



# How People Anthropomorphize Robots

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## Robots that think? People think so.

A recent study in our lab shows people know robots are machines, but even so, they thought a specific robot “interviewer” had moods, attitudes, and feelings.

## Experiment

Participants saw a photo of a robot or a person, described as an interviewer who talked with people about their health practices.

Participants read 6 excerpts from the robot’s or person’s interviews with different people. For half the participants, the interviewer was polite; for the other half, the interviewer was impolite



### Polite Robot or Person Interviewer

“How much do you weigh, Dan?”

[Dan after long pause] “I would rather not answer.”

“I don’t mean to pry if you don’t want to say.”

### Impolite Robot or Person Interviewer

“How much do you weigh, Dan?”

[Dan after long pause] “I would rather not answer.”

“How much do you weigh, Dan?”

“I really don’t want to say”

“No problem. Can I weigh you?”

## Method

**Phase 1:** Participants read the six interview excerpts and summarized each in their own words.

**Phase 2:** Participants made true/false judgments about whether 40 adjectives described the interviewer:

Friendliness (e.g., polite, rude, caring, aggressive)

Other human (e.g. thorough, shallow, distractible)

Robotic (e.g., robotic, breakable, controllable)

Nonhuman (e.g., smelly, ceramic, striped, roasted)

**Phase 3:** Participants completed an online survey about robots in general.

## Measures

To assess different levels of anthropomorphism, we coded participant descriptions of the interviewer, examined their true/false responses to questions about the interviewer, and examined their questionnaire ratings of “robots in general”.

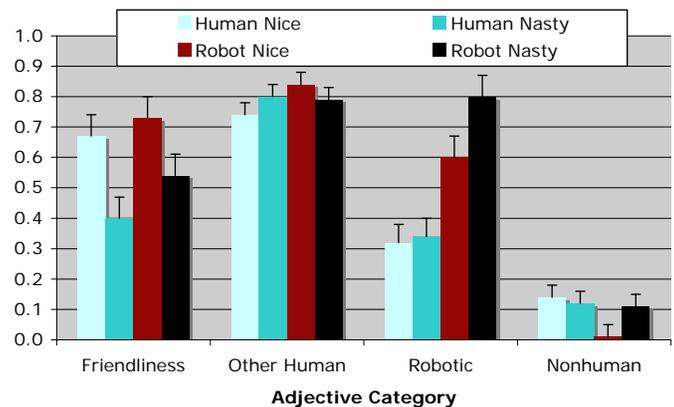
Measure	Example of Anthropomorphism
Language use	“He’s pushy. “ “He’s appreciative.”
Attributions and reaction times	True responses to whether robot the robot is more friendly or positive
Questionnaire responses	Could a robot ever make a mistake on purpose? “No”

## Hypotheses

1. When asked about robots in the abstract, people will attribute machinelike characteristics to them.
2. When asked about the specific interviewer, people will anthropomorphize and attribute social characteristics to the robot.
3. People will anthropomorphize and attribute more social characteristics to a polite than to an impolite robotic interviewer.

## Results

Overall, language use, attributions, and reaction times did not differ much between the robot and person interviewers. People rated both interviewers high in human attributes and made similar differentiations based on interviewer politeness. At the same time, people rated the robotic interviewer higher than the human one on robotic traits. People rated the impolite robot as more machine-like than the polite robot.



Despite these similar responses to a specific robot or person interviewer, participants did make a significant distinction between a robot and a person in the abstract.

Unexpectedly, there was a trend for participants’ exposure to a supposedly robotic interviewer to influence their abstract reasoning about robots in general, making them see robots as more humanlike.

Question	Saw Person	Saw Robot
If a robot acts happy today, is it likely to act happy tomorrow? (Yes)	91%	74%
Does a robot experience frustration? (No)	92%	81%

## Conclusion

People anthropomorphize robotic interviewers but at the same time hold a conception of the robot as mechanistic. The polite robot was viewed as less mechanistic than the impolite robot. In contrast to these judgments of a specific robot in context, people were much less anthropomorphic about robots in the abstract.