

Caring with Robots? Challenges and Opportunities in Social Robotics.

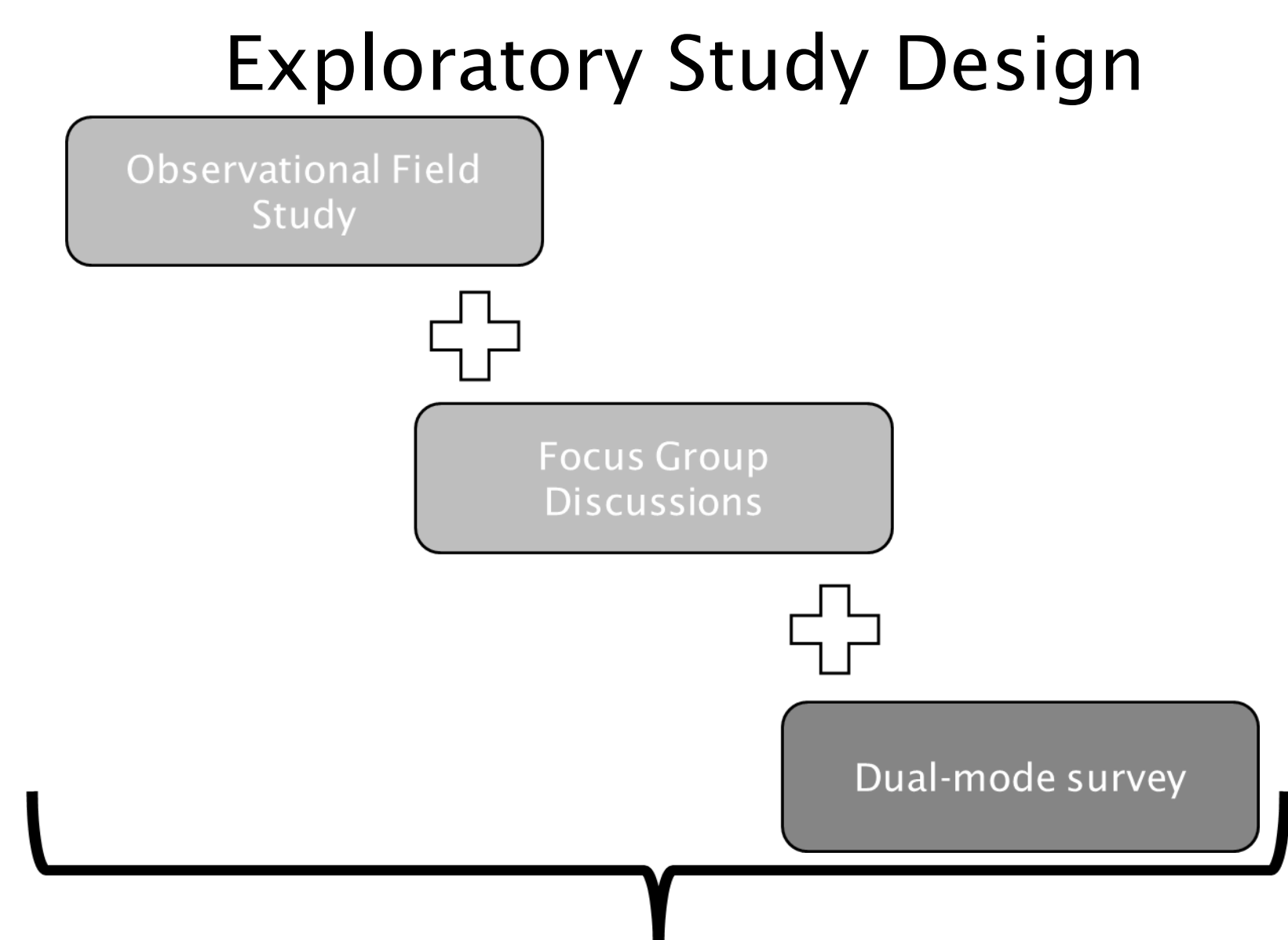
First Results of the project SoRoP, an exploratory study in people with sensory, cognitive, and emotional impairments.

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Objective

- ⇒ Social robots are increasingly used in care settings.
- ⇒ They may alleviate nursing staff shortages.
- ⇒ Their use with vulnerable populations may present ethical and communicative challenges.

Methods



Triangulation of Data Sources

Dual-mode survey:

- ⇒ Paper-and-pencil and online
- ⇒ 23 questions
- ⇒ Standardized questionnaire

Data

- Field phase with one „Navel Robot“ (Navel Robotics München)
- n = 58
- Study Group Elderly: residents in a care facility for seniors (n=17)
- Study Group ASD (autism spectrum disorder): younger people with limitations on the autism spectrum in a (semi-) residential setting (n=15)
- Study Group general population: convenience sample OTH Open Day (n=26)



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RQ: How are the robots' limited communication skills—in terms of facial expressions, gestures, and speech—evaluated?

- ⇒ Communication skills of Navel were rated mostly positive.
- ⇒ Clarity of verbal communication and responsiveness were rated high.
- ⇒ Facial expression was perceived as less clear.

RQ: To what extent is human-robot interaction successful for people with limited communication skills?

- ⇒ Navel was relatively successful in communicating effectively with respondents with limitations.
- ⇒ Significant differences were observed in the aspect of verbal communication (elderly). This has been confirmed by the observational study.
- ⇒ Significant differences were observed in the aspect of facial expression (ASD).

RQ: Are there differences in reactions depending on the person's disability or age?

- ⇒ Interactions with Navel appear to have no significant effect on the mood or well-being of the different groups.
- ⇒ Whether Navel is considered funny and its movements natural significantly differs across groups.

First Results

Uni- and bivariate analysis of data from the dual-mode survey. These results are mostly confirmed by the observational filed study.

RQ: Uncanny Valley: Is the robot perceived as uncanny?

- ⇒ Navel is generally not perceived as uncanny.
- ⇒ No significant difference across groups.

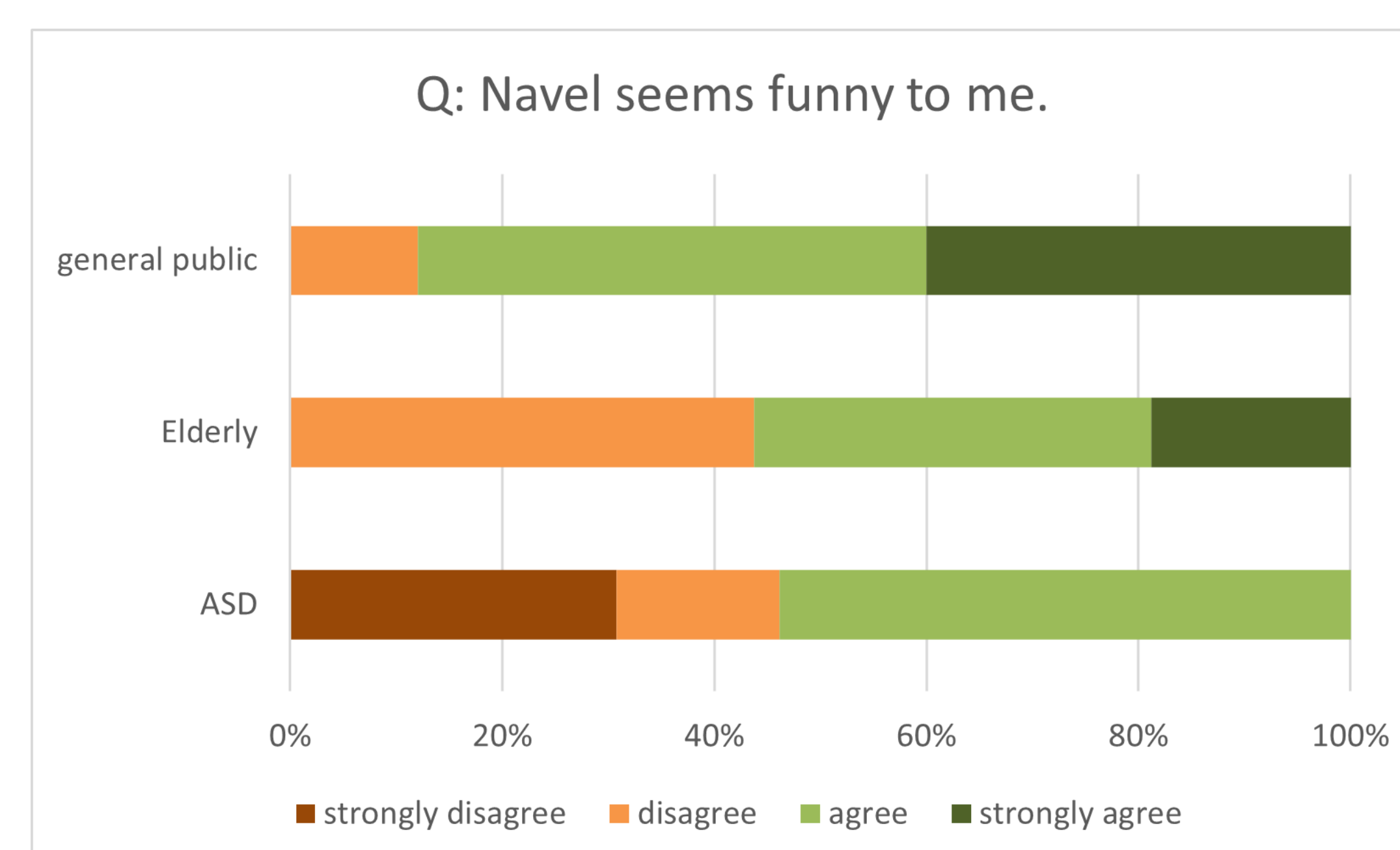
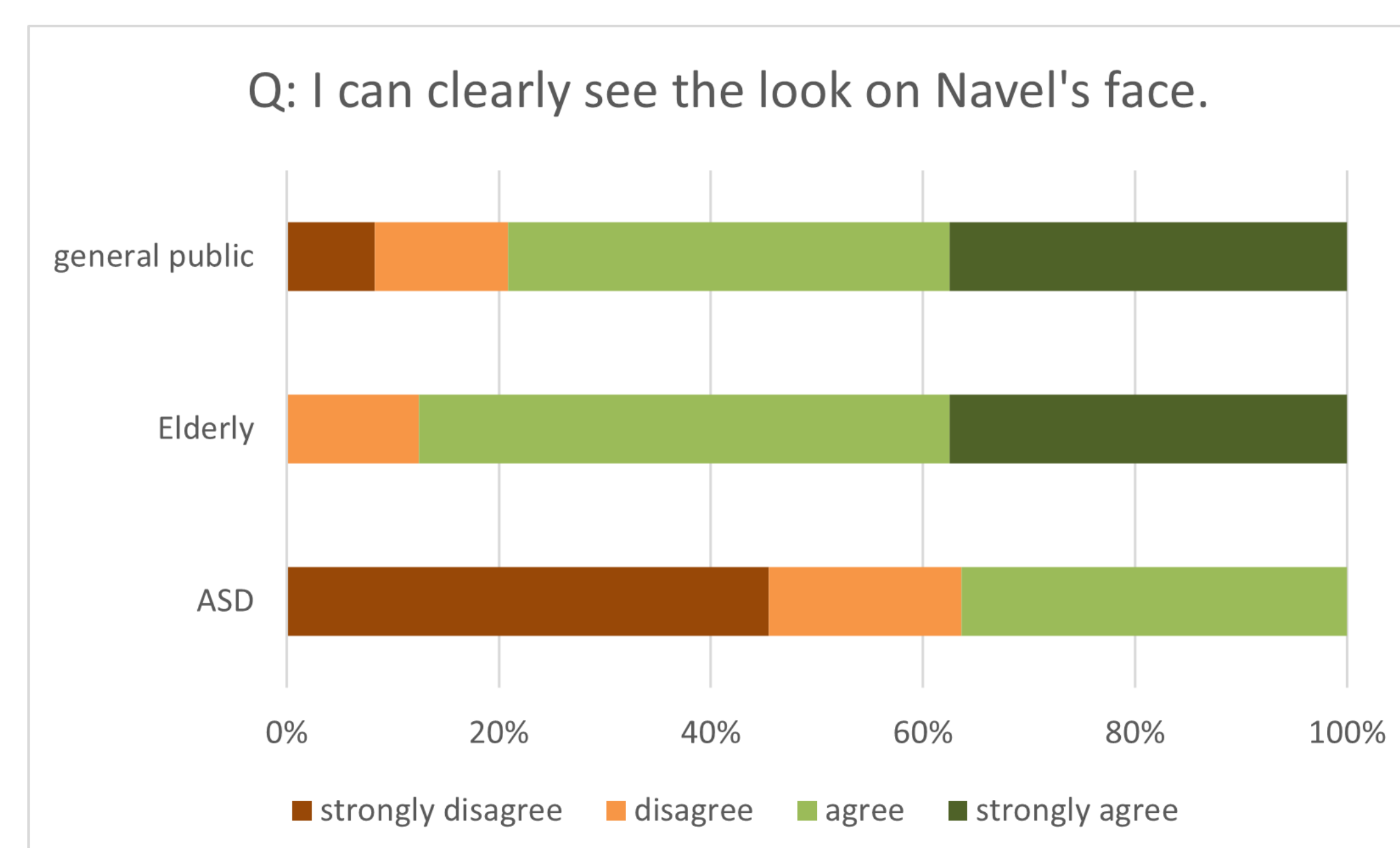
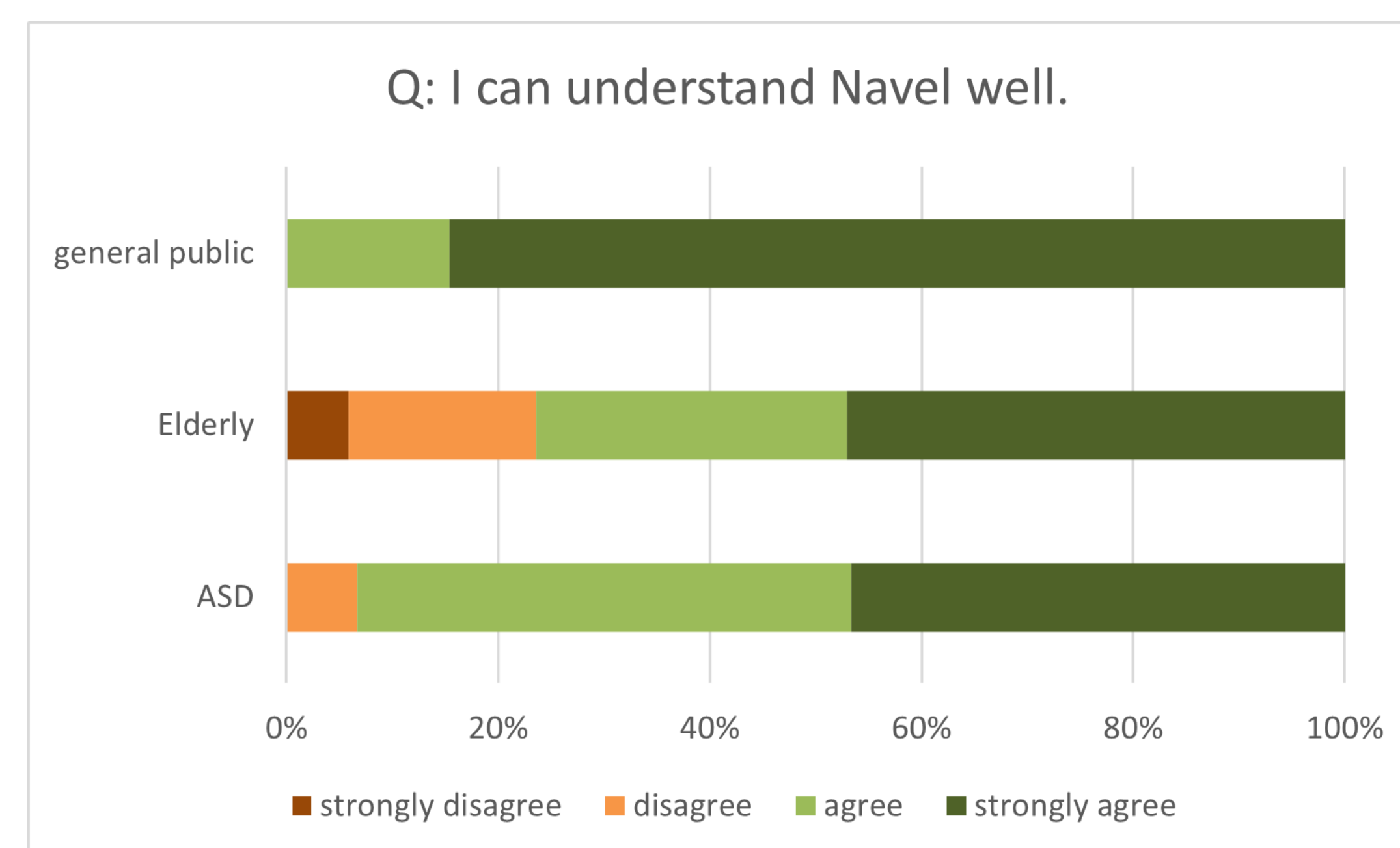


Foto: Prof. Dr. Sonja Haug/OTH Regensburg

