

Children's understanding of simple polite markers

Abstract

Here we show that, with an improvement over the age of 2 to 4 years, English-speaking preschool children understand implications of simple polite markers: They understand that it is more polite and nicer (and less rude and mean) to use polite markers such as "please" and "can you" when making requests, and that the use of these polite markers indicates that the speaker is more socially likeable and is more likely to gain compliance from their conversational partners.

Keywords: Politeness, pragmatic development, online experiment

Introduction

As adults, we use polite speech all the time.

Children produce polite speech early on.

Less work has looked at children's comprehension of polite speech.

For example, Nippold, Leonard, & Anastopoulos (1982) looked at...

In this current work, we sought to test what 2- to 4-year-old children understand about polite speech. Specifically, we asked whether children are sensitive to speakers' use of polite markers such as "please" and "can you," and whether they: (1) reason about which speaker is being more "polite" or "rude" (or "nice" or "mean"); (2) reason about social implications (e.g., play partner choice); and (3) show improvement in their reasoning with increasing age.

Across three Experiments, we presented stories about speakers who decided to speak politely (e.g., "Please pour me more water") or impolitely (e.g., "Pour me more water") and asked child participants to compare between the two speakers. In Experiment 1 and 2, we found that 3- to 4-year-old children were able to reason that a speaker who used polite markers was more polite and nicer than a speaker who did not, and that the polite speaker is more socially likeable and is more likely to gain what they want, given facial expression and prosodic cues. In Experiment 3, we recruited two samples (one from a local nursery school and the other from an online platform) and found that children were able to reason correctly about polite speech even when the supportive facial and prosodic cues were removed, and this reasoning improves from 2 to 4 years of age.

Experiment 1

In Experiment 1, we tested whether 3- to 4-year-old children were able to understand implications of using simple polite markers, based on not only linguistic cues of interest (whether the speaker says "please," "can you"), but also extra cues that they might need (facial expressions and prosodic cues). Thus, we asked children to compare between speakers who used

polite markers with a kind voice and facial expression versus speakers who did not use polite markers and spoke with a mean, angry voice and facial expression.

Methods

Participants 3-year-old ($n = 20$; 12 F, $M_{age} = 3.61$ years, $SD_{age} = 0.22$) and 4-year-old children ($n = 18$; 6 F, $M_{age} = 4.38$ years, $SD_{age} = 0.25$) were recruited from a local preschool. An additional 3 children were tested but excluded due to failure on the practice questions ($n = 2$) or completion of fewer than half of the test trials ($n = 1$).

Stimuli and design We designed a picture book with twelve stories in which a protagonist is approached by two speakers, one of whom makes a request by producing an utterance with a polite marker (e.g., "Please pour me more water"), and the other produces an utterance without ("Pour me more water"). There were three types of polite marker that could be used: "please" (as in "Please pour me more water"), "can you" ("Can you pour me more water"), and "can you please" ("Can you please pour me more water").

We designed six question types to ask participants following the presentation of the stories: four *speaker attribute* questions (*polite*: "Which one was more polite?"; *rude*: "Which one was more rude?"; *nice*: "Which one was nicer?"; *mean*: "Which one was meaner?") and two *social implication* questions (*play partner*: "Which one would you rather play with?"; *compliance*: "Which one will [get what they want]?"). Each participant would be asked one of the four speaker attribute questions, followed by one of the two social implication questions.

In Experiment 1, all utterances were produced live by the experimenter, with appropriate prosodic cues and facial expressions for each request: thus, utterances with polite markers were produced by kind voice and facial expression, whereas utterances lacking polite marker were produced with angry voice and facial cues.

Procedure The experimenter presented to the child a storybook with a total of thirteen stories about different characters. In the *practice* phase, the child heard a story with one clearly mean character (*Drew kicked Carol*) and one clearly nice character (*Graham gave Carol a gift*). After a reminder of what each character did, the experimenter asked the participant: *Which one was being meaner?* and *Which one was being nicer?* If the child answered the question wrong the first time, the experimenter read the story one more time, saying, "Let's think about the story one more time." Only children who correctly answered both questions in the first or second attempt were included in the analyses.

In the *test* phase, the child heard twelve stories, in each of which they saw one speaker who decided to speak politely (*Jean wanted more water in her cup. Jean said to Fred, "Please pour me more water"*) and another speaker who spoke impolitely (*Suzy also wanted more water in her cup. Suzy said to Fred, "Pour me more water."*). After a reminder about what each speaker said, the child was asked a total of two questions. For the first question, the experimenter asked one out of four possible questions for speaker attribute: "Which one was being more polite [more rude/nicer/meaner]?" For the second, social implication question, the experimenter either asked about play partner (*Which one would you rather play with?*) or likelihood of compliance (e.g., *Which one will Fred give water to?*). The order of story types and question types was counterbalanced.

Results and Discussion

We looked at the proportion of correct responses to various questions to compare between a speaker who used a polite marker and spoke kindly, versus a speaker who did not use a polite marker and spoke meanly (Figure 1, first row). Both 3- and 4-year-olds overall gave correct answers when asked to compare between a speaker who said "Can you please" and a speaker who did not (all $t < .05$ except 3-year-olds not answering the *polite* questions correctly, see below), which suggested that children at this age do pay attention to how the speakers make requests and determine their attributes ("Because Jean said 'please', Jean was nicer than Suzy") and social implications of their actions ("Fred will pour water in Jean's cup").

For other markers, the performance varied depending on the age and type of question asked. Both 3- and 4-year-olds overall seemed to struggle with the *polite* question ("Which one was more polite?"), though 4-year-olds did successfully answer that a speaker who said "Can you please" was more polite. 3-year-olds also struggled with the *compliance* question ("which one will [get what they want]?"), whereas they accurately answered the *play partner* question ("Which one would you rather play with?"; all $t < .05$), suggesting that at 3 years children already become sensitive to some social implications of speaking politely. Improvement over age was clear, however, as 4-year-olds answered questions more accurately overall for most of the question types.

A mixed-effects logistic regression predicting accuracy based on age, question type and marker type¹ confirmed that there was an improvement with age ($\beta = 0.2$, $p = 0.026$), and that children answered questions more accurately about a speaker who used "can you please" compared to "please" ($\beta = 0.28$, $p = 0.038$).

The regression model also confirmed that children seemed

¹for Experiments 1 and 2, we use this model structure: $\text{accuracy} \sim \text{age} \times \text{question type} \times \text{marker type} + (1 | \text{item})$, where age is centered and scaled. All categorical variables were deviation coded, with specified contrasts of interest for the question type. Significance was calculated using the standard normal approximation to the t distribution (???)

to find some question types easier than others: Responses to *nice* and *mean* questions were more accurate than to *polite* and *rude* questions ($\beta = 0.8$, $p = 0.002$), whereas social implication questions (*play partner* and *compliance*) were overall more difficult compared to speaker attribute questions (*polite*, *rude*, *nice*, and *mean*; $\beta = -0.33$, $p = 0.006$).

In sum, in this first experiment, we saw preliminary evidence that children pay attention to and understand some cues to politeness and are able to use these cues to infer whether speakers are relatively polite, rude, nice or mean, and whether speakers are good play partners and are likely to gain what they wanted from their addressees. 4-year-olds answered questions accurately more often compared to 3-year-olds, but both age groups tended to be accurate when all the possible cues were used to signal that one speaker was polite (used "can you please", spoke with a kind tone and face) and the other speaker wasn't (did not use a polite marker, spoke with an angry tone and face).

However, one possible explanation for the finding in Experiment 1 is that children are not using the linguistic polite markers (e.g., "please") per se, and rather prosodic and facial cues that accompany these markers. That is, children may have relied on the speaker's kind voice and face rather than their use of "please" to evaluate their niceness or likeability as a play partner. Similarly, greater accuracy for some questions over others (e.g., "nice" > "polite") may have been due to greater association between some of the words and prosodic and facial cues (e.g., a kind face may be seen to signal niceness more than politeness), not due to greater understanding for those words or concepts. Another potential concern is that the experimenter was aware of the manipulations (i.e., they knew which speaker was supposed to be "polite") and thus could have affected the presentation of these speakers in ways that are not consistent across all participants. In our next two experiments, we sought to address these issue, and remove potentially confounding cues.

Experiment 2

In Experiment 1, we saw initial evidence that children are able to use some combinations of linguistic, prosodic, and facial cues to politeness. In Experiment 2, we examined whether children are able to make similar judgments using linguistic and prosodic cues only, without facial expressions. For this, we used pre-recorded voiceovers to present speaker utterances, so that (1) we could look at children's judgments based on linguistic markers and prosodic cues only, and (2) we could remove the role of potential bias of the experimenter in presentation of these utterances.

Methods

Participants 3-year-old ($n = 16$; 8 F, $M_{age} = 3.56$ years, $SD_{age} = 0.29$) and 4-year-old children ($n = 22$; 13 F, $M_{age} = 4.5$ years, $SD_{age} = 0.32$) were recruited from a local preschool. An additional 5 children were tested but excluded due to failure on the practice questions.

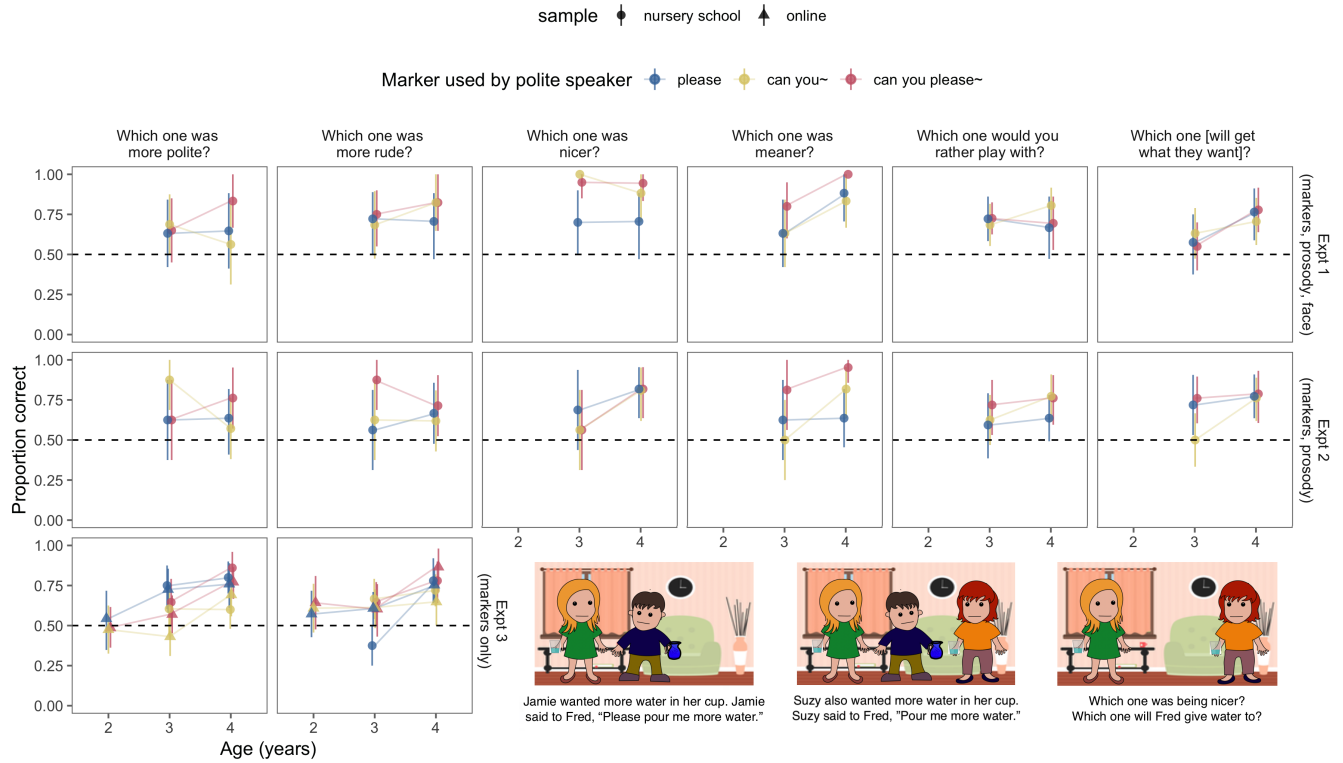


Figure 1: Bottom right: Story example. Top, left: Results. Proportion of correct responses to questions comparing between a speaker who used a polite marker (where blue indicates “please”, yellow “can you”, and red “can you please”) versus a speaker who did not. Data are binned into one-year age groups. Each row represents data from a different Experiment. Columns represent different questions asked. Dashed line represents chance level at 50% (i.e., if participant were guessing at random).

Stimuli and design The design was identical to Experiment 1. Stimuli were the same as Experiment 1 except two changes: (1) Instead of a picture book, we presented the stories on a tablet; (2) the speakers’ utterances were now presented as recorded voiceovers. The voiceovers were recorded by native English speakers, and contained prosodic cues that matched the presence/absence of a polite marker (e.g., “Please pour me more water” was recorded with a kind voice and “pour me more water” with an angry voice).

Procedure The procedure was identical to Experiment 1, except for the following change: The participants now had to tap on a speaker on tablet in order either to hear them speak, or to choose an answer to the questions asked.

Results and Discussion

Overall we saw similar patterns of results in Experiment 2 compared to 1 (Figure 1, second row).

Children made accurate judgments more often when the marker used was “can you please” compared to “please” ($\beta = 0.39$, $p = 0.001$)

There was an effect of age ($\beta = 0.25$, $p = 0.002$).

There was no main effect of question type, but there was an interaction between age and question type such that perfor-

mance for *nice* and *mean* questions saw greater improvement with age than for *polite* and *rude* questions ($\beta = 0.57$, $p = 0.011$).

In sum, across Experiments 1 and 2, we were able to confirm that, as they get older, children get better in their use of politeness cues to respond to questions about speaker attributes and social implications, and that children make more accurate judgment to compare between speakers based on their use of “can you please” compared to “please.”

Next, we wanted to see whether children are able to evaluate speakers based on linguistic markers only, without any other supporting cues such as prosodic cues or facial expressions.

Experiment 3

Methods

Participants We recruited two samples of participants: one from the same local nursery school as Experiments 1 and 2, and the other from Lookit (<https://lookit.mit.edu/>), an online platform for child research participation, in which parents and their children can participate together. The nursery school sample consisted of 3-year-old ($n = 24$; 11 F, $M_{age} = 3.65$ years, $SD_{age} = 0.26$) and 4-year-old children ($n = 25$;

13 F, $M_{age} = 4.48$ years, $SD_{age} = 0.28$). An additional 3 children were tested but excluded due to failure on the practice questions.

The online sample consisted of 2-year-old ($n = 23$; 12 F, $M_{age} = 2.48$ years, $SD_{age} = 0.29$), 3-year-old ($n = 31$; 15 F, $M_{age} = 3.59$ years, $SD_{age} = 0.27$) and 4-year-old children ($n = 27$; 12 F, $M_{age} = 4.46$ years, $SD_{age} = 0.29$). An additional 32 children were tested but excluded due to failure on the practice questions ($n = 19$) or completion of fewer than half of the test trials ($n = 13$).

Stimuli For the nursery school sample, stimuli were identical to Experiment 2 except that the voiceovers for all utterances had the same prosody: All utterances ended with a rising intonation. For the online sample, stimuli were identical to what the nursery school participants saw except that the story narration (other than speaker utterances) were also pre-recorded such that parents did not need to read the stories aloud themselves.

Procedure For the nursery school sample, the procedure was identical to Experiment 2. For the online sample, the procedure was similar except that parents and children participated together at home and there was no experimenter present. Parents accessed the webpage for the study and gave their consent for participation, and then read instructions to proceed through the different stories, which specified with an emphasis to not help their children answer the questions.

Results and Discussion

With an additional 2-year-old group included in the online sample, the improvement trend with age was clear (Figure 1, third row, bottom left). A mixed-effects logistic regression predicting accuracy based on age, question type and marker type, controlling for sample² showed improvement with age in accurately responding to the questions, which was consistent with the two previous experiments. Thus,

General Discussion

References

- Nippold, M. A., Leonard, L. B., & Anastopoulos, A. (1982). Development in the use and understanding of polite forms in children. *Journal of Speech, Language, and Hearing Research*, 25(2), 193–202.

²Model structure: `accuracy ~ sample + age x question type x marker type + (1 | item)`