

How Do Virtual Communication Settings Impact Pragmatic Language in Autistic Adults?

Emily Hay¹, Talia Potter¹, Julia Hohenberg¹, Laura Silverman², Emily Prud'hommeaux¹

¹Boston College Department of Computer Science

²University of Rochester Medical Center

BACKGROUND

- Improving **conversational spoken language** is a common intervention goal.
- Relatively **few existing studies or discourse datasets** for autistic adults.
- Reduction in sensory input streams** can improve communication.
- Video conferencing**, which has an increasingly important role in the workplace, may reduce sensory input levels and confer these benefits.

OBJECTIVES

- To understand how **communication modality** (in person vs. video conferencing) influences a speaker's overall degree of **uncertainty, politeness, and informativeness**.
- To determine whether these discourse features are **differentially impacted in autistic adults with low support needs**.

DATA COLLECTION AND METHODS

Experimental Participants (EP)

- AUT n=5, TD n=5
- 18-30 years
- PIQ and VIQ > 80
- Monolingual English speaking
- No history of language impairment or hearing difficulty
- TD participants did not have any AUT parents or siblings
- AUT participants met ADOS criteria

Conversational Partners (CP)

- n=3
- All worked with multiple EPs
- Neurotypical
- Monolingual English speaking
- No history of language impairment or hearing difficulty

Data Annotation: Pragmatic Features

- 2 trained annotators code each utterance for politeness (P), uncertainty (U), informativeness (I)
- Krippendorff's α 0.7, 0.76, 0.83 for P, U, and I

Utterance	P	U	I
What does it look like?	2	3	2
Not at my area, no.	2	1	1
I don't care.	1	1	1
You're on a deserted island.	2	1	2



Map Task: EP directs CP to their location on maps with differing obstacles and landmarks.

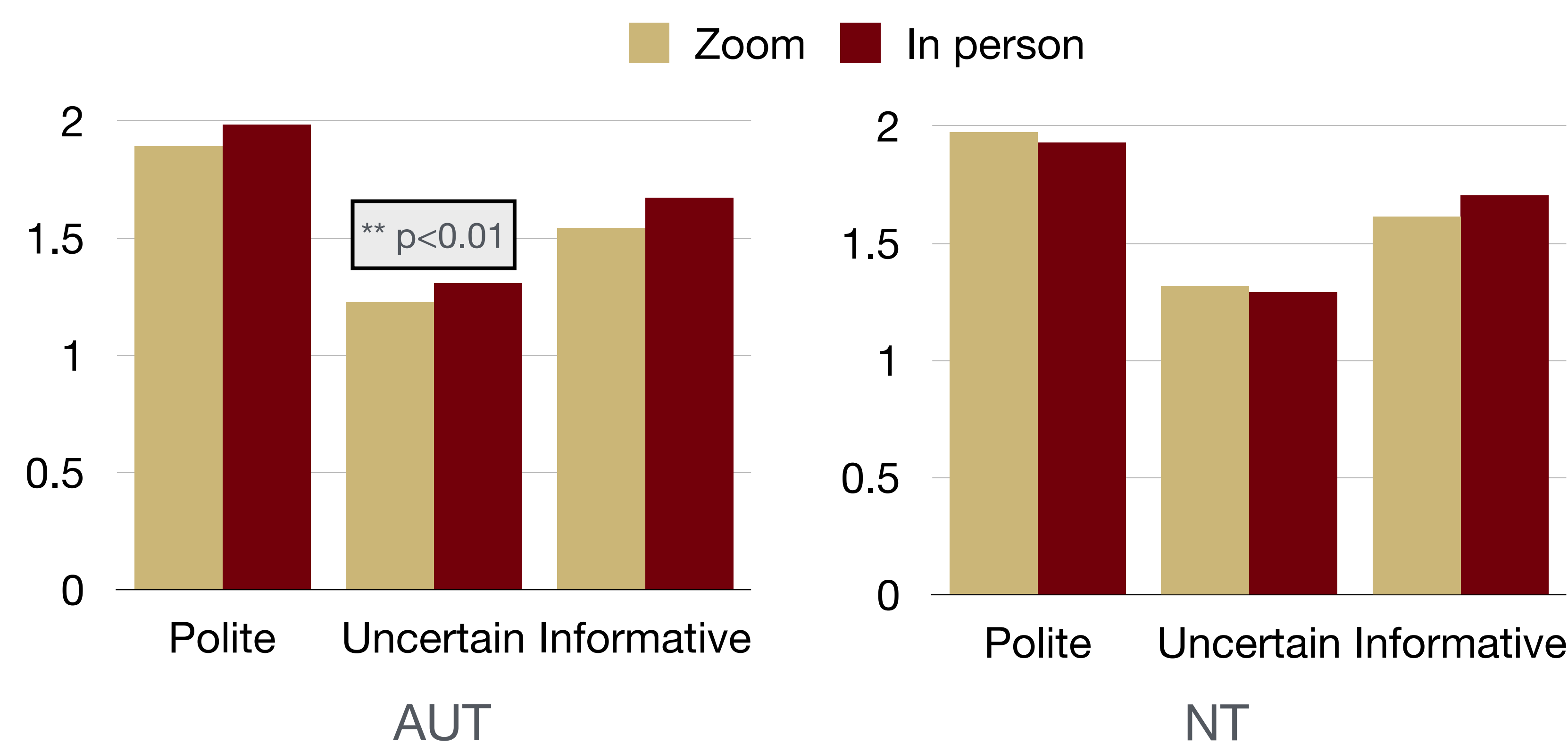


In-Person Setting



Video Conferencing

RESULTS AND ANALYSIS



Prior Work in In-Person Settings

- Between-group differences in politeness, with utterances produced by AUT group rated as more polite ($p<0.001$)
- Between-group differences in informativeness, with AUT utterances rated as less informative ($p<0.001$).
- Note: larger not fully overlapping set of participants.

In-Person vs. Video Conferencing

- No significant between-group differences observed,
- In NT group, no significant between-modality differences.
- In AUT group, degree of uncertainty is significantly higher in the in-person setting.

CONCLUSIONS

- Autistic adults adjust their pragmatic language when conversing via teleconferencing in ways that neurotypical individuals do not.
- Decrease in uncertainty on Zoom lends some support for prior findings showing that autistic people benefit from reduced sensory input streams.
- Future work will focus on a different collaborative task.

ACKNOWLEDGEMENTS

This material is based upon work supported by the NIDCD of the NIH under award number R21DC017000. We recognize the contributions of Zoey Liu, Dora Liu, Christine Yang, Alison Canfield, Christine Hoffkins, Jill Aldrich, Sarah Farash, and Parker Robbins. We thank the study participants and their families for their support.