

# Engineering Empathy: Building Satisfying Interactions with Less Empathy

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Are highly empathic individuals better at making the physically disabled feel more comfortable when talking with them?

## Background



Artificial speech synthesizers enable face-to-face communication for their users but disrupt the natural rhythms that are the hallmark of emotionally satisfying interactions. Some people are likely to have an easier time compensating for this disability than others. Empathy (Davis, 1983), for example, is intuitively and theoretically associated with superior interpersonal behavior (Hall & Bernieri, 2001). Therefore, we predicted that highly empathic individuals would skillfully accommodate for a speech synthesizer user and achieve a higher state of rapport with them than would those low in trait empathy.

## Hypothesis

(see Graph 1)

Users of speech synthesizers who interacted with a person high in trait empathy would report feeling more rapport (more positive and engaged) with their partner than those interacting with a partner with low empathy.

## Method

### Participants:

There were 120 participants, all were Oregon State University students (95 female and 25 male).

### Procedure:

Participants were paired together for five-minute interactions. One participant was randomly assigned to use the speech synthesizer and the other was their conversational partner (Figure 1).

Figure 1: Speech input with joystick



### Rapport, Positive Mood, and Engagement:

After their interactions, participants rated the rapport, positive mood, and engagement they experienced (Figure 2, Figure 3, Figure 4).

Figure 2: Rapport Ratings

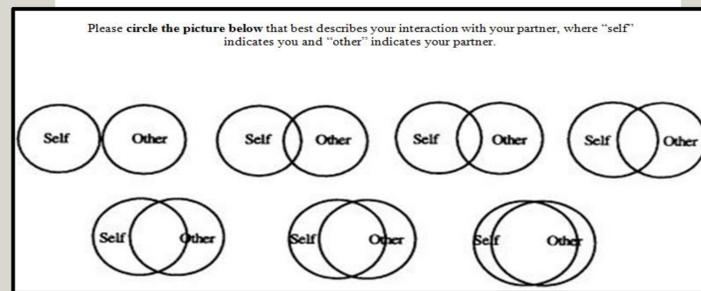


Figure 3: Mood Ratings

MOODS. Below is a list of words describing different kinds of moods and psychological states. Please indicate how you feel **right now**.

1. Cheerful	Not at all	0	1	2	3	4	5	very much
2. Amused	Not at all	0	1	2	3	4	5	very much
3. Satisfied	Not at all	0	1	2	3	4	5	very much

Figure 4: Engagement Ratings

ENGAGEMENT. During the last conversation to what extent were **you**:

1. Disclosing	Not at all	0	1	2	3	4	5	very much
2. Responsive	Not at all	0	1	2	3	4	5	very much
3. Talkative	Not at all	0	1	2	3	4	5	very much
4. Interested	Not at all	0	1	2	3	4	5	very much

### Establishing Empathy:

Participants completed a multi-dimensional measure of empathy known as the Davis IRI (Davis, 1980). This measure breaks empathy into four separate components:

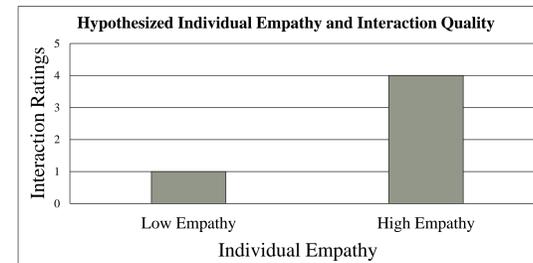
#### DAVIS IRI: THOUGHTS AND FEELINGS QUESTIONNAIRE

ANSWER SCALE:

- |  |                           |   |   |   |                        |
|--|---------------------------|---|---|---|------------------------|
|  | A                         | B | C | D | E                      |
|  | DOES NOT DESCRIBE ME WELL |   |   |   | DESCRIBES ME VERY WELL |
- Perspective Taking**  
\_\_\_\_\_ 1. I sometimes try to understand my friends better by imagining how things would look from their perspective.
  - Fantasy**  
\_\_\_\_\_ 2. I daydream and fantasize, with some regularity, about things that might happen to me.
  - Empathetic Concern**  
\_\_\_\_\_ 3. I often have tender, concerned feelings for people less fortunate than me.
  - Personal Distress**  
\_\_\_\_\_ 4. In emergency situations, I feel apprehensive and ill-at-ease.

## Expected Result

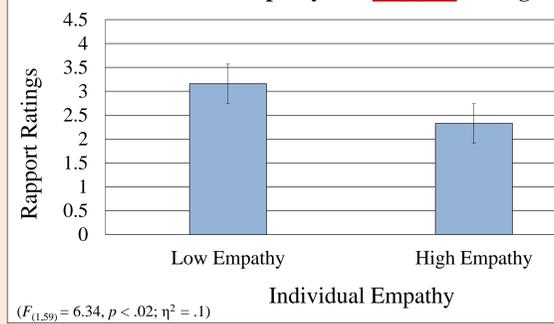
Graph 1: Hypothesized Means of Low Empathy and High Empathy Subjects in Rapport, Mood, and Engagement Ratings by Speech-Synthesizer Users



## Observed Result

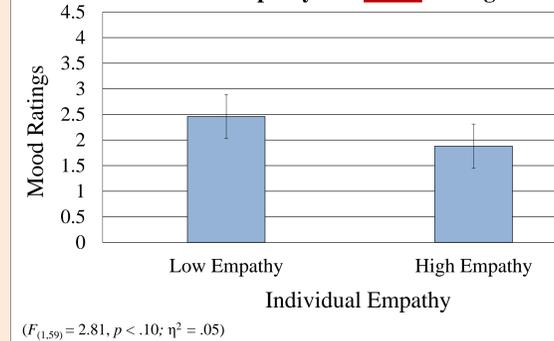
Surprisingly, users of the mechanical speech devices reported having **worse** interactions with a highly empathic partner.

### Individual Empathy and Rapport Ratings

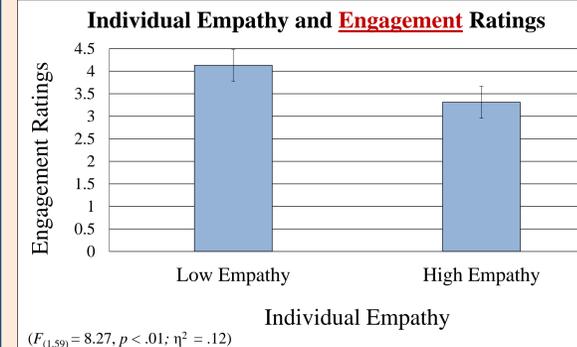


Graph 2: Means of Low Empathy and High Empathy Subjects in Rapport Ratings by Speech-Synthesizer Users

### Individual Empathy and Mood Ratings



Graph 3: Means of Low Empathy and High Empathy Subjects in Positive Mood Ratings by Speech-Synthesizer Users



Graph 4: Means of Low Empathy and High Empathy Subjects in Engagement Ratings by Speech-Synthesizer Users

## Discussion

Contrary to what anyone would have expected, the conversations were more satisfying for people forced to use the mechanical speech device when they interacted with a partner who would be considered interpersonally insensitive according to current psychological theory.

One post-hoc interpretation we offer is that maybe, low-empathy individuals were less affected by the novelty of an interaction involving speech synthesizers whereas high-empathy individuals were *so motivated to be nice* that their normal strategies for achieving this (e.g., not staring) were exactly the wrong strategies to use in this unusual context.

A future investigation of the theorized components of rapport and their corresponding nonverbal cues in relation to the observed behavior of both the speech synthesizer user and their partner could reveal more about these findings (Tickle-Degnen & Rosenthal, 1990).

## References

- Davis, M. H. (1980). A multidimensional approach to individual differences in empathy. *JSAS Catalog of Selected Documents in Psychology*, 10, 85.
- Davis, M. H. (1983). Measuring individual differences in empathy: Evidence for a multidimensional approach. *Journal of Personality and Social Psychology*, 44(1), 113.
- Hall, J., & Bernieri, F. (2001). *Interpersonal Sensitivity: Theory and Measurement*. LEA.
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