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School of Medicine

Using AI to Improve Social Communication in Autistic Individuals

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Autistic Individuals

- Challenges with Social Communication
- Lowest employment rate
- Desire friendships and relationships, but often bullied
- Often have co-occurring conditions
 - Depression
 - Anxiety
 - Stress

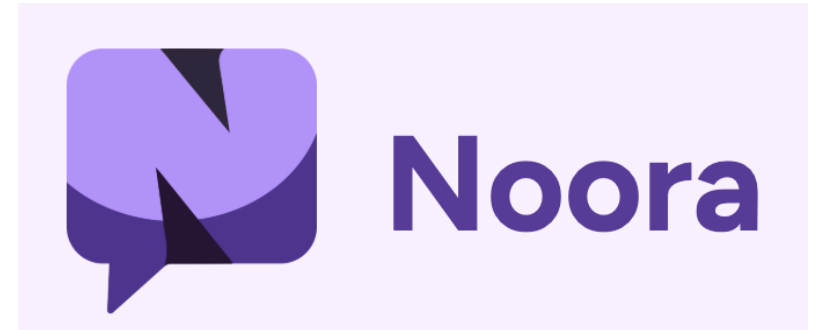




Support

- Not enough trained clinicians
- Long wait lists
- Few services available after early intervention
- Services are expensive

Developing AI based on face-to-face interventions



- Our programs act as communication aids, not replacements
- Our programs provide feedback on challenging areas needed for:
 - Making friends
 - Developing relationships
 - Socialization in the workplace



Noora Social Conversations

Improve your social conversation using AI.

Noora is a chatbot who guides you through a diverse set of social scenarios.

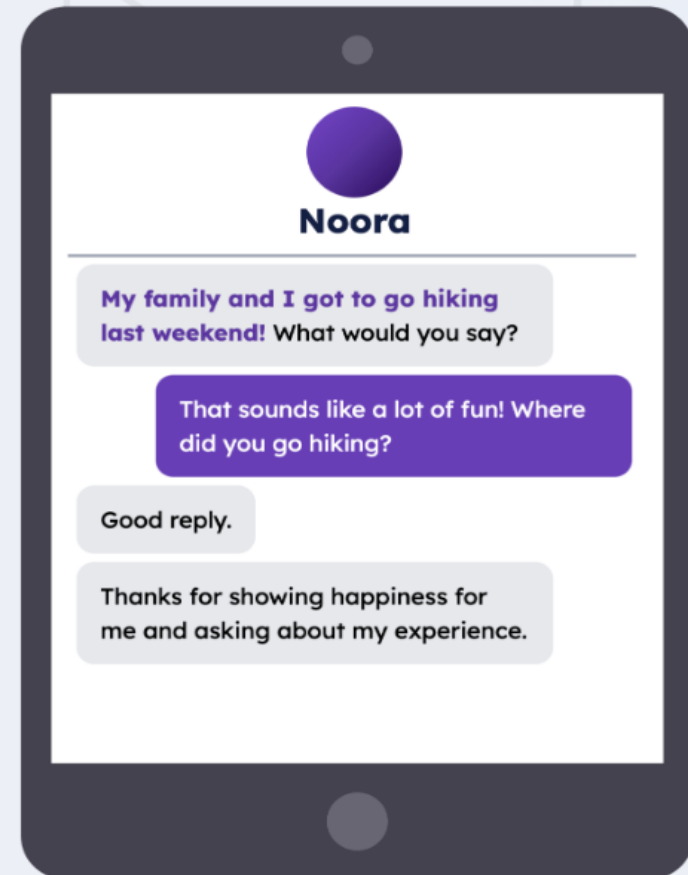
[GET STARTED →](#)

Developed by [Stanford's Open Virtual Assistant Lab](#)



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Practice with Noora

Noora is your friend and you will practice replying to statements of a variety of general topics.

What do you want to practice?

To see all modules and their descriptions, visit [All Modules](#).

Empathy



Positive Reframing



Sharing Personal Information



Starting Conversations



Give Compliments



Expanding Short Answers



Asking Relevant Questions

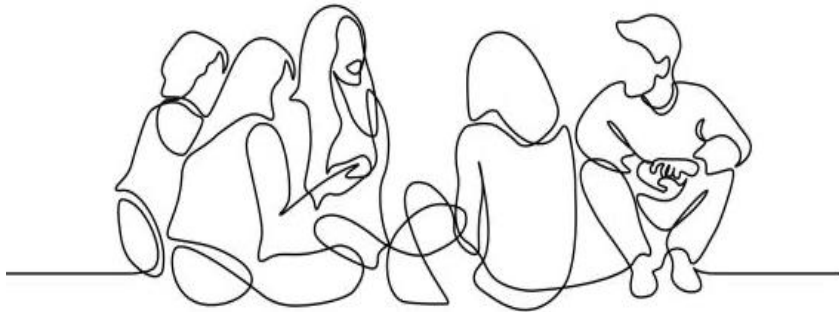


Listen and Respond Appropriately



Research Completed

- 3 papers published
- 1 under review
- A few in progress



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Using Artificial Intelligence to Improve Empathetic Statements in Autistic Adolescents and Adults: A Randomized Clinical Trial

Original Article | [Open access](#) | Published: 15 February 2025
(2025) [Cite this article](#)

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Examples

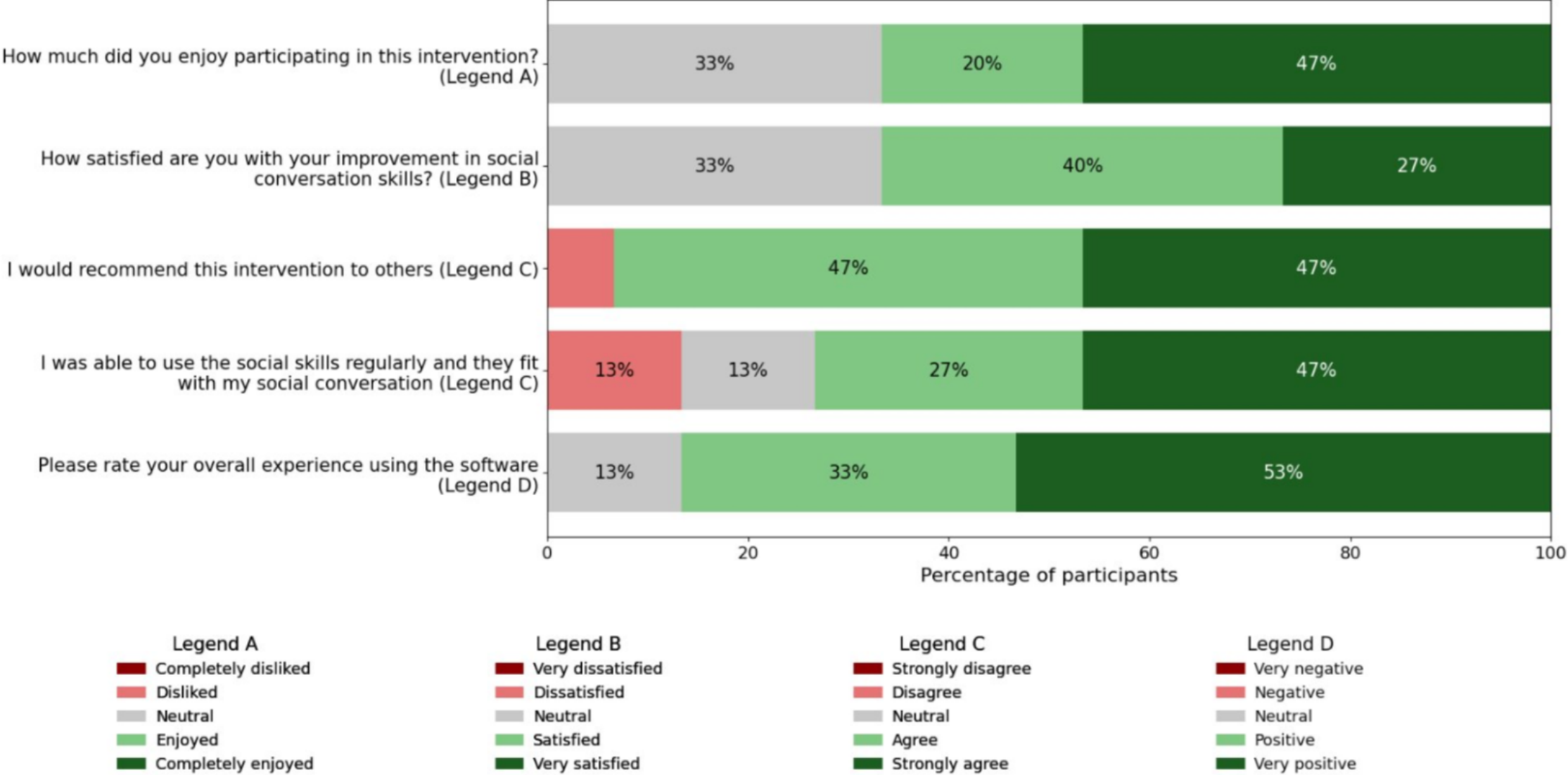
Targeted Area	Examples
Responding Empathetically Participant must respond with a relevant verbal statement that shows understanding, and/or offers comfort/support.	“I had the worst day today.” Appropriate Responses: • “Oh no!” • “Bummer.” • “That stinks.” • “I’m so sorry to hear that. What’s going on?” Inappropriate Responses: • “I went to the library with my mom today.” • “Cool!” • “Everyone has bad days. It’s no big deal.” • “Uh huh.” • No response “I’m so excited to see my sister this weekend” Appropriate Responses: • “Fun!” • “Nice! What are you going to do?” • “That’s always exciting to see family.” • “Cool! Do you have any plans?” Inappropriate Responses: • “I’m going to play video games this weekend.” • “I don’t get along with my sister” • “Oh.” • No response

RESULTS – Verbal Empathetic Responses

Significant Generalized
Improvements in the
experimental group
compared to the
control group

All participants
improved in the work
internship setting
study

Participant Ratings of the RCT Intervention (n = 15)



Koegel, L.K., Wehman, P., Claude, C.M., Lam, M.S., Bruzzese, T., Derry, M., Brooke, A., Ham, W., Ponder, E., Roane, T.J. and Rooney, B., 2026.

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Using Artificial Intelligence to Support Emotionally Responsive Verbal Communication Among Autistic Workers in a Work Internship Setting

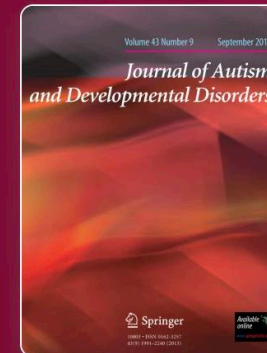
Original Article | [Open access](#) | Published: 04 April 2026

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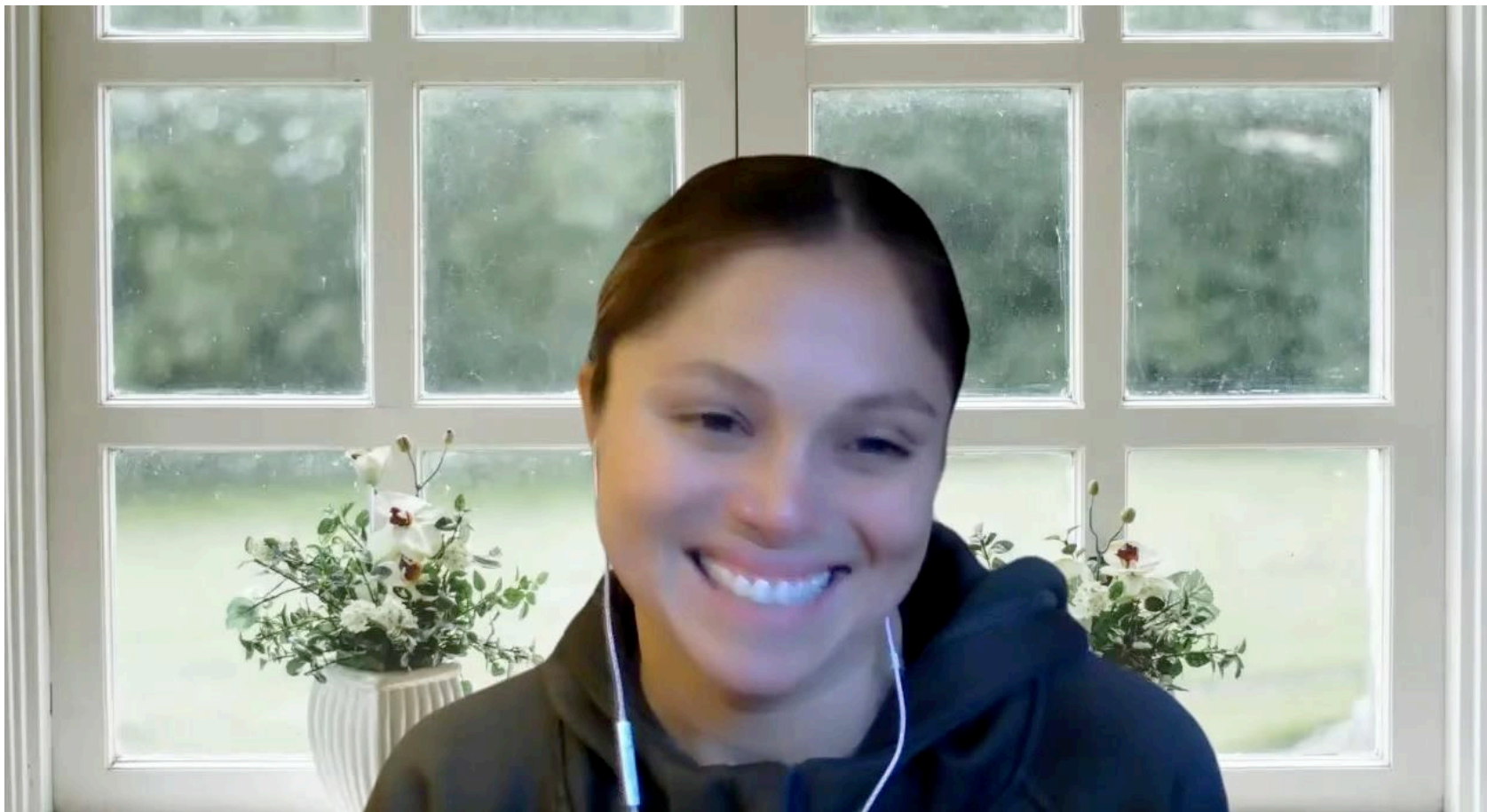
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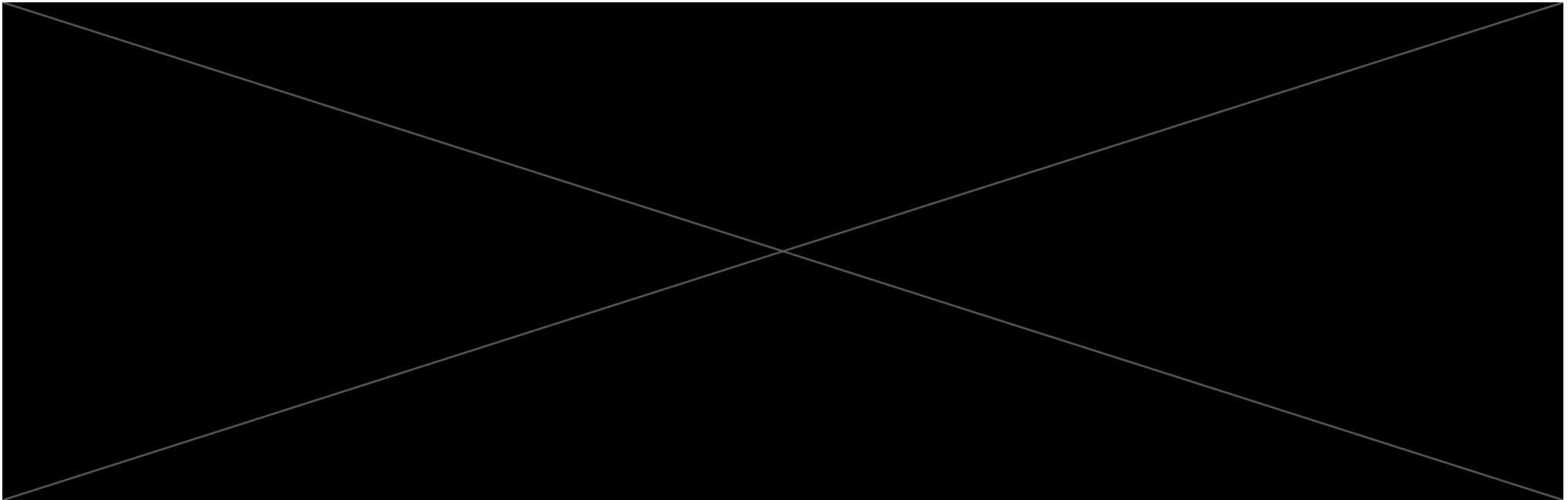
Baseline

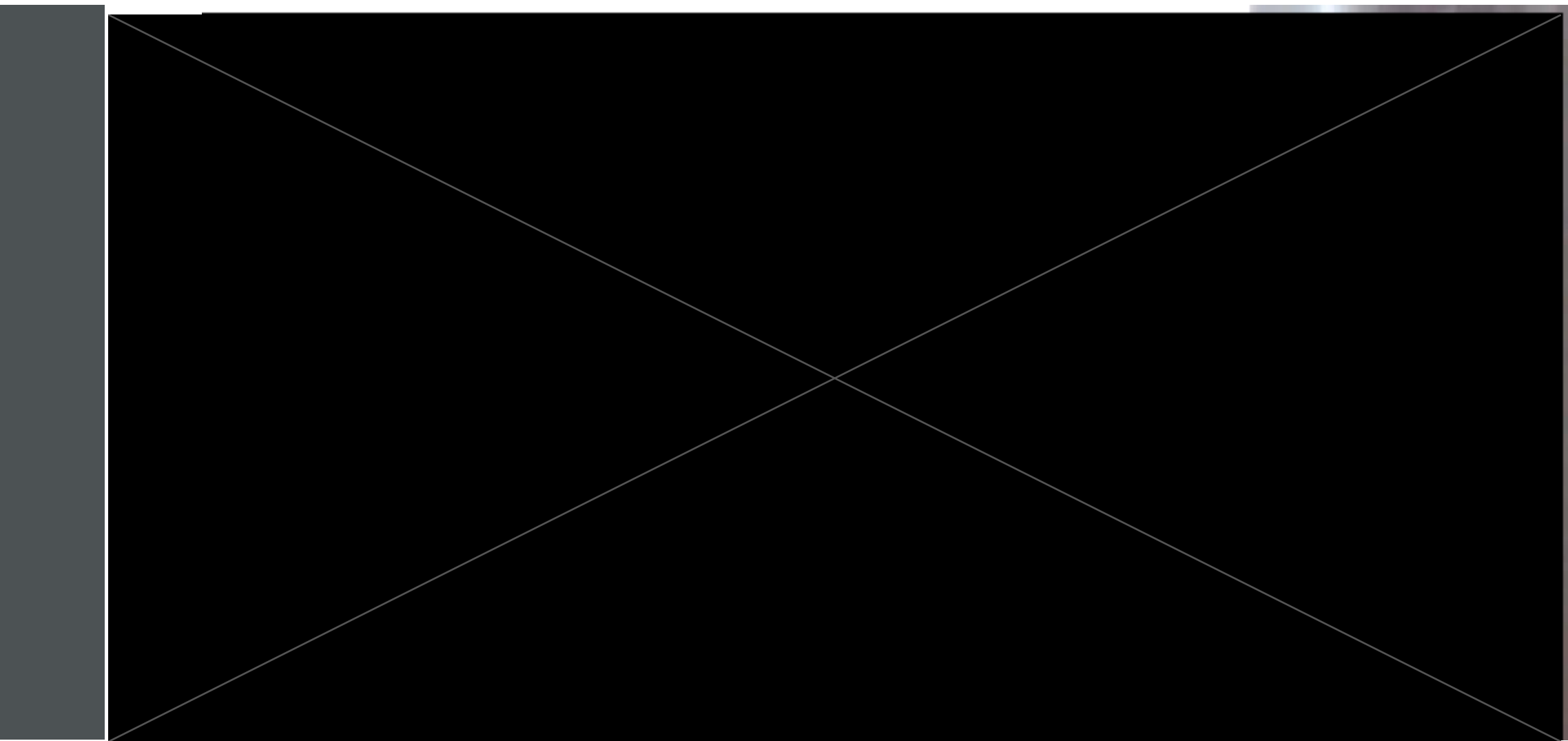
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Generalization Probes

After 4 weeks, 5 days/week of Noora





Summary



**Significant improvements in
Empathy**

RCT
MBL



Improved Confidence



High Satisfaction

TEAM NOORA



Ankush Swarnakar



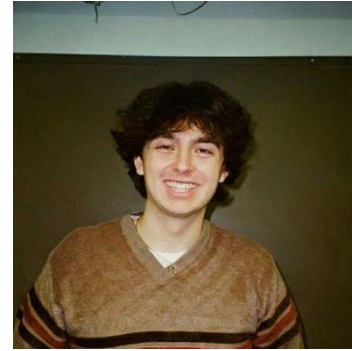
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Dr. Christopher Claude



Mason Wang



Dr. Brittany Koegel



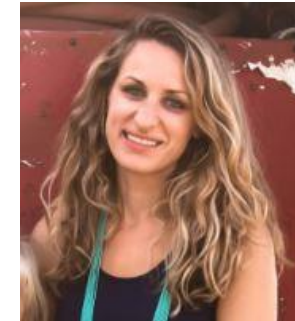
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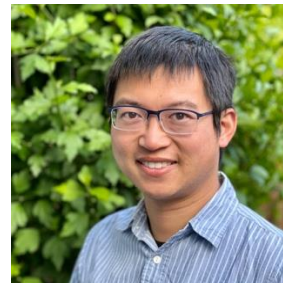
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Thank you

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