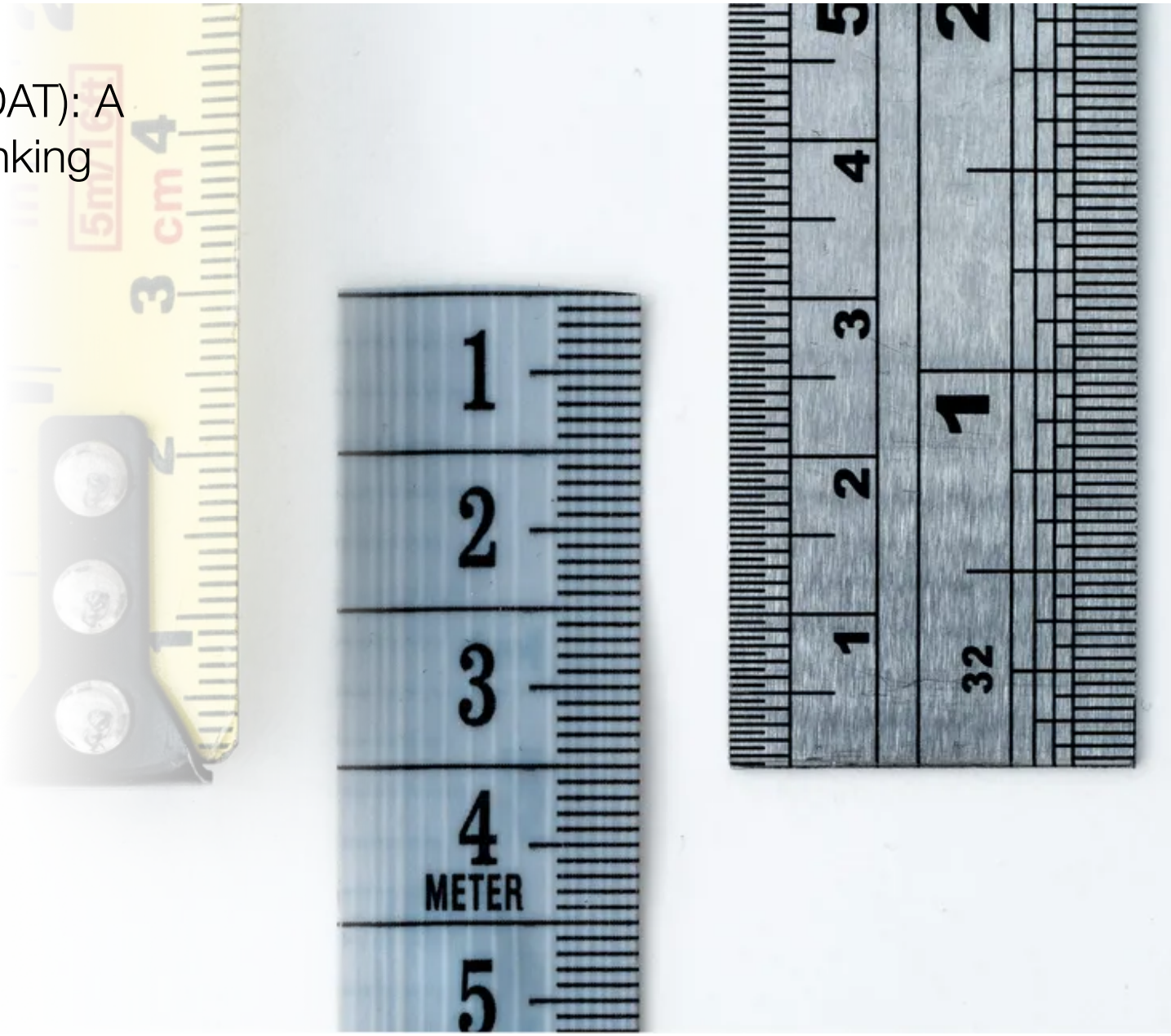
- LLMs **automate evaluation** in real time—ideal for large-scale, multilingual creativity studies



[1] OCSAI tool for AUT; Organisciak, Acar, Dumas, & Berthiaume (2023)

Divergent Association Task (DAT): A Simple Test for Divergent Thinking



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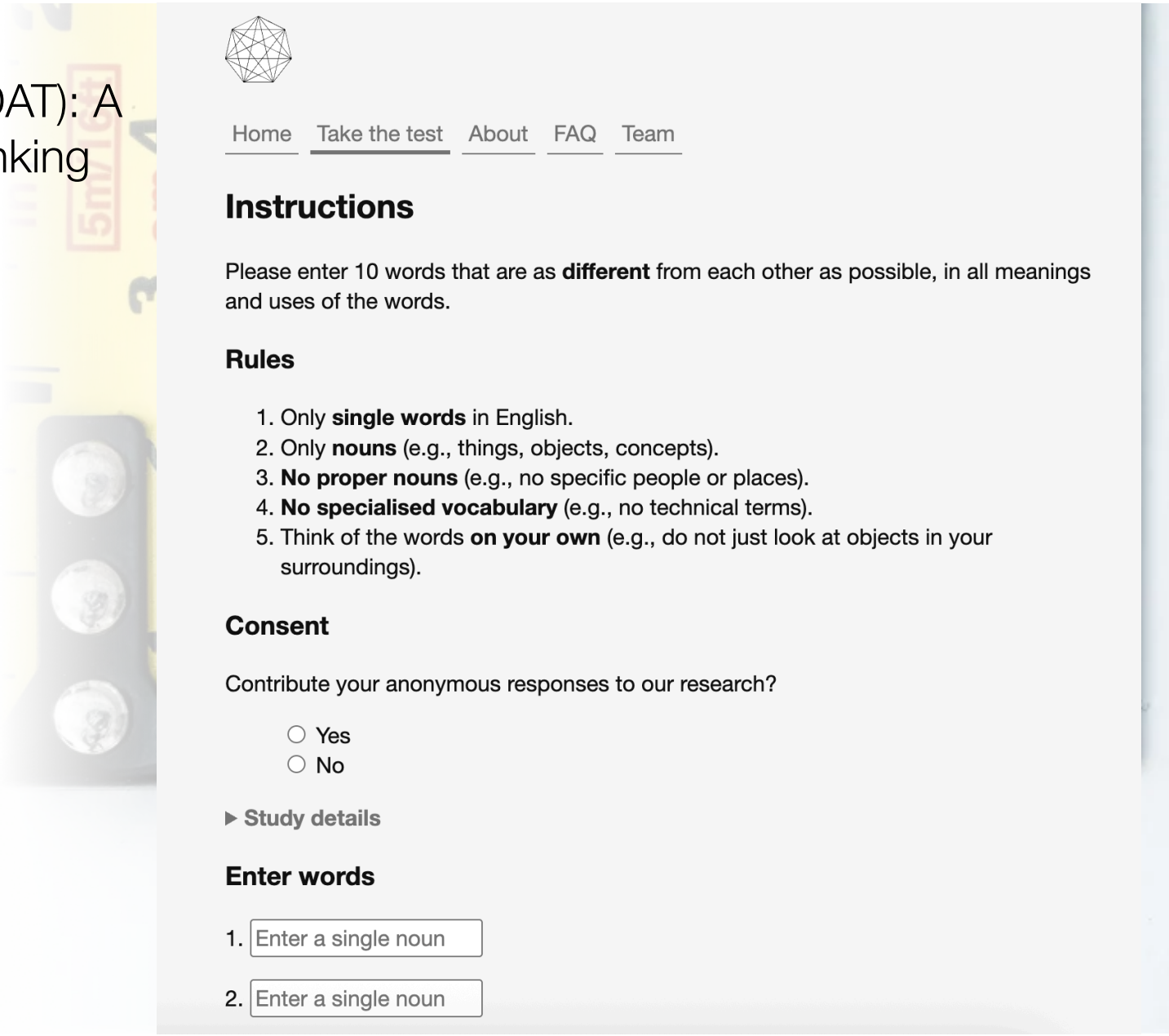

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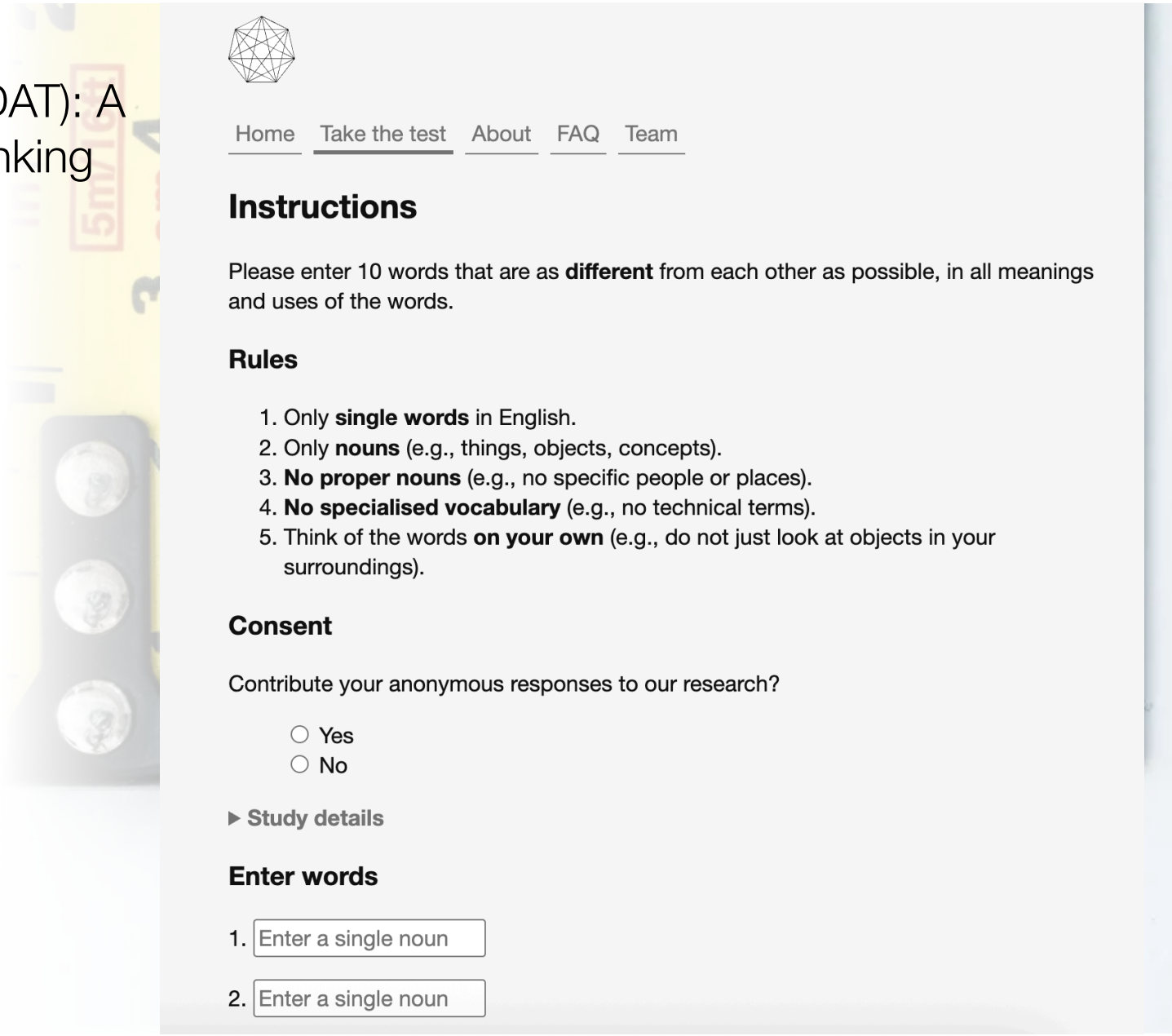

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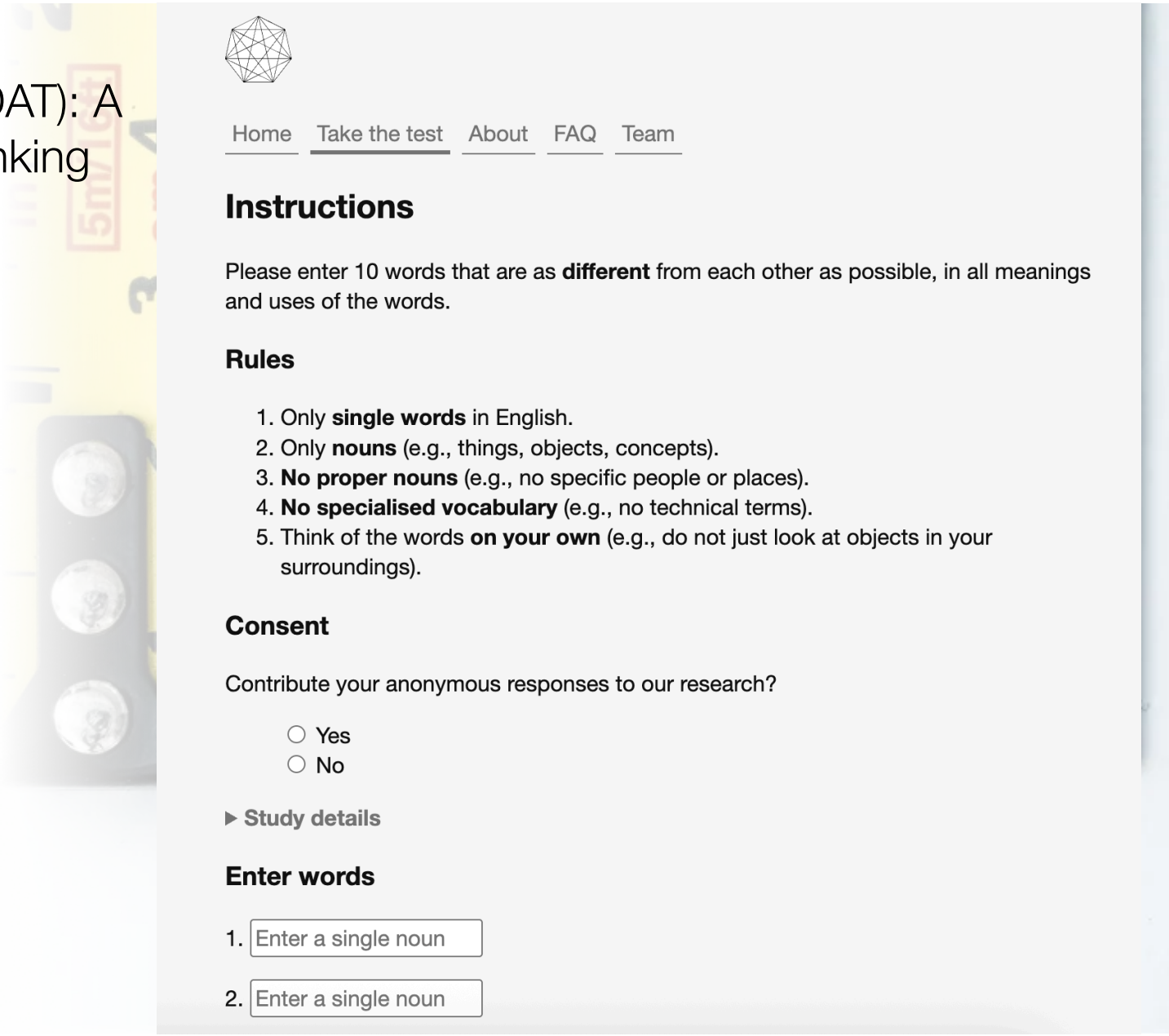

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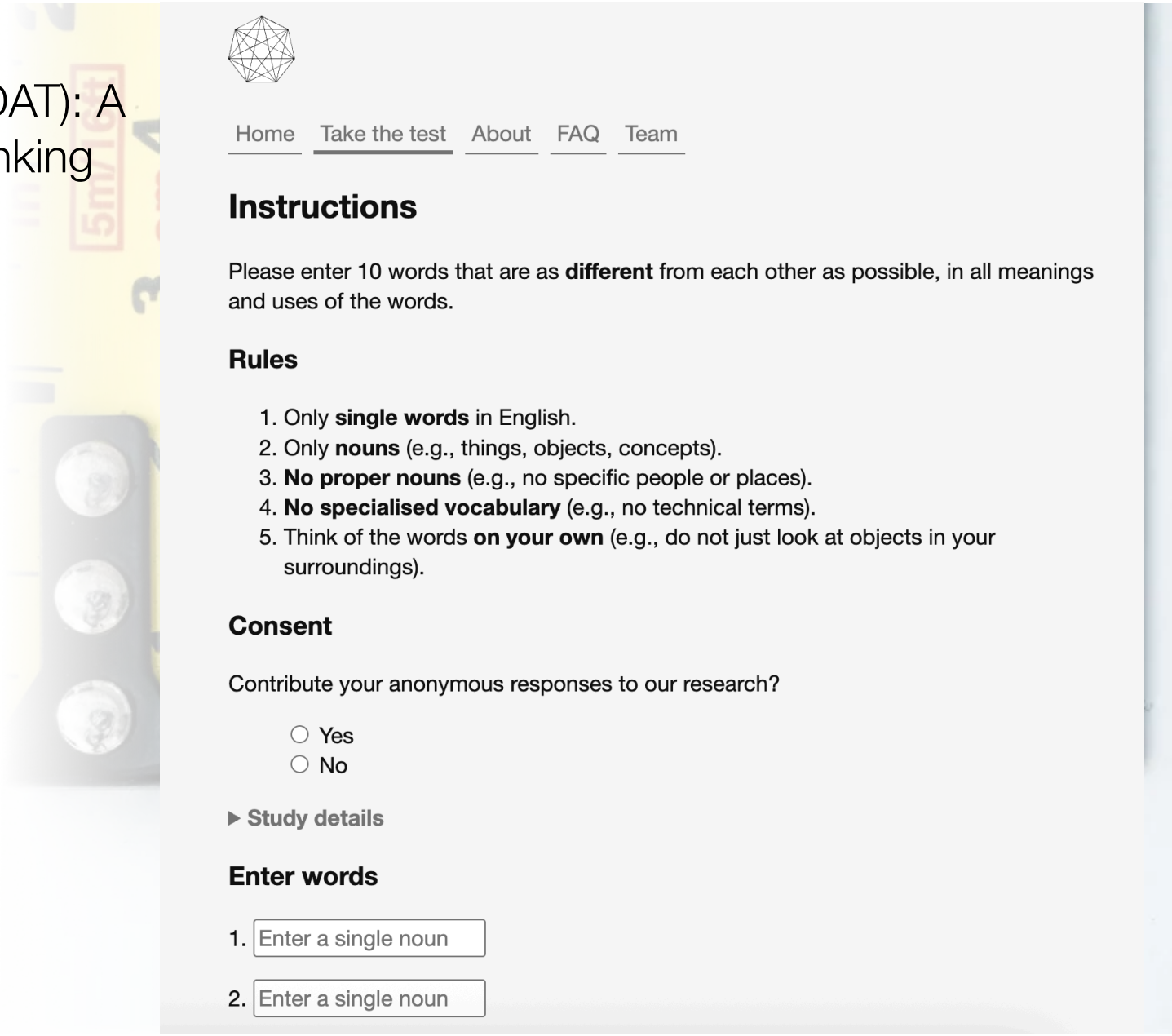

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- Limitations:
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  - Static, context-insensitive vectors
  - No cultural adaptability

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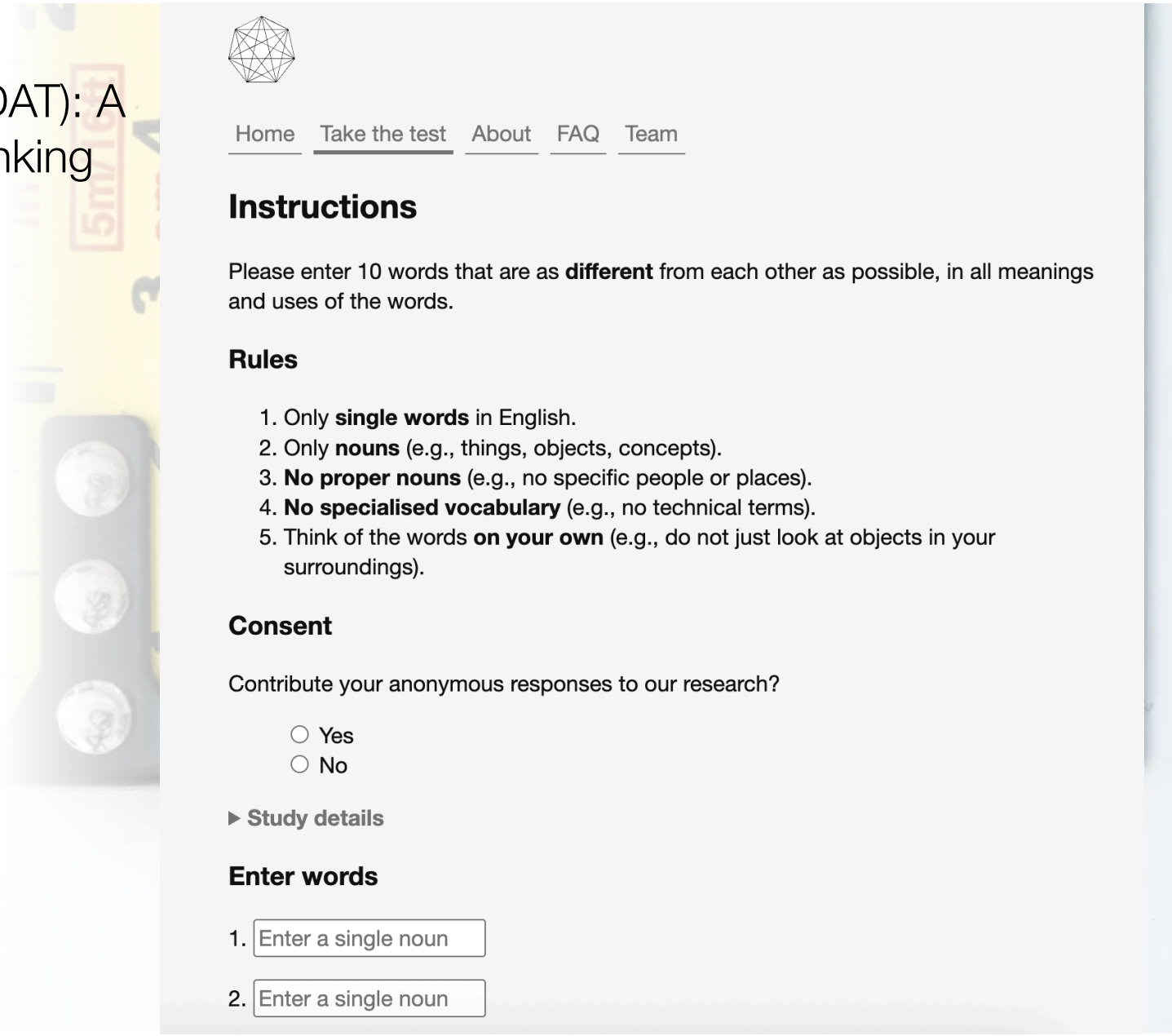

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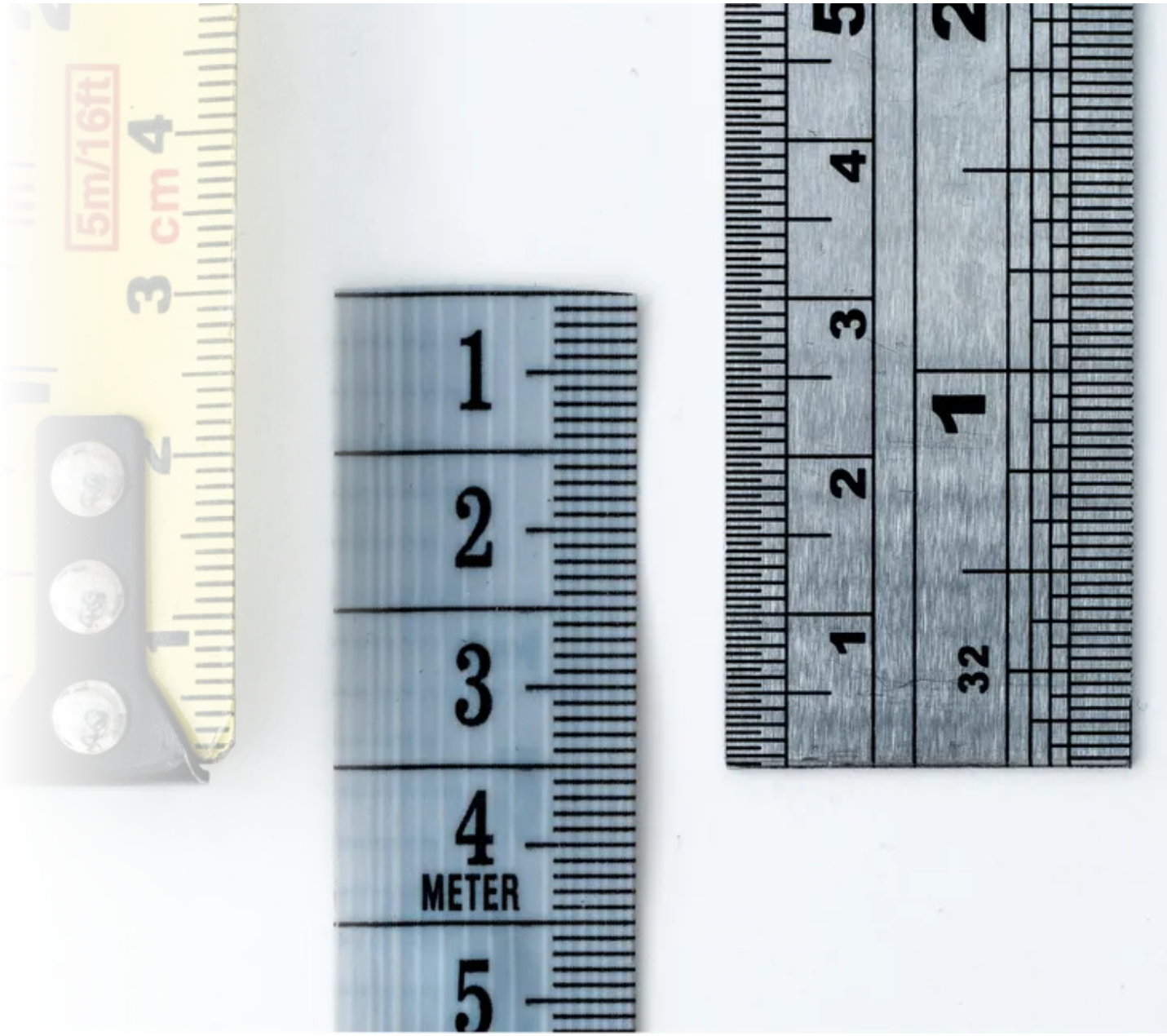

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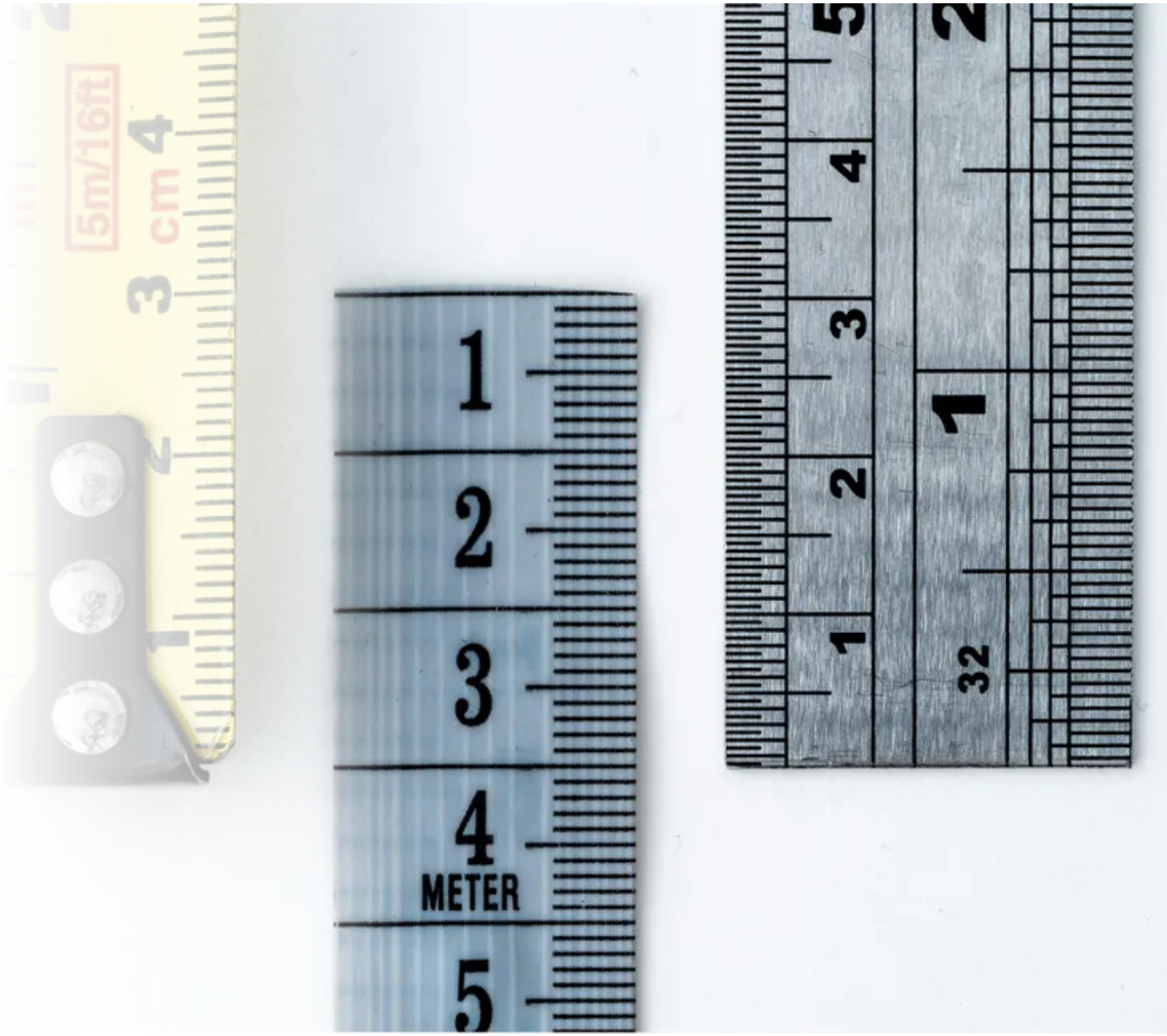

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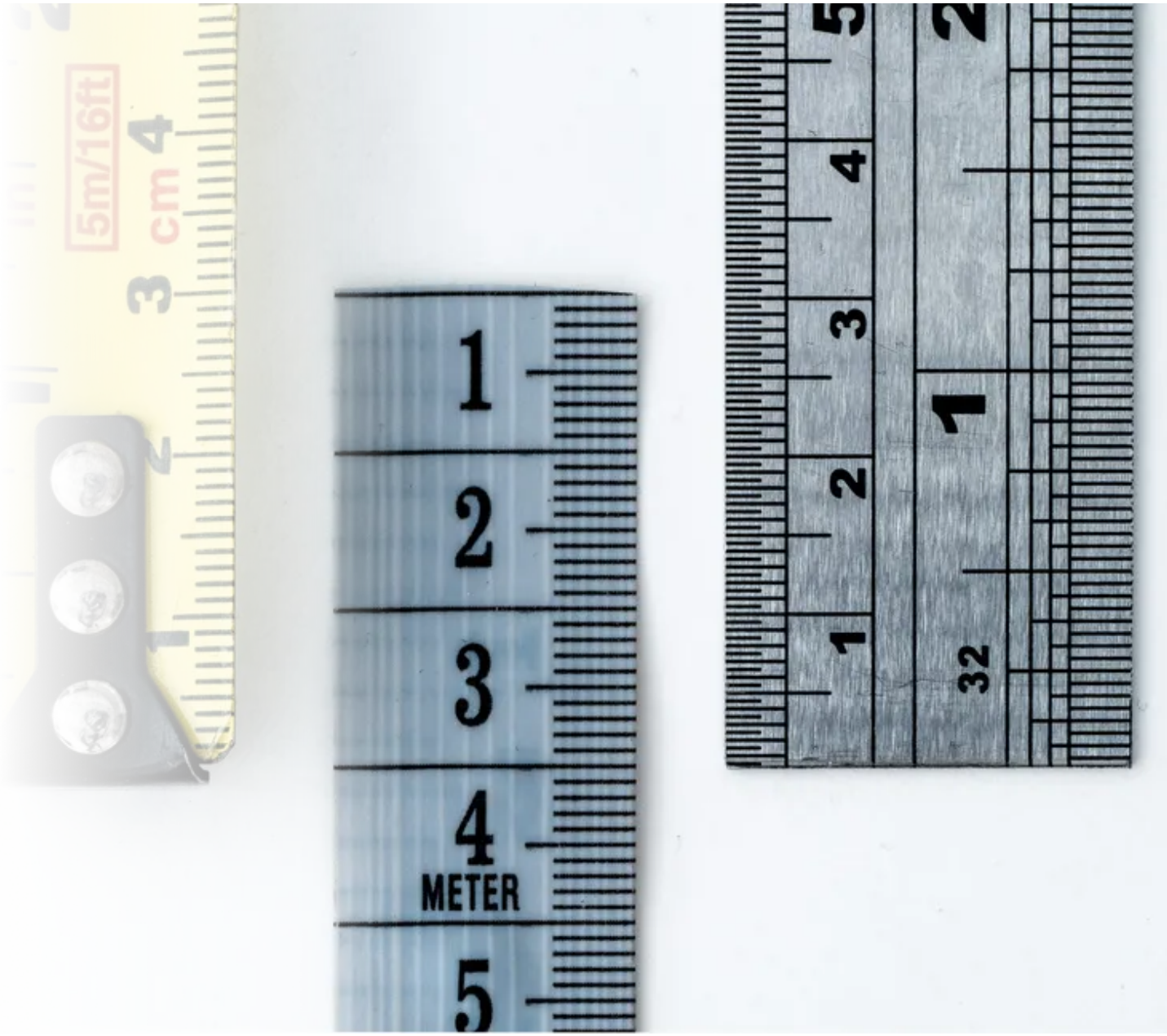

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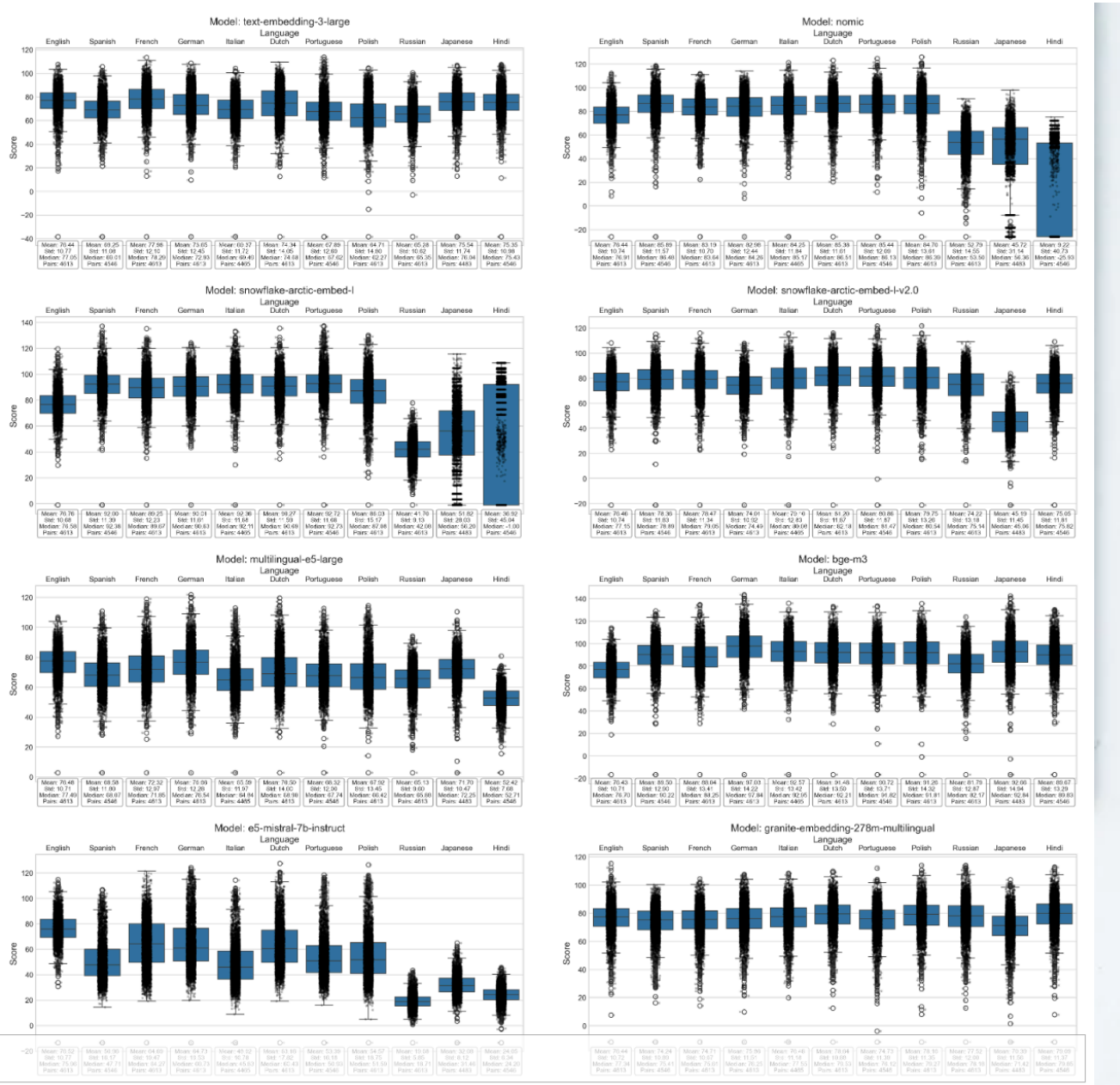

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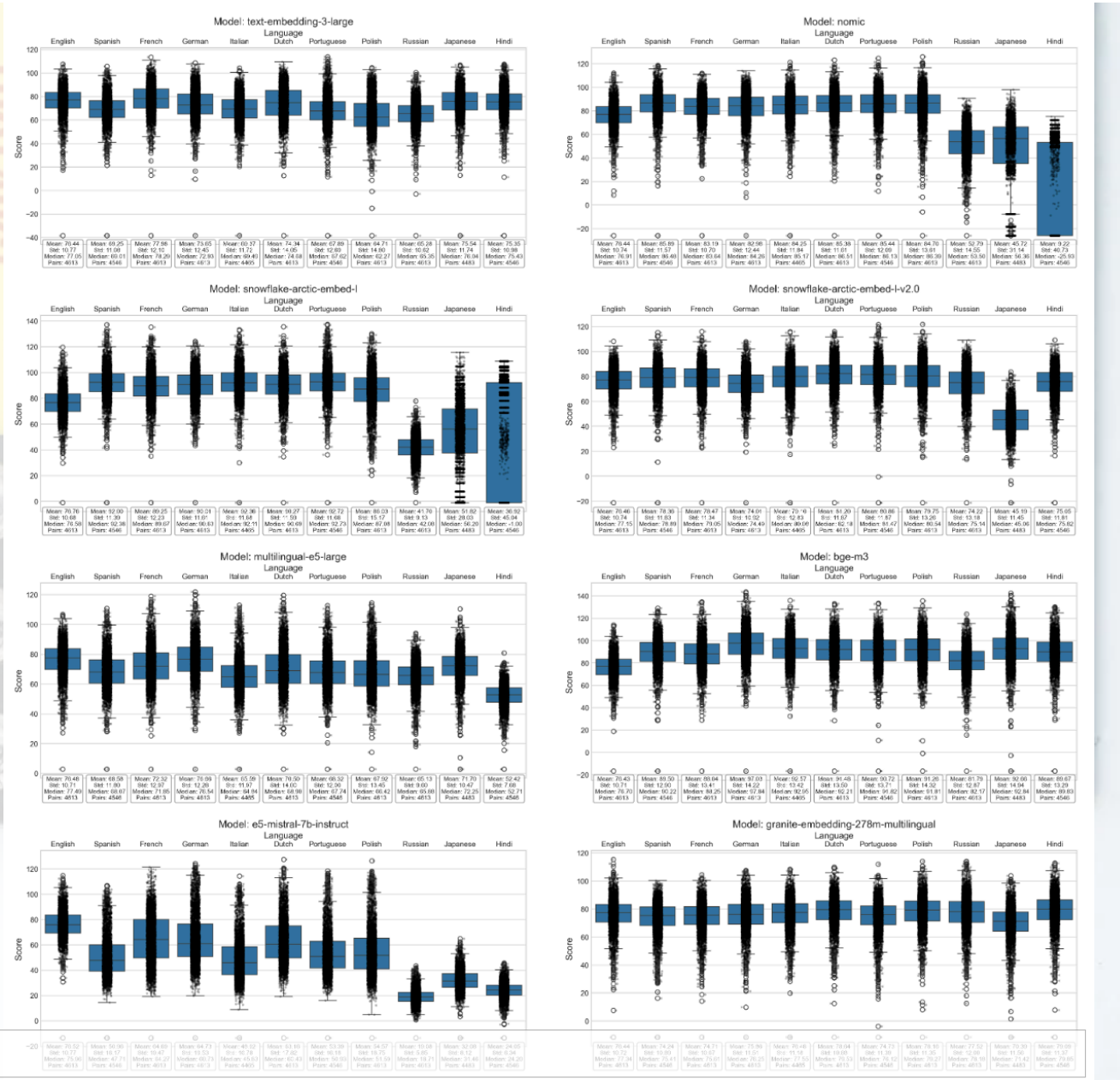

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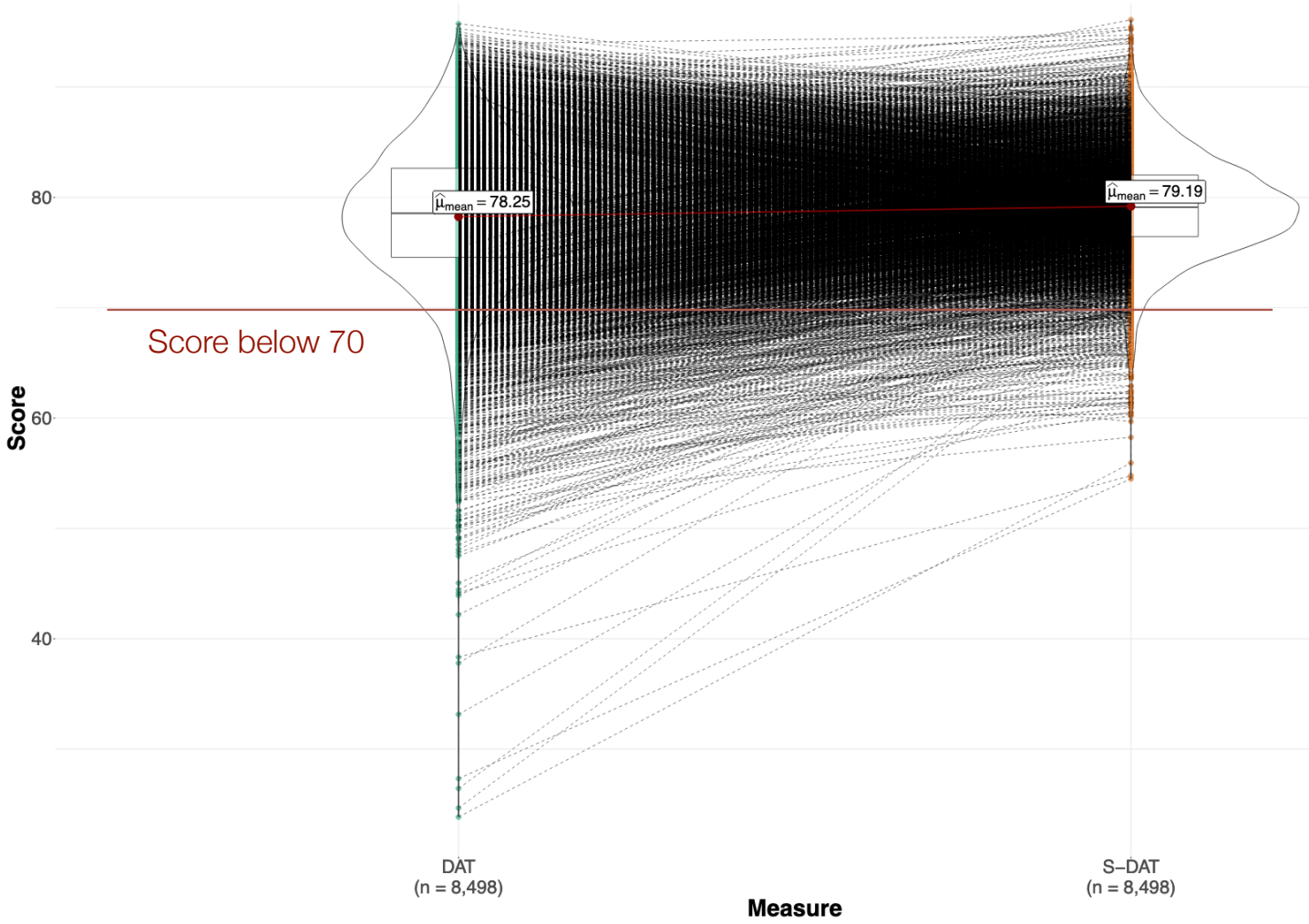

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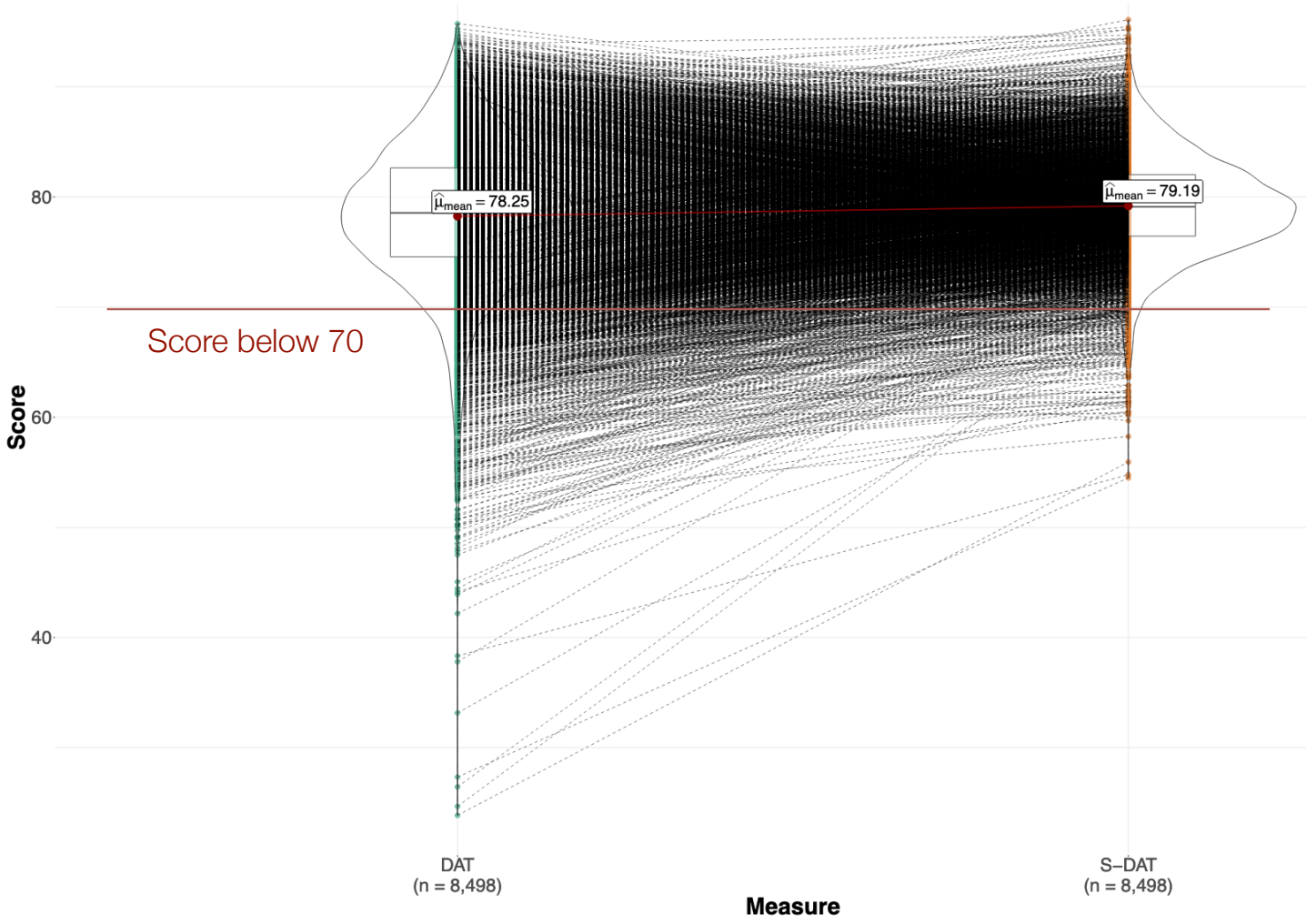

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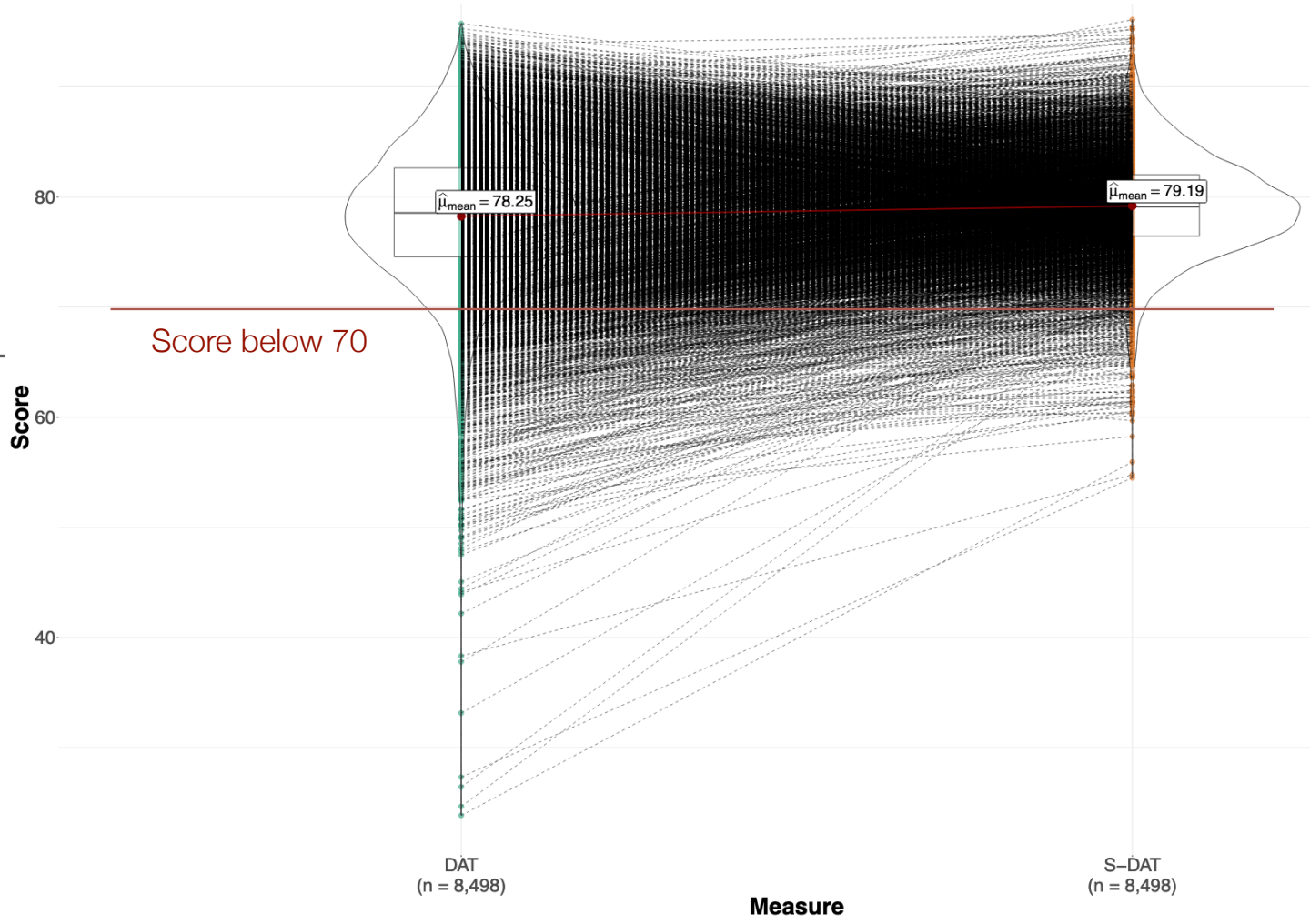

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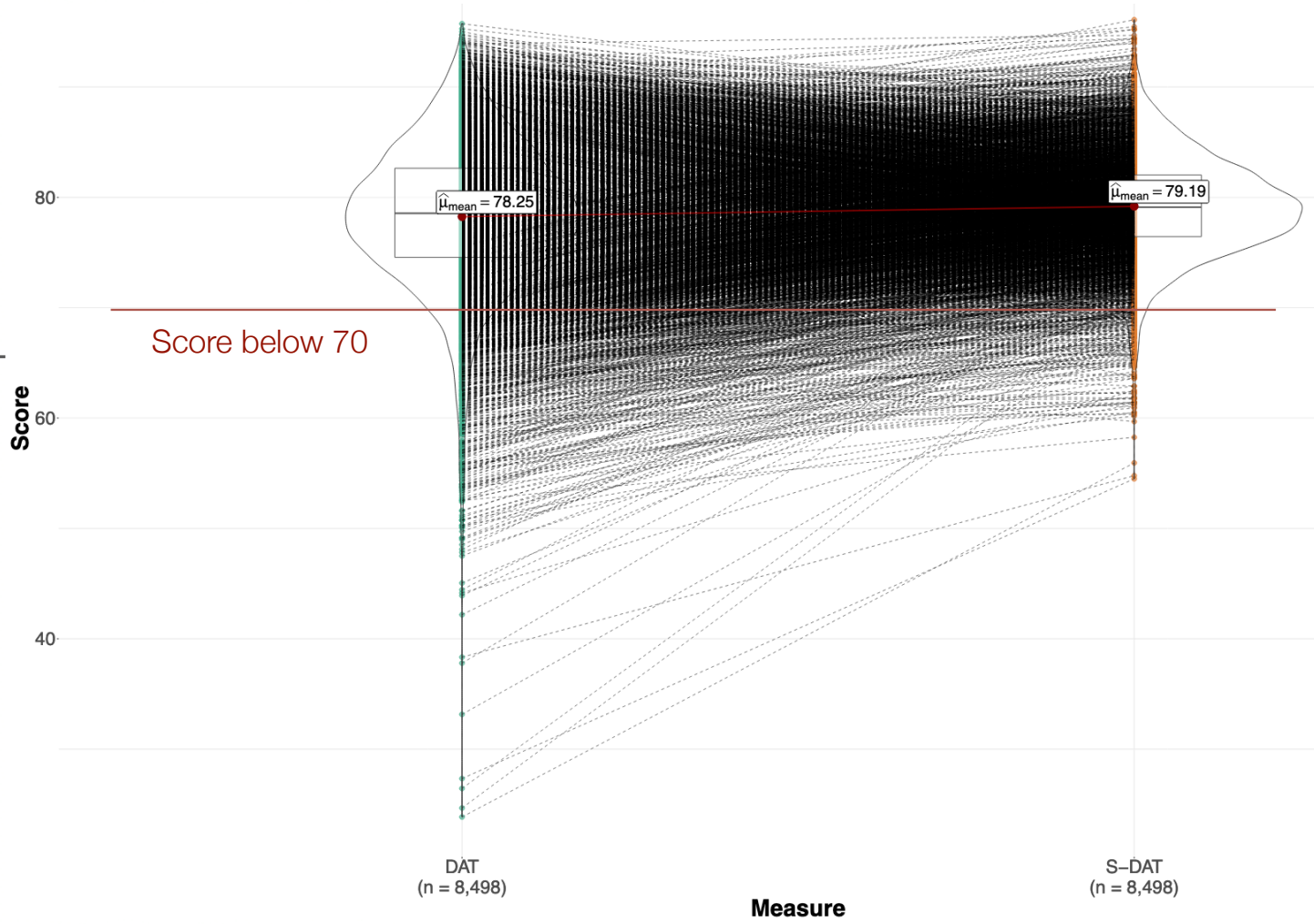

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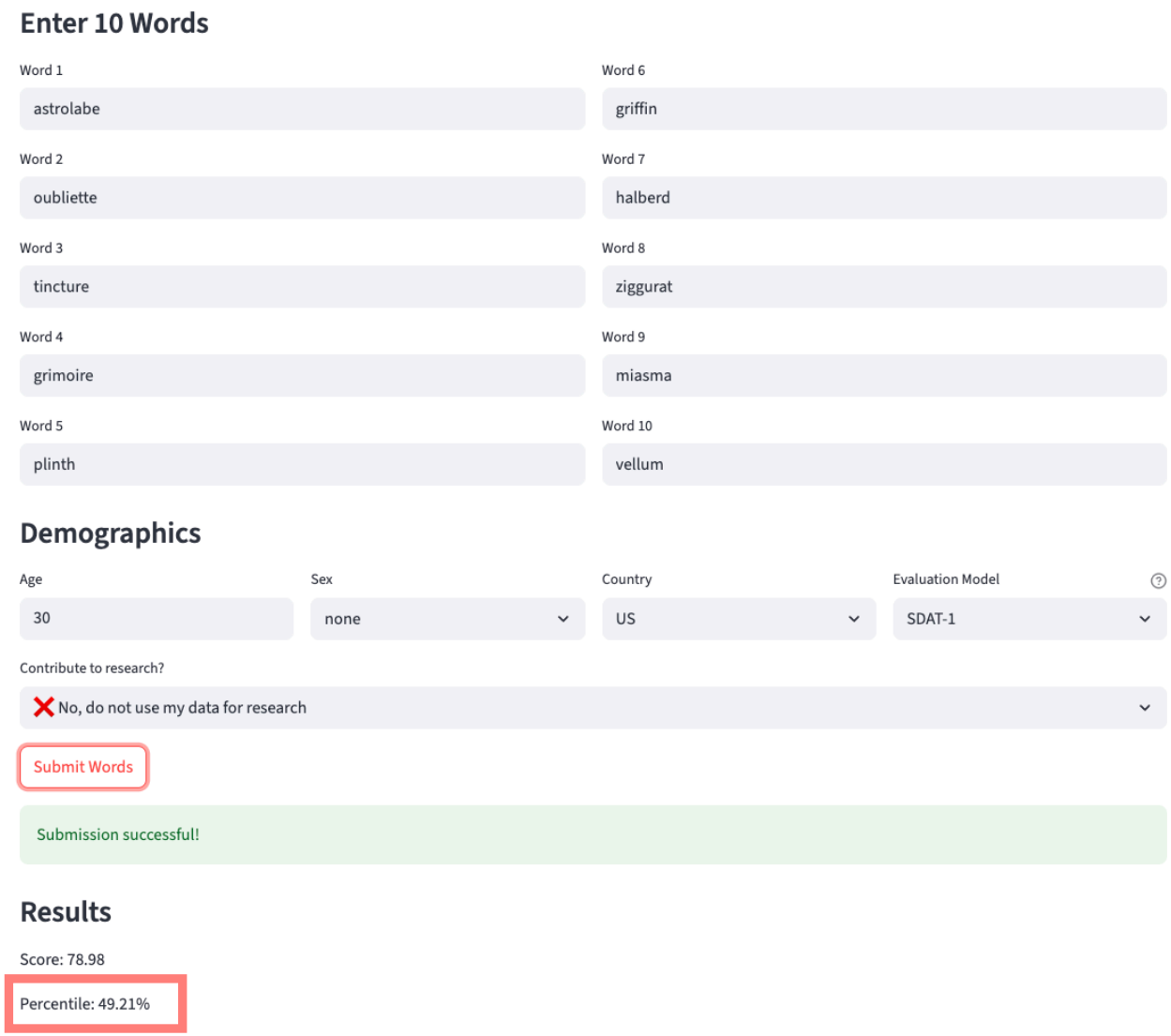

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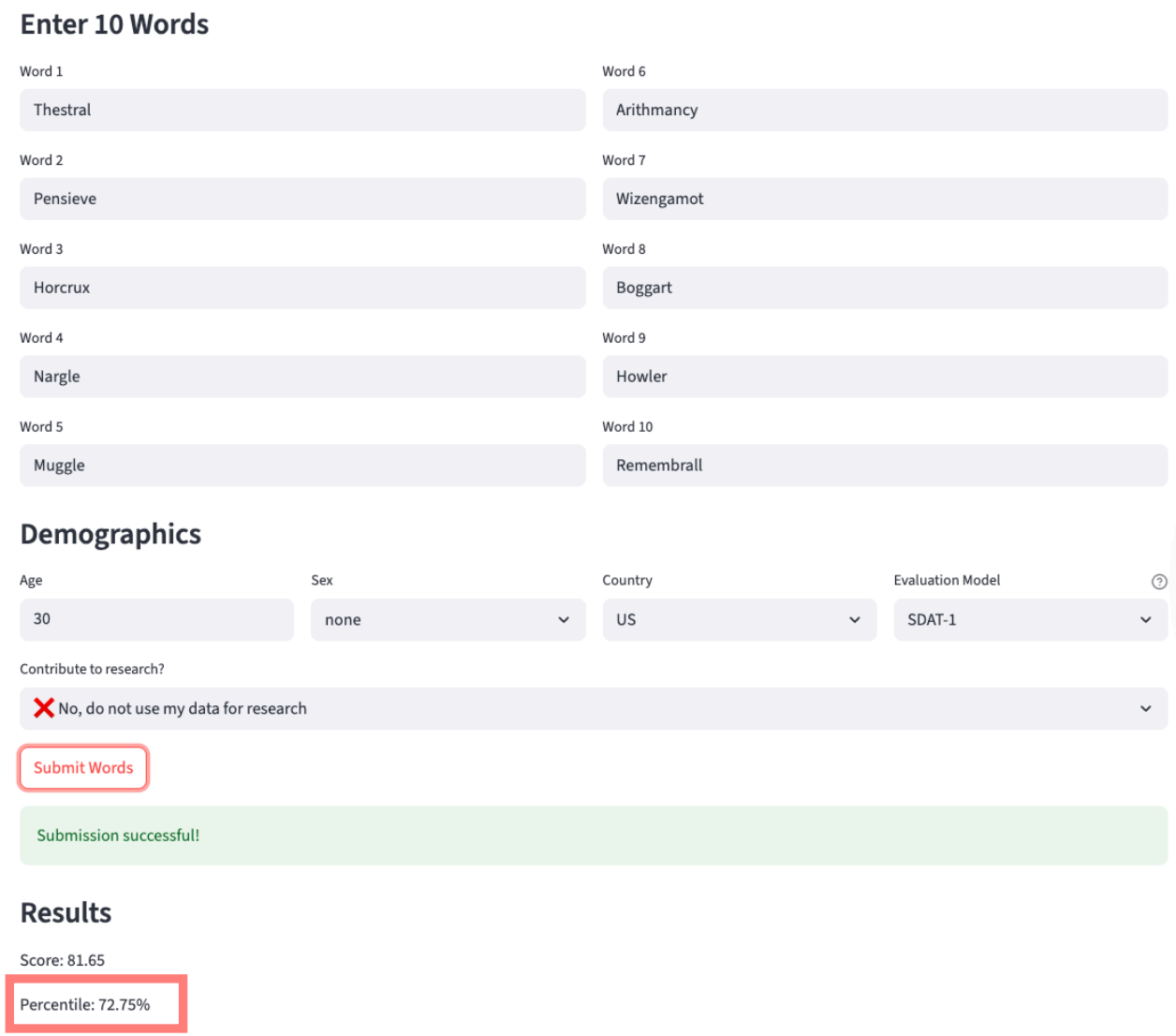

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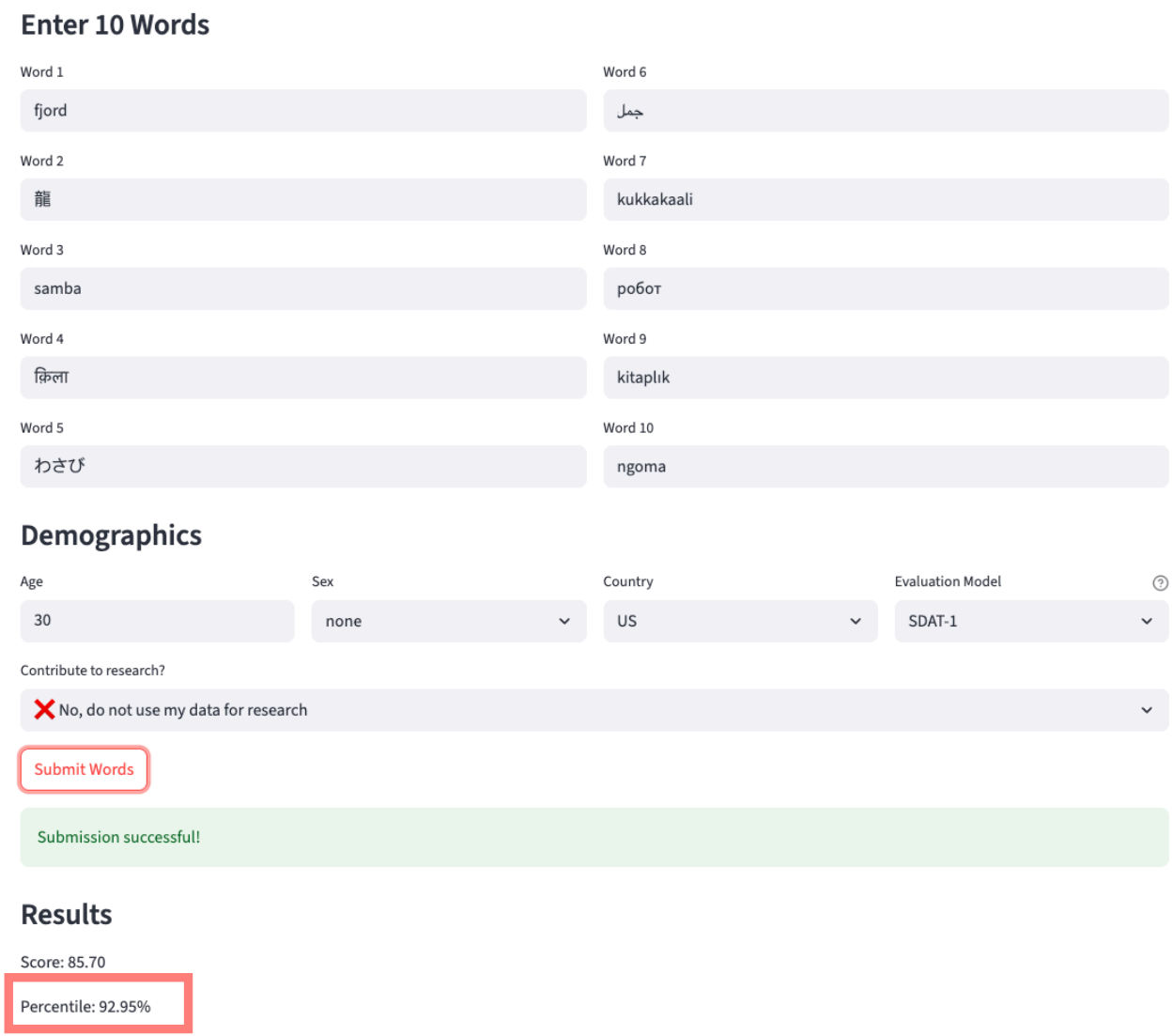

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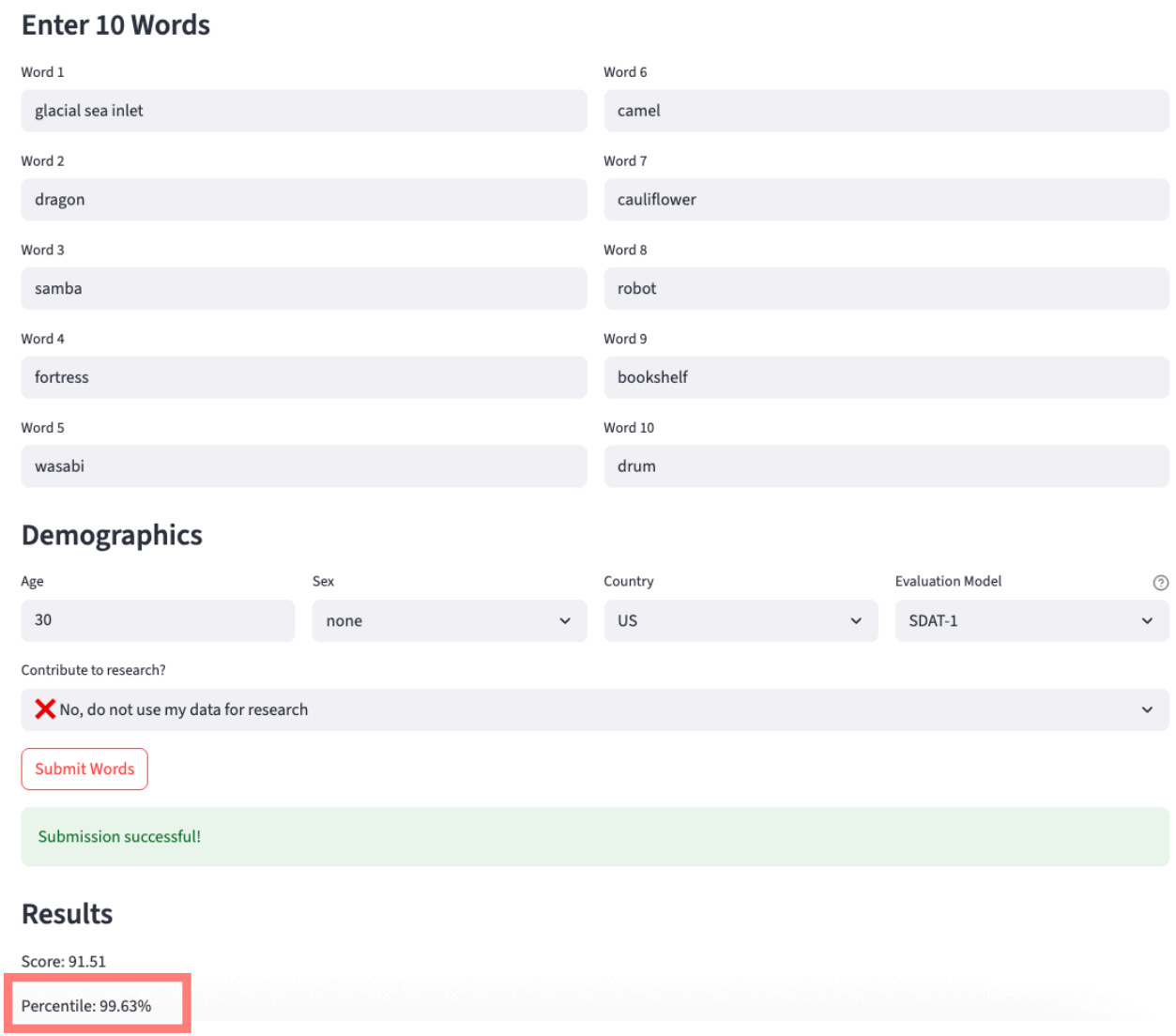

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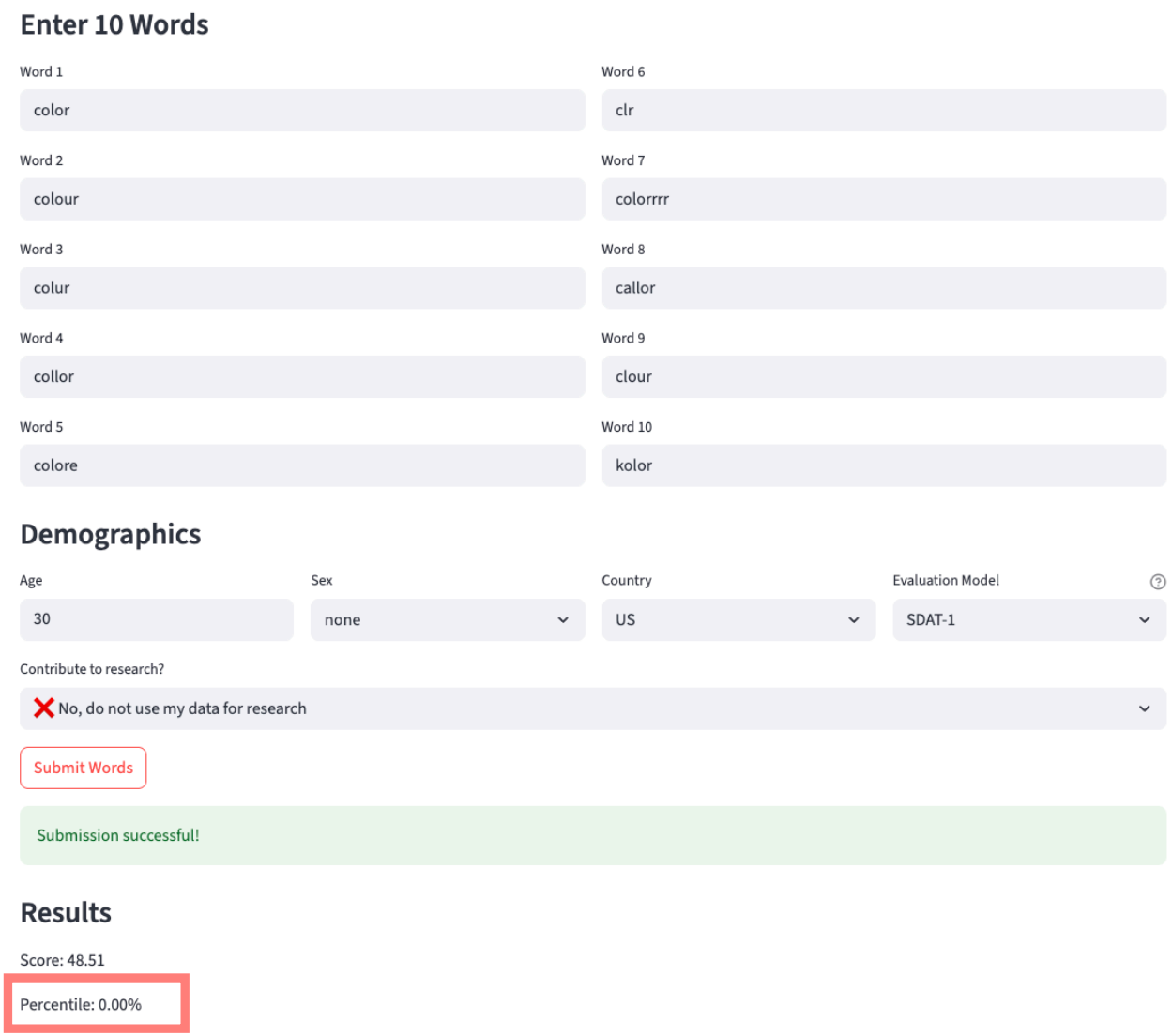

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Multi-Lingual Divergent Association Task

How creatively do you think?

The Divergent Association Task (DAT) is a quick, research-based test that gives you insight into your creative potential.

Your task: Enter 10 words—each as different in meaning and association as possible. The more unrelated the words, the better.

Why it works:

The DAT measures divergent thinking, a core aspect of creativity. It does this by analyzing the semantic distance between the words you provide. Greater distance suggests greater cognitive flexibility---a key trait in creative thought.

Good to know:
The DAT works in multiple languages! Basically, any language and script is supported, although results might vary across languages due availability of training data.

Ready to explore how your mind makes connections?

Give it a try below!

Read more (english only)

Submit Your Words

Enter 10 Words

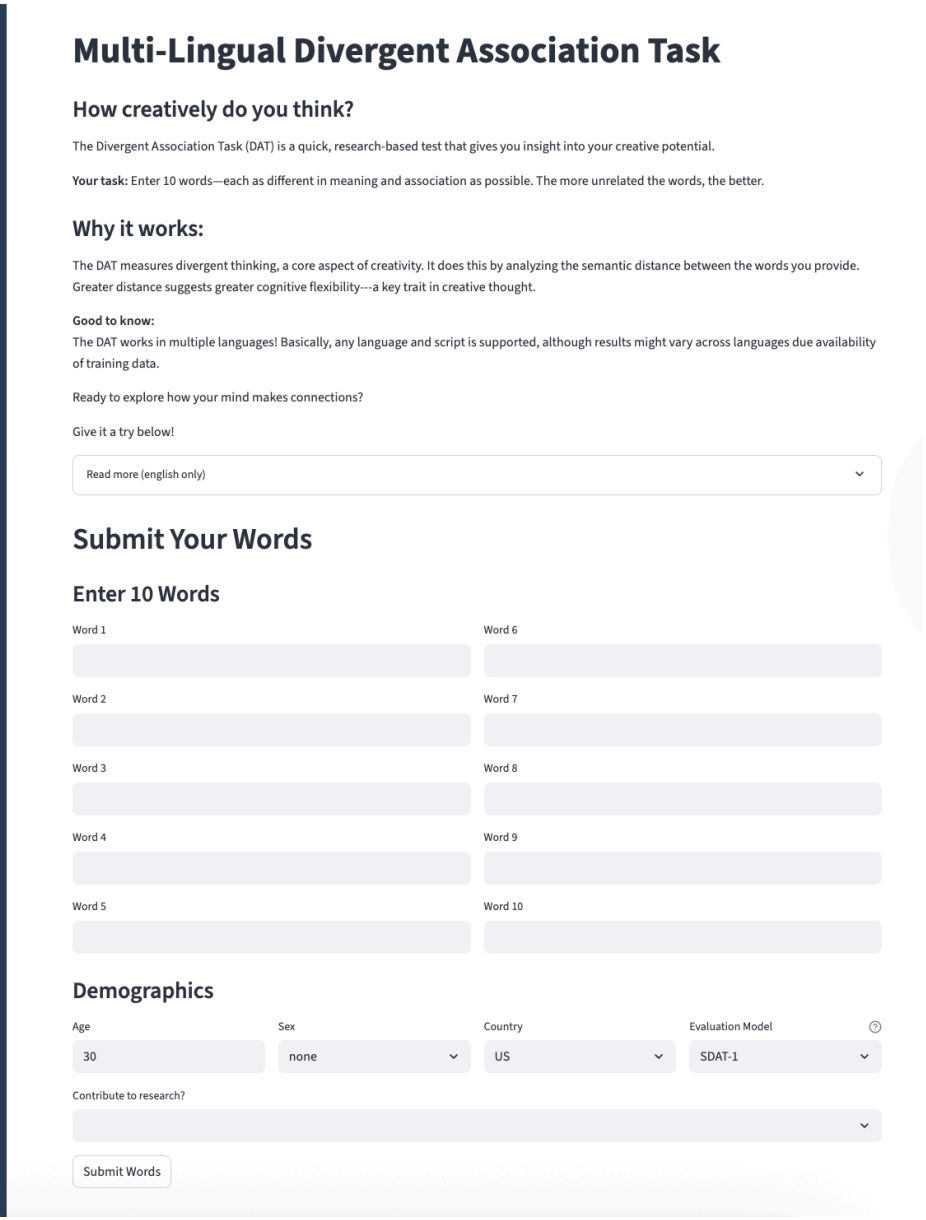
Word 1
Word 2
Word 3
Word 4
Word 5
Word 6
Word 7
Word 8
Word 9
Word 10

Demographics

Age: 30
Sex: none
Country: US
Evaluation Model: SDAT-1

Contribute to research?

Submit Words



S-DAT

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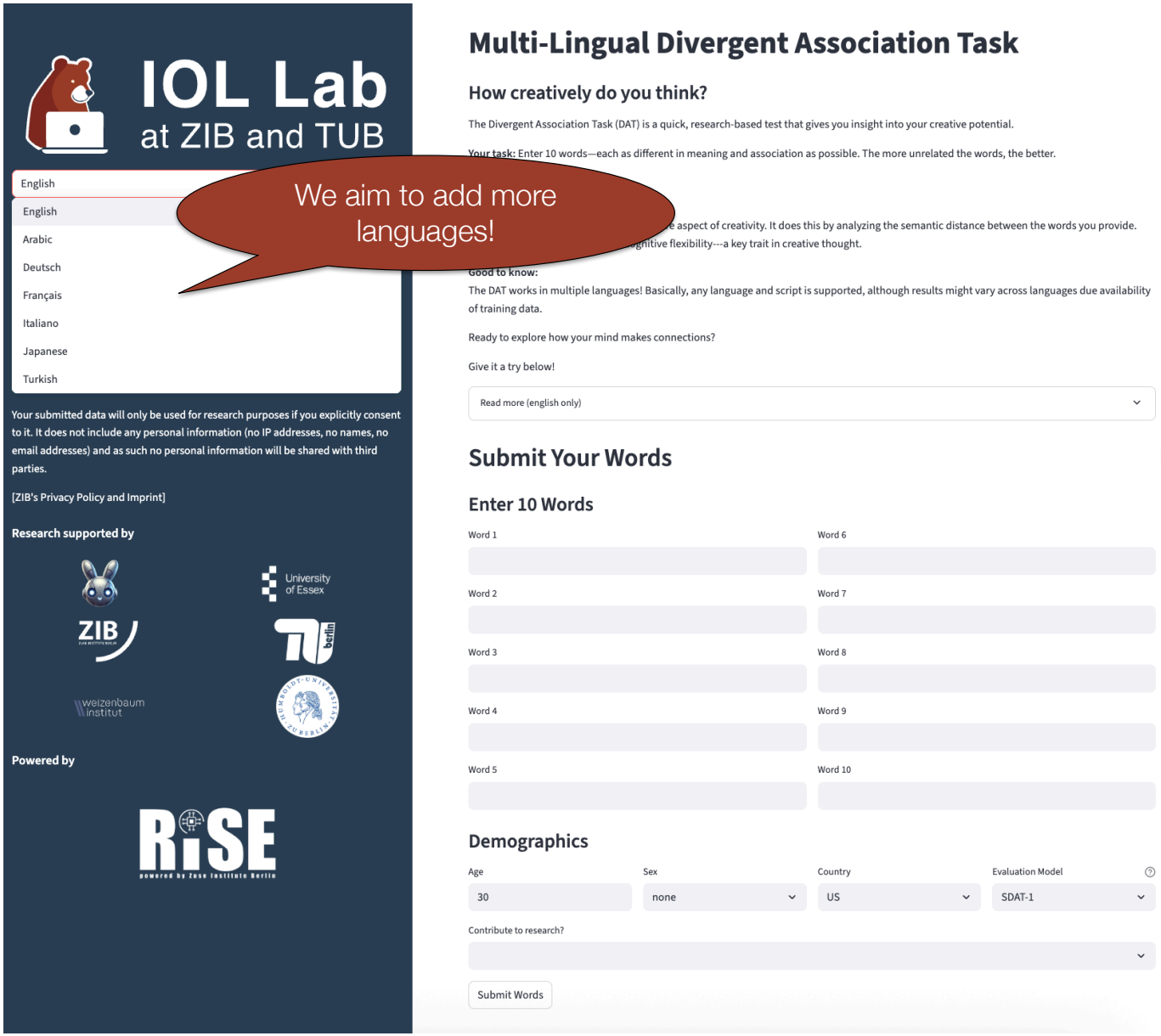

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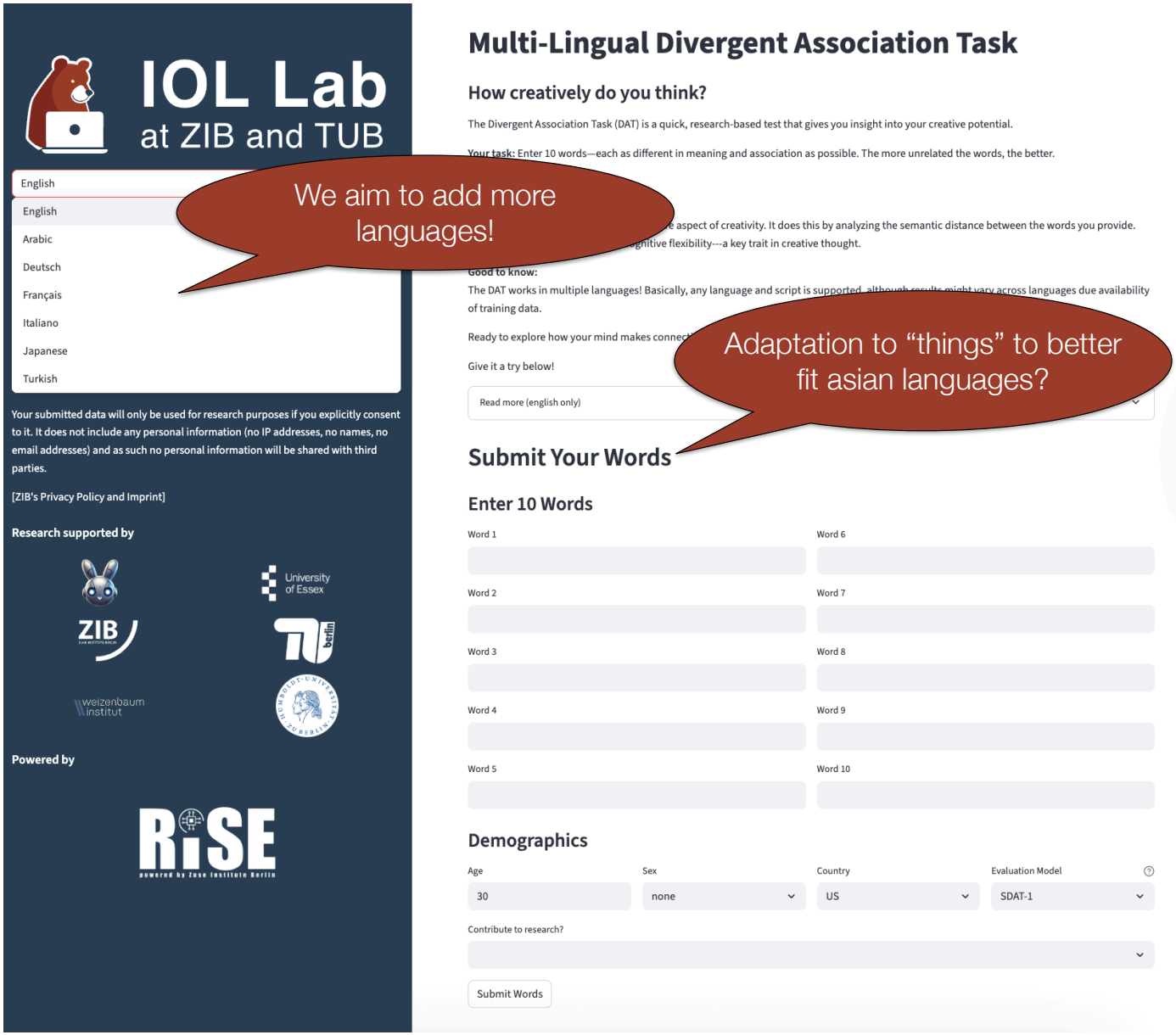

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S-DAT: Gaming the System

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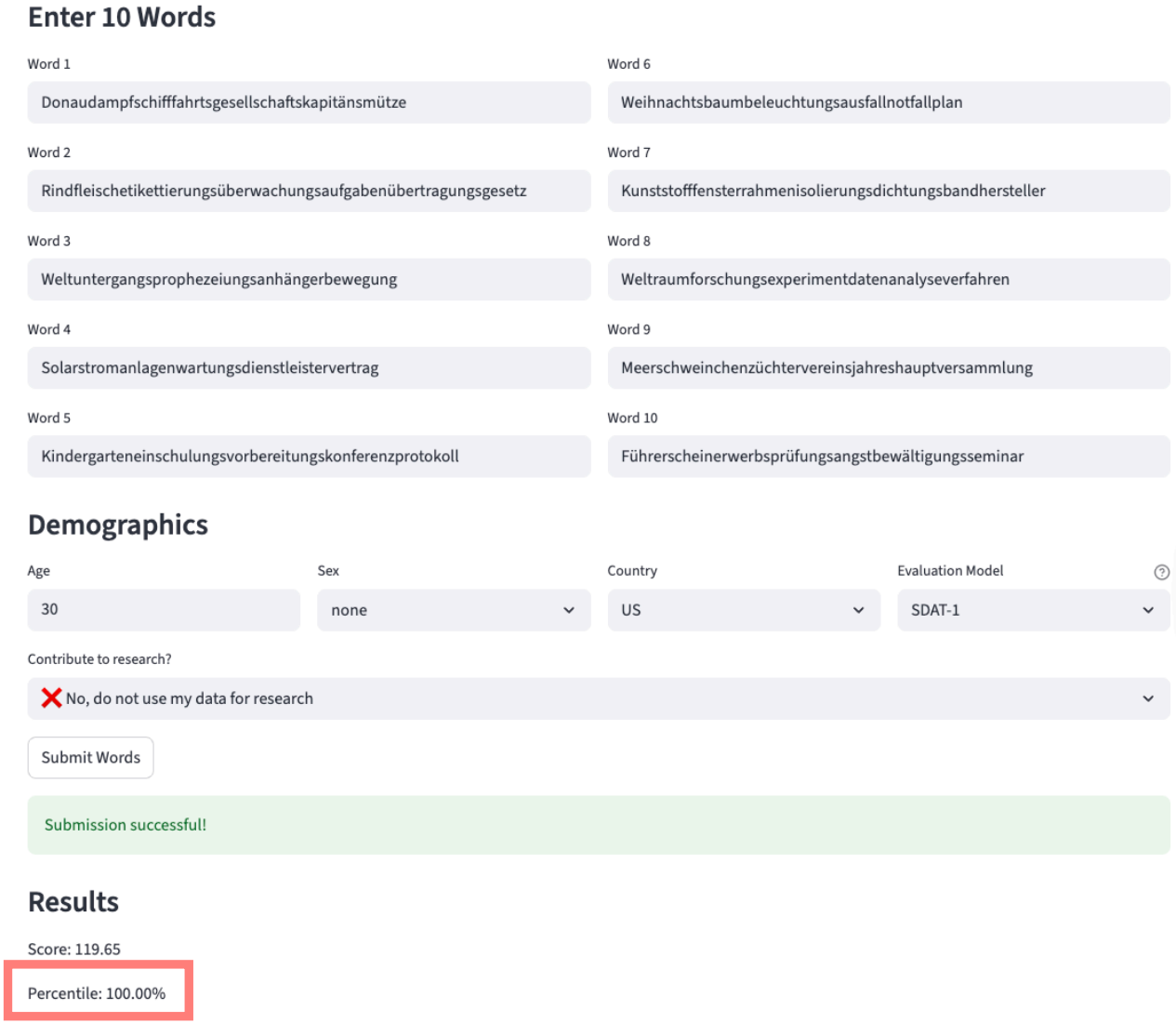

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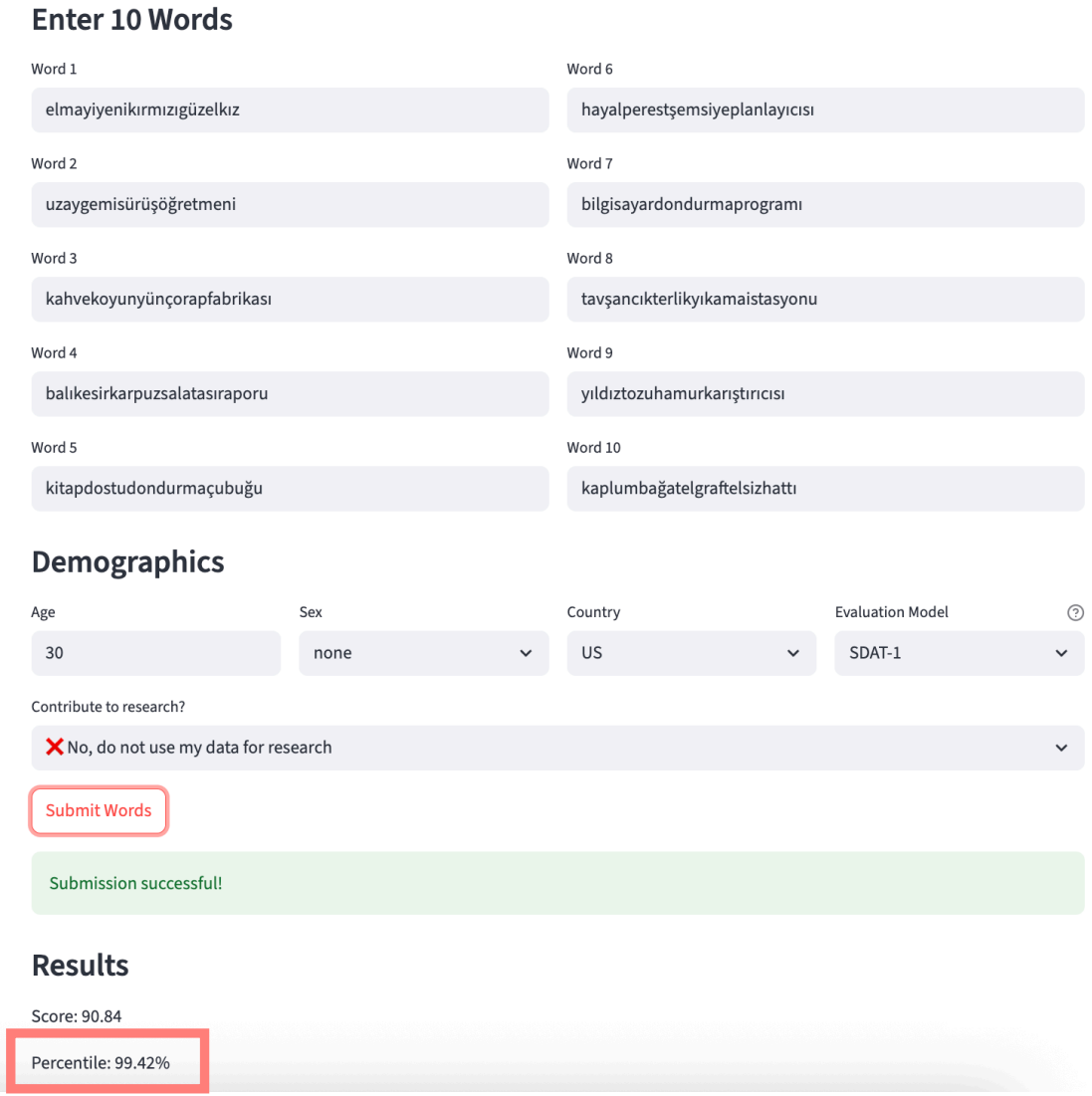
- Suffix-chaining to create rare words, e.g., Turkish



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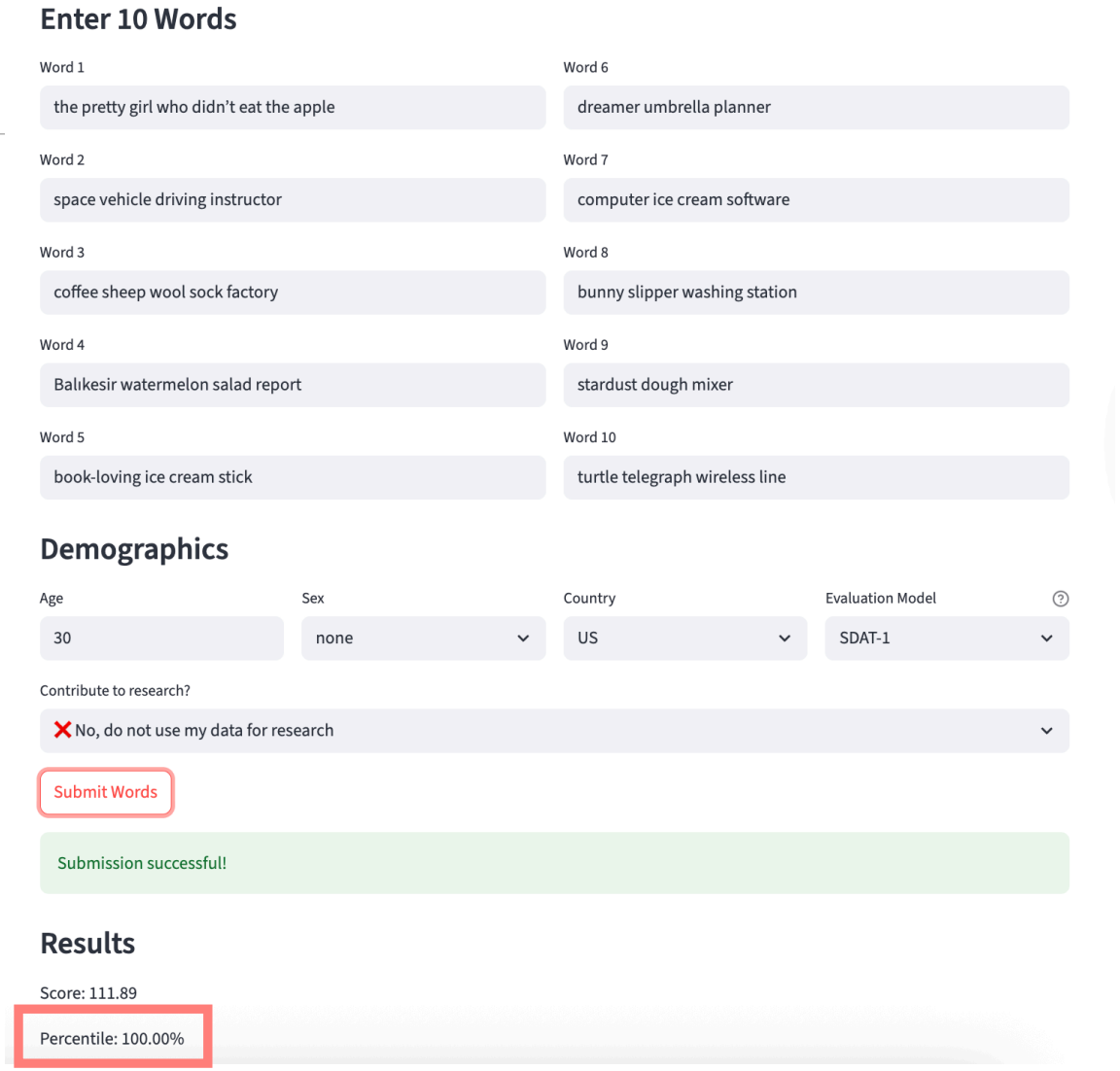

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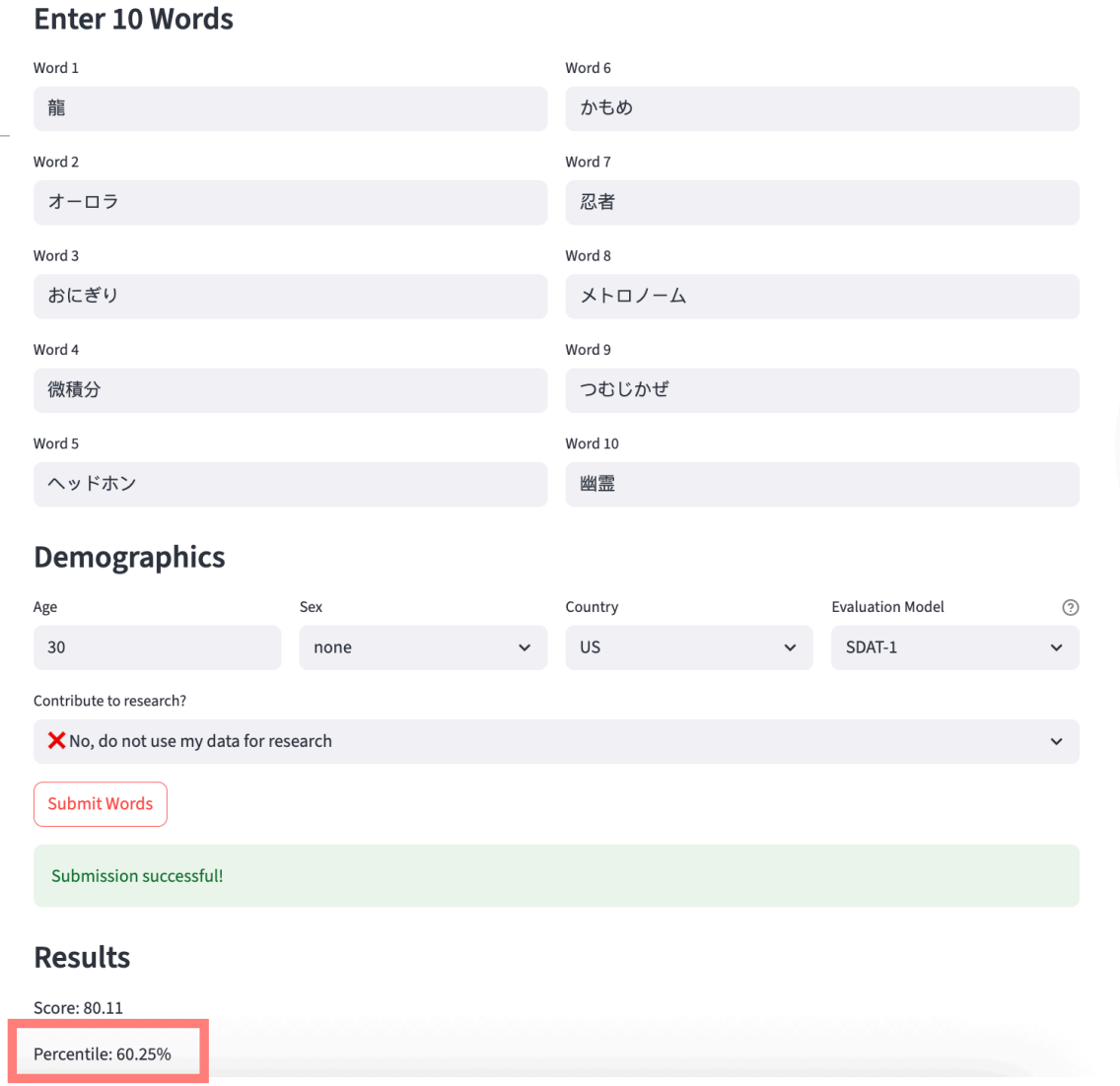

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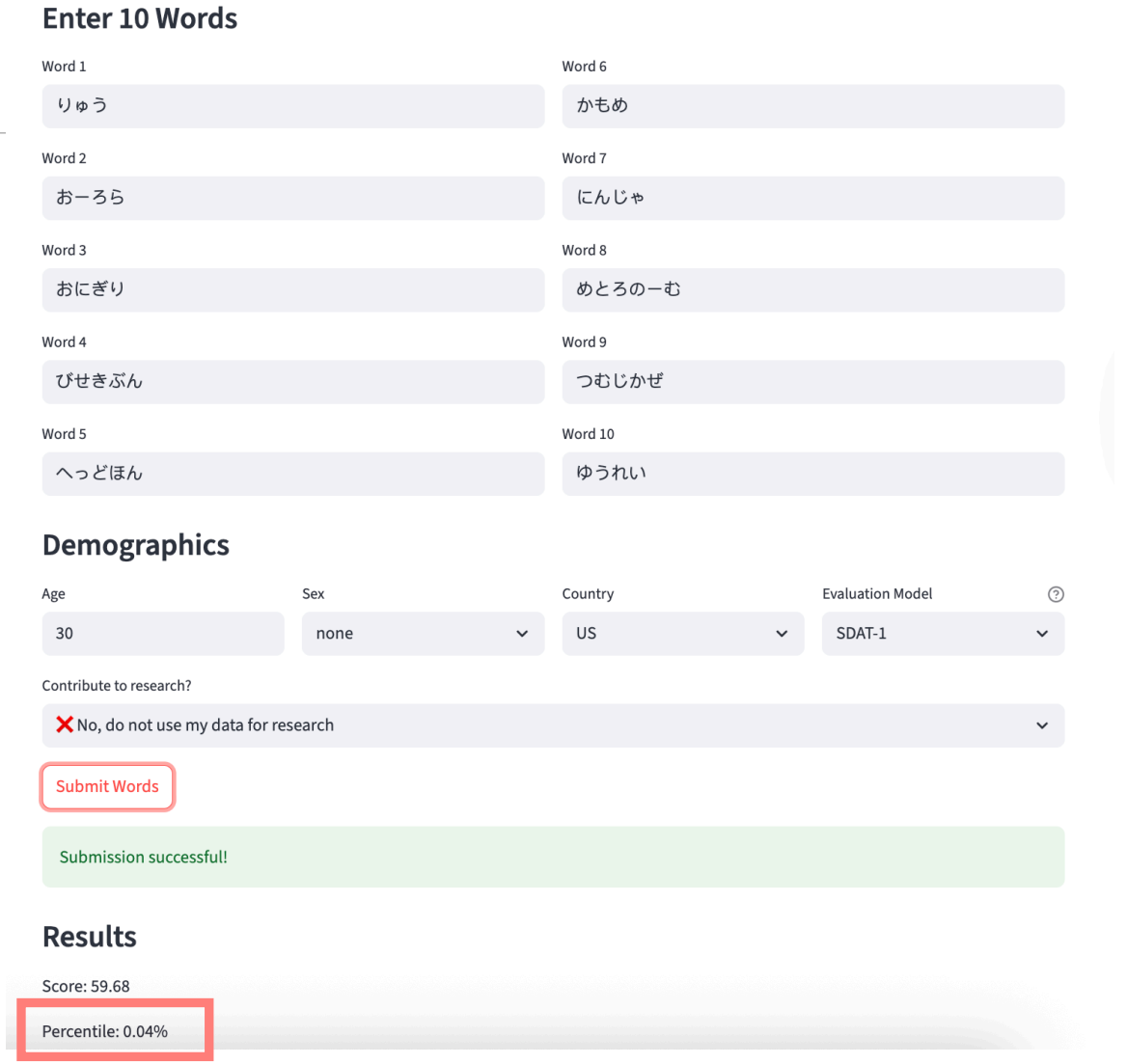

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- Join S-DAT Validation Project

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- Join S-DAT Validation Project
  - Add a Language
  - Assess Data for Validation
  - Just approach us or via email: jennifer.haase@hu-berlin.de

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S-DAT

Literature

1. Haase, J., Hanel, P. H. P., & Pokutta, S. (2025). S-DAT: A Multilingual, GenAI-Driven Framework for Automated Divergent Thinking Assessment (No. arXiv:2505.09068). arXiv. https://doi.org/10.48550/arXiv.2505.09068

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