Children’s selective trust in native-accented speakers

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Abstract

Across two experiments, preschool-aged children demonstrated selective learning of non-linguistic information from native-accented rather than foreign-accented speakers. In Experiment 1, children saw videos of a native- and a foreign-accented speaker of English who each spoke for 10 seconds, and then silently demonstrated different functions with novel objects. Children selectively endorsed the silent object function provided by the native-accented speaker. In Experiment 2, children again endorsed the native-accented over the foreign-accented speaker, even though both informants previously spoke only in nonsense speech. Thus, young children demonstrate selective trust in native-accented speakers even when neither informant’s speech relays meaningful semantic content, and the information that both informants provide is non-linguistic. We propose that children orient towards members of their native community to guide their early cultural learning.

Introduction

Human infants are characterized as natural social and cultural learners (Csibra & Gergely, 2006, 2009; Tomasello, 2008). Children’s reliance on the teachings of others is so robust that they sometimes trust an adult’s verbal report over their own physical perception of the world (Jaswal & Markman, 2007), and over-imitate others’ actions, reproducing actions that are superfluous to their goals (e.g. Horner & Whiten, 2005; Lyons, Young & Keil, 2007).

To effectively learn about the environment, however, the teachings of others cannot be trusted indiscriminately. Children may encounter information that is incomplete, or testimony provided by others that is mutually inconsistent. Past research provides evidence of children’s sophistication in differentiating information provided by others. When two adults provide a child with conflicting information about a novel object’s name or function, children trust the informant with a demonstrated history of past reliability (Birch, Vauhtier & Bloom, 2008; Clément, Koenig & Harris, 2004; Harris, 2007; Koenig, Clément & Harris, 2004; Koenig & Harris, 2005; Pasquini, Corriveau, Koenig & Harris, 2007). Children also prioritize learning from a familiar caregiver over an unfamiliar individual (Corriveau & Harris, 2009), from adults over children (Jaswal & Neely, 2006), and from someone who provided past testimony as part of a consensus, rather than as a dissenter (Corriveau, Fusaro & Harris, 2009; Fusaro & Harris, 2008). Additionally, children look toward individuals who may have particularly relevant information to share; for instance, children trust peers when learning about the function of novel toys (Vanderborgh & Jaswal, 2009; see also Sobel & Corriveau, in press).

In sum, preschoolers demonstrate selectivity in learning new information from some individuals over others. Nevertheless, in each of the studies described above, children were asked to distinguish among informants who were presumably members of the child’s broader community – they each looked, dressed, and spoke like cultural conspecifics. Young children may be adept not only at distinguishing among information provided by different individuals who are part of their community, but also may be particularly invested in learning culturally relevant skills and knowledge transmitted by members of their cultural group (Tomasello, 2008). The research described above on children’s selective trust has not considered variables that might differentiate members of a child’s own cultural group from non-members. Here we investigate one potential source of selectivity that may effectively orient children towards information that is relevant in their community or culture: selective learning from individuals who speak the child’s native language with a native, rather than a foreign accent.

The accent with which someone speaks provides information about an individual’s national, social, and ethnic group identity (Labov, 2006). Moreover, accent perception triggers inferences about social significance and social power. Adults rate the same individual speaking the same content as having very different personality types and physical appearances when he or she...
speakers may guide not only children’s social reasoning about intelligible speech, but also their relative trust in the visual (silent) information provided by the native-accented vs. foreign-accented speaker was compared.

**Selective trust in native-accented speakers**

In Experiment 1, children first viewed a movie with two informants: one spoke English with a native accent, and the other spoke English with a non-native, Spanish accent. Each actor was a bilingual speaker of English and Spanish, though they could also speak English with either a native or a non-native accent. Accordingly, the pairing of speakers to accent type could be counterbalanced across participants. Children’s relative trust in the native- vs. foreign-accented speaker when learning about silent object functions was subsequently compared.

**Method**

**Participants**

Twenty-three 4–5-year-old children participated in this study (14 female, M = 5.0; range: 4.0–6.0). All children spoke English as their first language. Seventy-eight percent were White; 22% were Asian-American.

**Materials**

Two female, college-age, bilingual speakers of English and Spanish each recorded stimuli in both English with an American accent, and English with a Spanish accent. The use of bilingual actors ensured that children’s choices were not guided by extraneous cues such as visual appearance, voice quality, or comfort in speaking while being recorded. In all videos, actors faced forward and remained neutral in affect. During accent training videos, actors spoke the first four sentences from H.A. Ray’s *Curious George* (videos were each 12 s in length, with 10 s of speech). Each actor recorded accent training videos twice: once in English with an American accent, and once in English with a Spanish accent. In test videos (four total), actors held up a novel object and silently demonstrated a

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1 Though we chose to contrast native English with English with a Spanish accent here, based on previous research we anticipate that other foreign accents would elicit similar results. For example, past research on children’s social preferences based on accent with similar-aged children used a French accent in English (Kinzler et al., 2009). Moreover, sociolinguistic research suggests that although certain languages or accents may be perceived as more aesthetically appealing than others, this is based on cultural convention, rather than on inherent differences in the value or attractiveness of different languages or accents (Giles & Niedzielski, 1998).
novel function (e.g. rolling or hammering a wooden orange juicer; see Table 1 for a full list of objects and functions).

### Procedure

**Accent training.** To introduce the task, the experimenter pointed to a still frame of the two informants and said, ‘See these two girls? This one is wearing a blue shirt and this one is wearing a green shirt. They’re each going to tell you a short story. I want you to listen very carefully. Let’s listen.’ Each informant then spoke in turn. The order in which the two informants spoke, their lateral position on screen, and the pairing of speaker to accent (i.e. whether Speaker A spoke with a native and Speaker B with a foreign accent or the reverse) varied across participants.

**Test trials.** Children next saw four silent function trials. For each trial, children were first shown the still frame of a novel object and were asked, ‘Do you know what this is for?’ Children were then shown a still image of each of the two informants on screen, and presented with the Ask Question: ‘I bet one of these people can help us find out. Which person would you like to ask, the girl in the green shirt, or the girl in the blue shirt?’

Next, children saw a video clip in which one informant silently pantomimed the object’s function. Then, the other informant silently pantomimed a different function. The order of presentation of informants was counterbalanced within and across participants. **Endorse Questions** were posed after children had watched the video clips. The experimenter paused the video, produced a real-life version of the novel object, re-demonstrated the two functions pantomimed by the two informants, and asked children how they thought the object was used. Either non-verbal (demonstrating the function themselves, pointing at one of the two informants) or verbal (e.g. ‘What the blue girl did’) responses were accepted.

### Results

Scores on Ask and Endorse questions represent the number of trials (max = 4 for each) on which children asked for or endorsed information about the novel objects provided by the native-accented speaker. Preschoolers performed above chance in both asking the native speaker (Chance = 2, $M = 2.78$, $SD = .90$, $t(22) = 4.16$, $p < .001$, $p_{rep} = .98$, $d = .87$), and in endorsing the function provided by the native speaker (Chance = 2, $M = 2.69$, $SD = .93$, $t(22) = 3.60$, $p < .001$, $p_{rep} = .96$, $d = .74$).

### Discussion

Children both sought information from, and endorsed information provided by, the native- rather than the foreign-accented speaker. This pattern of results was particularly compelling given our use of bilingual speakers as actors, which ensured that no extraneous characteristics were more attractive or appealing about one speaker’s actions over the other. Nonetheless, a potential confound of this method might have been that both actors were perceived as being more natural or comfortable in their ‘native’ rather than their ‘accented’ condition. To test for this possibility, we asked a group of 20 adults to evaluate the stimuli based on the actors’ naturalness and comfort when speaking. Adults were presented with stimuli in one of two accent–speaker pairing conditions that mirrored the conditions that children were shown (i.e. speaker A native/speaker B accented; or speaker A accented/speaker B native). Adults rated speaker B as being more natural than speaker A, regardless of whether she was presented in native or accented speech (on a 7-point scale, Mean $A_{\text{native}} = 4.3$, Mean $B_{\text{accent}} = 5.3$; Mean $A_{\text{accent}} = 3.7$; Mean $B_{\text{native}} = 4.9$). In both conditions, eight out of 10 adults rated speaker B as being more natural than speaker A. These ratings, thus, did not confirm an effect of speaker’s native vs. foreign accent on adults’ perception of naturalness. To further rule out the possibility that perceived naturalness accounted for children’s responses, we compared the performance of children who were tested in the condition $A_{\text{native}} / B_{\text{accent}}$ versus $A_{\text{accent}} / B_{\text{native}}$. Though children selectively chose the native speaker in both conditions, and there were no significant differences in children’s responses across condition, children trended towards choosing the native speaker to a slightly greater degree when presented with the $A_{\text{native}} / B_{\text{accent}}$ condition (overall mean collapsing across Ask and Endorse trials $= 5.88/8$ choices in favor of native), than with the $A_{\text{accent}} / B_{\text{native}}$ condition (overall mean collapsing across Ask and Endorse trials $= 5.36/8$ choices in favor of native). Given that adults’ naturalness ratings favored the native speaker in the condition $A_{\text{accent}} / B_{\text{native}}$, but not $A_{\text{native}} / B_{\text{accent}}$, the actors’ naturalness or comfort when speaking cannot account for children’s selective trust in the native-accented speaker.

Thus, children selectively trusted native-accented speakers of their native language, even though the actors were perceived as equally comfortable when speaking in either a native or non-native accent, and the actors’ demonstrations of object functions were entirely non-

### Table 1 Novel objects and functions

<table>
<thead>
<tr>
<th>Novel objects</th>
<th>Function 1</th>
<th>Function 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yellow plastic</td>
<td>Look through</td>
<td>Hold up to mouth</td>
</tr>
<tr>
<td>sprinkler attachment</td>
<td>like a telescope</td>
<td>and blow</td>
</tr>
<tr>
<td>Wooden orange juicer</td>
<td>Roll on table</td>
<td>Hammer on table</td>
</tr>
<tr>
<td>Black and grey knee pad</td>
<td>Snap like a slingshot</td>
<td>Use as a hat</td>
</tr>
<tr>
<td>Black toilet plunger</td>
<td>Spin like a top</td>
<td>Squish together</td>
</tr>
</tbody>
</table>
linguistic. Given the diversity of human tools and artifacts and the ensuing need to learn from others about their functions (e.g., Tomasello, 2008), children may seek out members of their native group to inform their learning about object functions, even when such learning is not mediated by linguistic communication.

We propose that children trust native speakers because native speakers are viewed as providing culturally useful and relevant information. However, an alternative explanation is that children trust native-accented speakers because they are relatively more comprehensible. If the content of the native-accented speaker’s speech was slightly better understood than the foreign-accented individual’s speech during the accent training, children may have considered the native-accented speaker as having already provided more relevant information prior to the test trial. Indeed, past research indicates that children selectively trust individuals who are seen as more knowledgeable (Koenig & Harris, 2005; Sobel & Corriveau, in press). To distinguish between these hypotheses, in Experiment 2 we tested children’s relative trust in a native- as compared to a foreign-accented speaker who each spoke in syntactically correct but semantically uninformative English.

Experiments 2

Experiment 2 followed the same procedure as Experiment 1, with the following exception: during the accent training, actors spoke in ‘Jabberwocky’, or nonsense speech. Thus, one informant was heard speaking English with a native accent, and the other with a foreign accent. However, neither actor conveyed meaningful content to participants.

Method

Participants

Twenty 4–5-year-old children participated in this study (8 female, \(M = 5;1, SD = 5\) months; range: 4;4–5;8). All children spoke English as their first language. Eighty-five percent were White; 10% were African-American; 5% were Asian-American.

Procedure

The procedure was identical to that used in Experiment 1, except that actors read the poem Jabberwocky, rather than the story Curious George, during the accent training videos.

Results and discussion

Preschoolers selectively asked for information from the native speaker (Chance = 2, \(M = 2.95, SD = .89, t(19) = 4.79, p < .001, p_{rep} = .99, d = 1.07\)). They similarly endorsed the function provided by the native speaker (Chance = 2, \(M = 2.80, SD = .77, t(19) = 4.66, p < .001, p_{rep} = .99, d = 1.04\)). To compare findings across the two experiments, a two-way ANOVA with accent training (semantic content in Experiment 1, no semantic content in Experiment 2) as a between-subjects variable and question type (ask, endorse) as a within-subjects variable was conducted. This analysis revealed no main effects and no interaction (\(F < 1\) for all analyses). The non-significant effect of accent training indicates that children found the native speaker to be just as trustworthy in Experiment 2 in which speakers spoke in nonsense speech as in Experiment 1 when native- and foreign-accented speakers first conveyed meaningful semantic content to the child (see Figure 1).

The results of Experiment 2 provide evidence that children prefer both to ask and to endorse the information provided by native- over foreign-accented speakers, regardless of their prior history of providing comprehensible information. This is not to say that intelligibility would never be a cue that children might use to differentiate among potential informants under other circumstances, or when both individuals speak with a native accent in the child’s native language. Nonetheless, variation in comprehensibility is not a necessary cue for selective trust in a native-accented speaker.

General discussion

Across two experiments, 4–5-year-old children demonstrated selective learning from a native-accented speaker

![Figure 1](image-url) Total proportion of trials in which children chose the native- and non-native-accented speakers across Experiments 1 and 2.
of their native language, relative to a foreign-accented speaker. Children observed two novel individuals who were equally friendly, recited the same passage of speech, and silently demonstrated one of two functions with a novel object. In Experiment 1, children trusted the native-accented speaker’s silent object function demonstration, even though there was no language involved in the demonstration. Experiment 2 replicated and extended this result. Children selectively endorsed the information provided by the native-accented speaker, even though both informants spoke in nonsense speech prior to demonstrating a silent object function. Thus, children preferentially learn from native-accented speakers of their native language when (1) neither person’s speech conveys meaningful semantic content, and (2) the information that the individuals subsequently present is non-linguistic.

The results of these two studies provide evidence that children orient selectively towards members of their native cultural group in learning novel information about the functions of objects. Recent evidence also suggests that children infer shared linguistic conventionality with speakers of their native language, but not with speakers of a foreign language (Behrend, Ransom & Schwartz, 2009; Koenig & Woodward, 2009). Conventionality, however, is not limited to linguistic conventionality – communities vary widely in their cultural practices, which often involve non-linguistic interactions with the physical world. Given the diversity of the cultural practices that children learn from other people, native-accented speakers may be seen as having relevant information to share. Our results suggest that children demonstrate selective trust in information provided by members of their own native cultural group over non-members, even when such information does not rely on linguistic communication.

This research, in conjunction with past research demonstrating children’s social preferences for native-accented speakers (Kinzler et al., 2007, 2009), provides evidence of the robust role of children’s attention to accent in guiding their social interactions with others. Social preferences and reasoning based on accent may have origins in cognitive evolution. Given the speed and flexibility with which languages and accents evolve over very short temporal and geographic spaces, and the difficulty of acquiring a non-native accent in adulthood, accent may have been a reliable cue to group membership not only in the modern day, but also throughout our evolutionary past (Baker, 2001). Further, cognitive evolution may have favored attention to accent over other social variables (e.g. race) that would not likely have differed across neighboring groups in ancient societies (Cosmides, Tooby & Kurzban, 2003; Kurzban, Tooby & Cosmides, 2001). An evolutionary analysis leads to three specific predictions about the nature of children’s selectivity among informants based on accent: (1) Accent may be a privileged guide to cultural learning when compared to other aspects of speech that differ among individuals within a society, but that vary less reliably between societies. For instance, variation in vocal pitch or choice of semantics might be less persuasive in guiding children’s choices about who is and is not a good informant of cultural practices. (2) Accent may serve as a privileged guide for cultural learning when compared to other non-language characteristics that might differentiate individuals or groups of individuals. For example, past research with similar-aged children finds that they demonstrate social preferences for individuals who are of a different race but speak with a native accent, compared to individuals who are of their own race but speak with a foreign accent (Kinzler et al., 2009). Thus, we predict that children would also choose among informants in terms of accent, rather than race. (3) Accent may have the greatest influence on the acquisition of skills or knowledge that vary by culture; an informant’s accent may have less influence on the acquisition of knowledge that would likely be consistent across cultures. For instance, children may be particularly reliant on the testimony of native speakers when selecting among several potential uses or functions for an object, or when seeking information about when and under what circumstances different objects are used. Children might demonstrate less selectivity among informants when in the pursuit of knowledge about the objective function or operation of an object.

Future research might examine the conditions and parameters that encourage children’s trust in native-accented as compared to foreign-accented speakers. One possibility is that children endow native-accented individuals with a ‘halo’ (Brosseau-Liard & Birch, in press), expecting them to excel in any domain; a second possibility is that children may view native-accented individuals as trustworthy only under certain circumstances. For example, children might inhibit their preference for a native-accented speaker when interacting with a foreign-accented individual who is known and liked, or has a greater history of past reliability, compared to a native-accented informant. Past research on children’s selective trust shows that they prioritize learning from a familiar informant (Corriveau & Harris, 2009), from adults over children (Jaswal & Neely, 2006), and from someone who has been part of a consensus in the past (Corriveau et al., 2009; Fusaro & Harris, 2008). In each of these cases, however, when the preferred informant proves to be unreliable in terms of accuracy, children devalue him or her as an informant in favor of someone else who has proven to be reliable. Similarly, children might trust a reliable, yet accented speaker, over an unreliable, native speaker. Children might also demonstrate flexibility by trusting a foreign individual who has particularly useful or relevant information to share. ‘Relevance’ could be conveyed by a foreign informant being portrayed as an expert in a particular domain (Sobel & Corriveau, in press), by the child being placed in a novel cultural environment, or by the informant being in the company of others who also speak in a foreign language or accent.

To conclude, the research presented here tests children who are monolingual, and speak their society’s dominant
language. These children prefer informants who speak with a native accent. Most children, however, are not monolingual. The need to investigate the effect of multilingualism on children’s trust, as well as on their early social reasoning more generally, is clear. Future research might investigate how the nature and diversity of children’s early linguistic and cultural environment impacts their learning from individuals who do or do not belong to their native group.

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References


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