Informants' Race and Accent Influence Preschoolers' Uptake of Irregular Nouns and Verbs

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Abstract

When young children are learning the structure of the English language, they learn rules like "add –s if there is more than one of something." However, as a more experienced speaker would quickly point out, not all words abide by these simple principles; after all it is *women* not *womans.* Before children master each of the exceptions to the general guidelines, they apply morphological rules even when not necessary; an error known as overregularization. Research shows that preschoolers struggle to resist the incorrect, overregularized forms of words (i.e. "childs") over the correct, irregular forms (i.e. "children"), even when a previously accurate informant provides the correct form (Kondrad, McKercher & Jaswal, in preparation). In this study, previous accuracy was stacked with information about race and accent, which have both been shown to influence learning preferences. White four-year-old children were presented with a choice between an out-group member (i.e., black, foreign accent) who says the tempting incorrect, over-regularized form of a word against an in-group member (i.e., white, native accent) who says the irregular, correct form. Children's social goals led them to trust the in-group, those of the same race and native accent, and endorse unexpected, irregular words. In the case of learning about irregular morphology, epistemic cues, like past accuracy, are not enough to override the strong expectations children already have about grammatical structures. Certain social cues, specifically race and accent, are more effective than epistemic cues alone at guiding children's learning in this context.

Informants' Race and Accent Influence Preschoolers' Uptake of Irregular Nouns and Verbs

Learning language is arguably one of the most important tasks of early life. Children are deeply, intrinsically motivated to communicate with other people. They begin learning how to parse language sounds from inside the womb once their cochlea connects with the auditory cortex (Saffran, Johnson, Aslin, & Newport, 1999). They learn their first words around the age of 12 months, and by preschool age, most typically developing English-speaking children can apply morphological rules to form the plural and past tense of nouns and verbs, even for base words they have never heard of, such as "add –s if there is more than one of something" or "add –ed if it occurred in the past" (Berko, 1958; Waxman & Lidz, 2007). Being able to apply general rules rather than having to memorize each word on its own allows children to make huge leaps in their language learning. However, not all words abide by these simple principles; after all, the three blind mice ran, it was not the mouses who runned.

This thesis explores whether preschool aged children, who have just a tenuous grasp regarding exceptions to the normal regularization rule, might be led to endorse irregular forms of nouns (e.g., *children*) and verbs (e.g., *rode)* if they hear people whom they would normally trust to teach them new information providing those forms. Specifically, children hear irregular forms being provided by an adult who is the same race as they are, who is a native speaker, and who has been an accurate source of information in the past. They also hear the overregularized forms (e.g., *childs*) being provided by another adult who is a different race (Black), who is a non-native speaker, and who has been an inaccurate source of information in the past. The primary question being asked is whether children will endorse the irregular form being provided by the trusted adult, or if the draw of the regular paradigm will be too robust to overcome even under these circumstances. I will first provide some background about children's overregularization errors,

and then I will provide background about children's selective trust for individuals who share the

same social categories.

  The predominant theory about why children make overregularization errors is the rule-

and-memory model. This model suggests that children overregularize because they struggle to

recall specific exceptions to the rule that has been so ingrained in their memories (Marcus,

1996). Children have heard and even produced irregular forms themselves, but because they

have used the regularization rule far more frequently than an irregular form, the memory for the

rule overrides the weaker memory for the irregular form. Indeed, Marcus has shown that

overregularization gradually decreases with increased exposure to the correct irregular forms

(Marcus, 1996). It is more likely for children to overregularize words that come up less

frequently in parent-child interactions (Marcus, 1996). Error rates decrease with repeated

practice and exposure (Ramscar & Yarlett, 2007). There are also fewer overregularization errors

for irregular forms that follow a familiar pattern (e.g. *rang* and *sang*; Berko, 1958). According to

the rule-and-memory model, fewer errors occur because the familiar pattern helps strengthen the

memory for those irregular words. This model focuses on children's production of irregular

forms, but does not address the role that interlocutors might play in helping children to override

the rule memory in favor of the memory for the irregular form. For instance, perhaps children

would make fewer errors if they first heard the irregular form being provided by a trusted

informant.

  Some research suggests that overregularizations occur because there is a mental

competition between word choices, not necessarily because of over-applying a rule. For instance,

in one series of studies 3- to 5-year-olds could not resist the incorrect, over-regularized forms of

words over the correct, irregular forms when asked to choose between the two (Ramscar &

Yarlett, 2007). This procedure activated the memory for both words (e.g., *foots* and *feet*) and when children were consciously thinking about each option, they chose correctly only 55% of the time. Similarly, Kondrad, McKercher, & Jaswal (under review) presented 3- to 5-year-olds with two options of familiar words (e.g., *mice* vs. *mouses*) and children were also no better than chance performance (Study 1, baseline condition). The idea, perhaps, is that because children are familiar with the correct irregular word (after all, they produce these words sometimes and have certainly heard them produced by others) and they are also familiar with the morphological rule, both options seem equally plausible, and it is not necessarily an issue of memory trace in this context. It is possible that one way children may choose between two plausible words is by considering cues to informant credibility, such as past accuracy (e.g. Koenig & Harris, 2005) or in-group membership (e.g. Kinzler, Shutts, & Correll, 2010).

One study that provides some support for this view demonstrated that errors decrease when 4-year-old children are provided with familiar lexical frames. Participants were more likely to correctly say *teeth* than *tooths* when they completed, for instance, the phrase, *brush your____* compared to when a neutral frame was provided or when they labeled a picture of a toothy smile (Arnon & Clark, 2011). The researchers argue that the familiar phrase takes the pressure off the mental competition for other possible words. The other possible word (the overregularized form) is not a possible contender in this case, because children know that is not the word that they are used to hearing in the familiar phrase. In other words, children may think that the overregularized form is acceptable in some circumstances, but not others. They may not yet realize that the irregular form always takes the place of the overregularized one in these cases. The results of this study suggest that there may be contextual cues that could help children correctly select the irregular form.

This suggestion seems plausible, especially considering the plethora of research demonstrating that preschool aged children are adept at using contextual cues when learning other kinds of information. By the time they are three years old, children use cues about a speaker, such as whether that speaker has a history of being accurate or inaccurate about labeling objects, to decide whether to endorse a novel label that individual provides for a novel object (Corriveau & Harris, 2008; Corriveau, Pickard, & Harris, 2011). Children also use other cues like speaker confidence (Tenney, Small, Kondrad, Jaswal, & Spellman, 2011), expertise (Koenig & Jaswal, 2011), and familiarity (Harris & Corriveau, 2011) when deciding what to learn from whom. Perhaps contextual cues about who is providing the correct irregular form of nouns and verbs would help children learn about morphology, just as they help children determine what types of information to accept in these other circumstances.

There have been a few previous investigations of how cues to speaker credibility affect children's uptake of irregular morphology (Corriveau et al., 2011; Jaswal, McKercher, & Vanderborght, 2008; Sobel & Macris, 2013). In Corriveau et al. (Study 1), for example, 4-year-olds heard two speakers offer conflicting irregular forms of novel verbs—for example, *glung* vs. *glang* as the past tense of *gling*. When one of the speakers had previously labeled a number of familiar objects correctly while the other had done so incorrectly, children preferred the irregular forms that had been offered by the previously accurate informant. This study suggests that when children have never heard or produced words themselves, they rely on contextual cues about the speaker, such as how reliable she has been in the past, to determine which irregular form of the word to endorse. But would children continue to use speaker characteristics if they knew something already about the words they were selecting between? In other words, if children's

expectations about the regular paradigm are placed in conflict with the speakers' past accuracy, would the draw of the regular paradigm override the contextual cue?

Jaswal, McKercher, & Vanderborght (2008) investigated this question by placing children's expectations about the regular paradigm in conflict with the speakers' past accuracy and found that past accuracy was largely ignored (Jaswal et. al, 2008). In that study, one speaker used an irregular form while the other used a regularized one—for example, *choy* vs. *chayed* as the past tense of *chay*. Children overwhelmingly endorsed the regularized forms, even when they came from a speaker who had been incorrect about the names of objects in the past and the irregular forms came from a speaker who had been correct in the past. So long as regularized forms were an option, Jaswal et al. found that children were unlikely to endorse irregular forms. Importantly, this study, as in Corriveau et al. (2011), used unfamiliar words. Perhaps if children had a memory for the words already – both the irregular and overregular forms – they would be more likely to seek out other cues, such as past accuracy, to help them decide which form was appropriate.

Kondrad & Jaswal (in preparation), replicated the procedure in Jaswal et al. (2008), but used familiar words like *mice* vs. *mouses* and *ran* vs. *runned*. Once again, 3- to 5-year-olds children showed the same pattern as in the previous study. Even after selectively endorsing a previously accurate labeler's novel labels, children were no better than chance performance in endorsing her correct irregular nouns and verbs when the previously inaccurate speaker provided the over-regularized ones. In fact, the only condition in which children showed any preferences about the nouns and verbs was when the previously reliable speaker provided the incorrect, over-regularized ones. In other words, across two studies Jaswal and colleagues demonstrated that the power of contextual cues is limited when placed in conflict with another robust expectation –

that of the regular paradigm. But in both of these studies, the only contextual cue being tested was that of prior labeling accuracy, and perhaps children find this cue irrelevant when it comes to learning about other aspects of language.

One possibility is that cues about social categories, such as race or language group may sometimes be prioritized over purely epistemic cues like how knowledgeable someone is (Jaswal & Kondrad, 2016). That is, sometimes children may sacrifice being "right" about a piece of information in favor of feeling a sense of kinship with their in-group. In studies regarding imitation, for example, children often repeat unnecessary motions for the sake of bonding with the informant (Over & Carpenter, 2012; Shimpi, Akhtar, & Moore, 2013). An adaptation of the Asch line test found that children are likely to change their answer in order to match the opinions of others (Hanayama & Mori, 2011). The Asch line test requires participants to match lines of similar lengths while in a group setting; children, even more so than adults choose the wrong answer in order to conform to the majority consensus. This suggests that children may have social goals that motivate them to endorse others' testimony even when they have prior expectations about what the accurate response might be. In other words, perhaps children would be motivated to endorse a speaker's correct irregulars if she belonged to the same social group as they did (i.e., language group and race), even if children were dubious about her testimony.

Kinzler and her colleagues have demonstrated in a number of studies that language group, identified by native or non-native accented speech, is a powerful cue for informant preference, perhaps because it provides both social and epistemic information (Kinzler, Dupoux, & Spelke, 2012). Accent not only indicates group affiliation, but it also provides information about who to trust in terms of accuracy; it is intuitive that a native English speaker will be more expert about features of the English language than a non-native speaker.

In one study, Kinzler et al. (2012) showed 2.5- and 3-year-old children from monolingual English or French speaking households videos of native English speakers and native French speakers talking to them in English or French, respectively. Children were then invited to give presents to and take presents from both speakers. Children from each language preferred interacting with the speaker who spoke their native tongue. In another study, 4- and 5-year-olds watched a native and non-native, Spanish accented speaker read an excerpt from *Curious George* (Kinzler, Corriveau, & Harris, 2011). The two speakers then demonstrated uses for novel objects and children were asked to choose which novel action to endorse. Notably, this task had nothing to do with language learning, yet children again selectively preferred the native accented speaker. Even when the speakers were speaking gibberish, children still later preferred learning new information from the native-accented one (Kinzler, 2011, Study 2). Taken together, these studies suggest that social categories, namely language group, is a strong cue for both epistemic goals (i.e. native accented speaker is more reliable language informant) and social goals (i.e. wanting to build relationships with those similar to them). A plethora of research has already shown that children use social categories to guide their choices about social goals; but are these cues enough to sway children to choose the correct irregular form of words that are in opposition with the regular language paradigm?

It was suspected that they would. Even bilingual children, who have exposure to non-native speakers regularly, still prefer someone who speaks with one of their two languages over someone with another accent. Researchers conducted a study specifically exploring monolingual and bilingual children's social preferences based on the accent of various speakers (Souza, Byers-Heinlein, & Poulin-Dubois, 2013). Participants were 5- and 6-year-olds who were either bilingual speakers of both French and English or monolingual speakers of either English or

French. It should be noted that the bilingual children did have a dominant language, and it was recorded whether they had more exposure to French or English. Children were shown pairs of headshots of smiling white adults and one image per slide was paired with a native accent (English or French - depending on participants' dominance) and one was paired with a foreign accent (Creole). Children were then asked to point to the person they would prefer to be friends with. Bilingual and monolingual children significantly preferred native speakers. Contrary to the researchers' hypothesis, there was no significant difference between bilingual and monolingual speakers. Therefore, bilingual speakers are not, in fact, more open to those with foreign accents. Authors point to two possible causes of these results. The first is mere familiarity, in which case bilingual children should have the same response to English speakers and French-accented speakers of English. The second explanation is that instead of native accent acting as a cue for an in-group member, foreign accent can be a cue for a social out-group member, and therefore a less reliable or accurate informant.

Race is another salient social cue that people cannot help but use when categorizing their environment. Even infants as young as 3-months-old prefer looking at faces of their own race because that is what is familiar to them (Kelly et al., 2005). Perhaps race is such a powerful social divisor because it is so visually prominent (Kinzler et al., 2010).

Beyond social categorization, race is also a robust factor for determining informant preferences. Gaither et al. showed that there are both learning and social preferences among children ages three through eight years-old from an array of races (Gaither et al., 2014). Additionally, biracial children are sensitive to priming manipulations that encourage them to focus on one racial identity more than the other, in both social and learning contexts. Gaither et al. (2014) found that White children significantly preferred primed in-group members in both

learning and social tasks, and overall associated with White informants less than White-primed

biracial children. This research provides further evidence that, especially with white children,

there is a significant in-group racial bias, both in terms of social interaction and learning

preferences.

Although race can naturally lead to in-group preferences, children prioritize accent when

it is place in conflict with racial cues (Kinzler et al., 2010). In one study, children preferred to

take toys from native speakers even if they were racial out-group members over a foreign

speaker who was the same race as the child participant (Kinzler et al., 2010). The language

preference may be due to familiarity since all children are born with the potential to learn any

languages. Researchers also point out that the prioritization of grouping factors can also depend

on environmental factors (i.e. if a climate is more racially tense children may learn to consider

race more heavily).

In the current study, researchers explore whether the social categories of race and

accent will influence the informant preferences of English-speaking, White 4-year-olds.

Furthermore, this experiment pairs the social goal of creating relationships with those alike in

accent and race with the epistemic goal of learning from informants who have been correct in the

past. A multitude of studies have shown that children are sensitive to race, accent and accuracy

when determining who to trust when learning new information. When stacking all of these cues

together, children should choose the informant who looks like them, sounds like them, and has

proven to be accurate instead of the person who is unlike them in race and accent and has been

incorrect previously. However, researchers are positioning these social and epistemic cues along

with irregular past tense and plural word forms; an environment where children tend to ignore

cues about credibility and choose incorrect, overregularized forms. The contrasting epistemic

tendency to follow the engrained morphological rules may overcome the social information

provided by race and accent.

Methods

Participants

32 4-year-old children (M = 53.4 months; range = 11 months; 17 girls) participated.

Children in this study were White and spoke English as a first language. They were recruited

primarily from the community surrounding a local university, which generally has families from

middle-class backgrounds. Five participants were excluded due to experimenter error and 9

additional children were excluded due to failure to pass all four catch trials.

Design

Children participated in one of two conditions: Accent-then-Race (n = 16; 9 girls) or

Race-then-Accent (n = 16; 8 girls). Children in both conditions participated in two sets of four

different trial types. In the first set, children completed: (a) four familiarization trials in which

only the first trait was revealed, (b) four novel label trials, (c) four irregular word trials and (d)

two catch trials. After a short break, children then completed the second set of the same four

types of trials in which both accent and race cues were available. Children were semi-randomly

assigned to one of eight different orders to counterbalance possible effects of word preferences,

photograph preferences, and preference for one side of the slideshow, with the restraint that there

were typically four participants in each order, two boys and two girls.

Materials

Slideshows (Appendix A) were utilized to conduct the audio and visual components of the experiment. Digital photographs of two people, one White female, and one Black female, both smiling and wearing business suits were obtained from Microsoft clip art to represent the two informants. Digital photographs of 20 familiar objects and scenes (a key, a book, a cloud in the sky, a red ball, a tooth, two smiling children, a girl riding a bike, a bell, a baby crying, a plate, a cow, a tree, a boat, a cake, two women, a green leaf, a construction site, a goldfish, two puppies playing in a field, and a paper cup) were obtained from Google images. Eight photos of novel objects were obtained from the NOUN database, pictures numbered: 1013, 1025, 1027, 1028, 1029, 1031, 1034, and 1045 (Horst, 2009). Sixteen nonsense word labels were also chosen from the NOUN database for the novel label trials: wilp, sarn, koob, blap, terb, garg, tife, goke, pank, coodle, stad, noop, bem, vap, doff, mel (Horst, 2009).

The researcher digitally recorded audio of a native American English speaker and a native Finnish speaker saying short phrases that corresponded to the slideshow, such as "Hi, I'm Katie!", "this is a key" or "there are two teeth." These audio recordings were paired with the photographs and script on the slideshow.

Each session was both audio and video recorded using a video camera. The game was shown through a PowerPoint presentation on a laptop; an external speaker was used to amplify the audio components of the slideshow. Drawing materials (crayons and scrap paper) and a hula hoop were used during the break. Approval documents from the IRB and consent forms can be found in Appendix B and Appendix C.

Procedure

Children were tested individually in the laboratory or in a quiet room within a preschool for a single 20-minute session. Each session began with the researcher introducing the two informants. For children in the Accent-then-Race condition, the researcher showed them a large letter K and S on opposite sides of the computer screen and said, "We're going to meet my friends." As the researcher pointed to the K, an audio clip of a native, American English speaker saying, "Hi, I'm Katie!" was played. As the researcher pointed to the S, the slideshow played an audio clip of a speaker with a Finnish accent saying in English, "Hi, I'm Sarah!" In this condition, children did not get to see what the speakers looked like until the second block of trials. For children in the Race-then-Accent condition, children were first introduced to two pictures: a white and black woman located on opposite sides of the screen. The researcher said, "Here's a picture of my friend Katie, and here's a picture of my friend Sarah." In this condition, children did not hear any audio clips until the second block when accent was revealed. After introducing the speakers, the researcher explained that they were going to play a game where the two speakers offered some information about some photos, and the child would get to decide, "who is saying the right thing."

For all trials, Ms. Katie was the White, native-accented speaker and Ms. Sarah was the Black speaker with a foreign accent. Half of the participants saw a slideshow in which Ms. Katie was on the left, and Ms. Sarah was on the right. This was reversed for the other half of children.

Familiarization trials. For the first four familiarization trials, the researcher showed each participant a picture of a familiar object centered on the slide and children learned what each informant called it, (e.g. "Look at this! Let's listen to what my friends call it."). In the Accent-then-Race condition, the researcher pointed to the letter and said, "Here's what Ms.

Katie/Sarah said," and then played the audio clip. In the Race-then-Accent condition, the researcher pointed to the picture of the information and said, "Ms. Katie called it a X and Ms. Sarah called it a Y." Both informants provided a label that the participant would be familiar with, and the native-accented/white speaker always provided the correct label (e.g. "cloud" and "house" for a picture of a cloud). After playing the clips, the researcher asked children to decide "who's saying the right thing?"

Novel label trials. Immediately following the familiarization trials, the children learned what each of the speakers called each of four novel objects. These trials were to ensure that children learned who had been correct in the past, and would rely on that person here. The procedure was the same as in the previous trials for both conditions except that instead of the objects and labels being familiar, they were novel. Each informant provided a nonsense word label for a novel object from the NOUN database, such as "this is a *sarn*" or "this is a *wilp*." See Table 1 for all words and objects used throughout the study.

As before, children in the Accent-the-Race condition heard the audio clips but did not see the speakers, and children in the Race-then-Accent condition saw the pictures of the speakers but the researcher indicated what their novel labels were so the children did not hear their accent. These labels were counterbalanced across participants to eliminate possible word preferences. For approximately half the children in each age group, the novel label used by one informant was given first on the first and fourth trials and second on the second and third trials; for the other half, this was reversed. Additionally, the particular novel labels assigned to a given informant were counterbalanced across children so that, for example, half the children heard a particular informant use *wilp, koob, terb*, and *tife,* and half heard her use *sarn, blap, garg*, and *goke*.

Irregular trials. Next, all children completed a set of four familiar irregular trials, two trials were plural nouns and two past tense verbs. Half of the children completed the two plural trials first and the other half completed the two past tense trials first. During the plural trials, children were first shown a picture of a single object, labeled by the researcher (e.g. "This is a tooth! Can you say tooth?") Next, children saw two more of the same image below the original, learned how each of the speakers referred to the pair, and asked to decide who was saying the right thing.

In the Accent-then-Race condition, the researcher played the audio of the informants labelling the pair (e.g. "Look! Now there is another one! Let's listen to what my friends say."). In the Race-then-Accent condition, the researcher provided the information herself (e.g., Ms. Katie says there are two teeth, and Ms. Sarah says there are two tooths). The correct, irregular form of the word (e.g. "teeth.") was always provided by the speaker with the native accent (in the Accent-then-Race condition) or the white speaker (in the Race-then-Accent condition) and the other speaker always provided the overregularized form or the noun or verb (e.g., "tooths").

Catch trials. Children completed two catch trials to ensure they were actively paying attention and not choosing one informant over the other out of habit or response bias. In each catch trial, the researcher introduced a photo of a familiar object, such as a plate, and indicated what each informant said about it either by playing the audio clips or by providing the information herself as before. One informant referred to it as "a plate" and the other referred to it as "a frog," and children were asked to choose which informant was saying the right thing. In the second catch trial, showed a photograph of a baby. One informant said it was "a spoon" and the other said that it was "a baby" and children were again asked to choose who was saying the right thing. Crucially, one informant was correct in labeling the plate and the other informant was

correct in labeling the baby. Thus, to respond accurately on the catch trials, children had to select each informant once.

Seven of the 39 participants failed to pass both sets of catch trials, 3 in the Accent-then-Race condition and 4 in the Race-then-Accent condition. These rates are consistent with what has been reported in similar studies (e.g., Jaswal et al., 2008; Kondrad & Jaswal, 2012). Regardless of whether we included or excluded data from these children, the analyses reported below yielded the same pattern of results for the critical plural and past tense trials. We chose the conservative route and report only the data from the children who correctly responded to both catch trials.

Children were given a brief, two-minute cognitive break before beginning the second block of trials. The experimenter brought out a hula hoop and encouraged children to engage in gross motor activity. The experimenter prompted the children to free play with the toy by asking questions like, "Can you jump over this hula hoop? What else can you do with it?" In a pilot study with eleven children, more than half failed the catch trials when a break was not included. Including the break reduced the failure rate to within normal ranges.

Second Block. After the break, the second characteristic was revealed. Children in the Accent-then-Race condition were shown what the two speakers looked like and children in the Race-then-Accent condition learned what the two speakers sounded like. The procedure repeated as before with a second block of four familiarization, four novel label, four irregular, and two catch trials with audio clips of what the speakers said and pictures of the speakers.

Debriefing. After the second block of trials, the experimenter reviewed all eight irregular trials with the participants, reminding them of the correct labels, "These are children not childs, right? Can you say children?" After this, children were dismissed from the study.

Results

Preliminary analyses revealed no effects or interactions involving gender or counterbalancing order; subsequent analyses were collapsed across these factors. An omnibus analysis of variance showed no differences between the Accent-then-Race and Race-then-Accent conditions on any of the trial types. There were also no main effects of trial type within condition.

Familiarization Trials

As shown in Figure 1 and Figure 2, across both conditions for the first block of familiarization trials, children endorsed the novel labels offered by the native speaker (for the Accent-then-Race condition) or the white speaker (for the Race-then-Accent condition) on average on 3.87 of 4 trials, which is better than would be expected by chance performance, $t(31) = 24.75$, $p < .0001*$, $d = 8.89$. In the second block, after the second characteristic had been revealed, children in both conditions again endorsed the native, White speaker on average on 3.94 of 4 trials, which is better than would be expected by chance performance, $t(31) = 30.48$, $p < 0.0001*$, $d = 10.95$. There were no main effects or interactions involving block or condition.

Novel Label Trials

As shown in Figure 1 and Figure 2, across both conditions for the first block of novel label trials, children endorsed the novel labels offered by the native speaker (for the Accent-then-Race condition) or the white speaker (for the Race-then-Accent condition) on average on 3.58 of the 4 trials, which is better than would be expected by chance performance, $t(31) = 10.94$, $p < 0.0001*$, $d = 3.93$. In the second block, after the second characteristic had been revealed, children in both conditions endorsed the native, White speaker on average on 3.35 of the 4 trials,

which is better than would be expected by chance performance, $t(31) = 8.06$, $p < 0.0001$, $d =$ 2.89. There were no main effects or interactions involving block or condition.

Irregular Trials.

As shown in Figure 1 and Figure 2, across both conditions for the first block of irregular trials, children endorsed the novel labels offered by the native speaker (for the Accent-then-Race condition) or the white speaker (for the Race-then-Accent condition) on average on 2.87 of the 4 trials, which is significantly above chance performance, $t(31) = 3.92$, $p = 0.0005*$, $d = 1.41$. In the second block, after the second characteristic had been revealed, children in both conditions again endorsed the native, White speaker on average on 2.81 of the 4 trials, which is significantly above chance performance, $t(31) = 3.50$, $p = 0.0014$, $d = 1.26$. There were no main effects or interactions involving block or condition.

Discussion

There are two main results of this study. First, and as previous research has shown (e.g., Jaswal & Neely, 2006), White, native English preschoolers clearly preferred information provided by White, native English speakers over Black, non-native speakers when it came to learning about the names for novel objects. Second, and unlike previous research using cues like past accuracy and age (Kondrad et al., in preparation), children in the current study continued to prefer information from the White, native speaker when it came to learning about familiar, but irregular nouns and verbs. What is particularly important about these results, is that it is the social cues of race and accent that guide children's learning in contexts where they already have strong expectations about what is being learned. In this case, children have strong expectations about how to form the plural and past tense forms of words, and that expectation could not be

overridden solely by an epistemic cue (i.e., an informant's past accuracy). In contrast, in many other contexts where children do not already have strong expectations about what is being learned, such as when they are learning the names for unfamiliar things, epistemic cues are enough to guide children's learning.

These results support the hypothesis that social cues, especially social category markers like accent and race, have a powerful effect on what children are willing to learn from others' testimony (e.g., Corriveau et al., 2011; Kinzler et al., 2012). Importantly, this study shows that in some circumstances, epistemic cues are simply not what children find to be the most important indicator for guiding their learning. Previous studies have shown that past accuracy and even expertise were not enough to lead preschoolers' to endorse an irregular form (Kondrad et al., in preparation). In that study, when a mother provided the correct, irregular form and a baby provided an expected but incorrect, over-regularized form, 4-year-olds endorsed the baby whom they knew, "could not even talk yet". Why are social category markers - indicators of your in-group – more powerful at shaping children's selective trust than epistemic cues in contexts where children already have strong expectations about the topic?

One reason that epistemic cues are less important in this context is because the overregularization error itself occurs when there is a mental competition between word choices, not a strict script that is impossible to overcome (Ramscar & Yarlett, 2007). Children's inexperienced memories struggle with remembering irregular forms, which causes them to default to following the typical rules and create forms like "childs" (Marcus, 1996). However, in this study, when they are epistemically stumped by the word choices that seem equally plausible, they use the supplementary cues provided instead of gravitating towards the familiar rule. Preschoolers use the informants' social traits of race and accent as a tiebreaker of sorts; they

make their decision based on these social cues, in which there is a clear in-group member,

instead of parsing through morphological rules or information about past accuracy. It is likely

that in this case children disregard their own epistemic expectations since they conflict with the

salient social cues, because they lack the language knowledge and practice necessary to

determine which word is actually correct (Ramscar & Yarlett). In fact, previous studies have

shown that children are oblivious to cues about accuracy feedback, and typically do not self-

correct based on information from others (Ramscar & Yarlett, 2007). In other words, children

may not use epistemic cues in this context because they are learning through an unconscious,

automatic process about morphological patterns, so which informant is generally more accurate

about object labels is not relevant to learning about morphology. Instead, they make a selection

based on the easily identifiable social in-group member.

Another reason why social category markers may lead children to show selective trust

when epistemic cues do not is that social pressures may drive behavior, even if it does not drive

beliefs. That is, preschoolers may simply be prioritizing social bonding goals over epistemic

goals of choosing the correct word. They may not necessarily believe that "children" is the

correct word over "childs", but they select it because endorsing something an in-group member

said may positively influence their potential relationship with that person. Anecdotally, one child

participant, while playing with the hula hoop during the break between trial blocks, dropped the

hula hoop on the floor and exclaimed, "It falled!" Though he used this overregularized form in

his own speech, he always chose the correct, irregular form presented by the White, native

speaker. He may have done so in response to wanting to align with an in-group member.

Feeling accepted by your in-group is a powerful behavioral motivator (Iacoviello, Berent,

Frederic, & Pereira, 2017). Adults and children alike are willing to say or do something they

know is incorrect in order to maintain social relationships (Beran, Drefs, Kaba, Baz, & Harbi, 2015; Flynn, Turner, & Giraldeau, 2018). For example, in a famous study by Solomon Asch (1961), adults were placed in a room with several confederates and were repeatedly asked to match a standard line to one of three other comparison lines. However, the actual participant always answered last and the confederates' answers always matched each other; sometimes the confederates chose correctly and sometimes incorrectly. Even when it was clear the other group members were choosing the wrong line, participants frequently set their own beliefs aside in favor of agreeing with the rest of the confederates in the study. The justification is that sometimes maintaining relationships is more important than what is accurate.

A similar study with 6-year-olds found that children also changed their answer about which line matched the standard; in fact, even more so than adults – a phenomenon that can only be explained by social bonding goals (Hanayama & Mori, 2011). Other researchers have found that even children as young as 3- and 4- year-olds can be swayed to agree with a unanimous majority, even when they know the majority is incorrect (Corriveau & Harris, 2010). Another powerful social motivator for children is the desire to become friends with those who look or sound like you; studies have found that children would rather become friends with someone of the same accent (Souza et al., 2013) or the same race (McGlothin et al., 2005). In fact, even when informants are spouting gibberish words, 4- and 5- year olds strongly prefer native speakers over those with foreign accents (Kinzler et al., 2011). Taken together, these studies suggest that children may have social goals that motivate them to sacrifice accuracy in order to be in agreement with others. The children in our study may or may not have actually believed the in-group member was correct, but they endorsed her to achieve some social goal.

Contrary to expectations, children's endorsements were not differentially influenced by race or accent. When children only knew about the accent or only knew about the race of the informants, in the first half of the study, the pattern of results was the same. Race and accent guided children's responses equally. In addition, regardless of whether children know about one or both social category markers, they preferences were equally as strong. That is, children's preference for the White speaker was just as strong as when they later learned that the White speaker was also a native speaker; likewise, children's preference for the native speaker was just as strong as it was after race was also revealed.

This result was surprising one would think that when race and accent are stacked together children would choose that informant even more often, especially since each cue is so strong on its own. I expected that in the children would choose the White informant significantly more when the factor of race was added because race is an extremely powerful implicit cue. Negative racial stereotypes held by White preschoolers are often unyielding. One study found that White preschoolers much prefer playing with a White doll, and believe they are nicer than a Black doll, even after reading a story in which the Black doll is described as nice, smart and good (Powell-Hopson & Hopson, 1988). Research has also shown that the prioritization of social grouping factors can be influenced by environment, and since children from the sample were not from a racially diverse area, I suspected race would hold even more weight than usual with these participants (Kinzler et al., 2010).

Additionally, I predicted that participants would prefer the White informant even more when they discovered she was also the native speaker. Kinzler et al. (2010) found that, in the context of receiving toys from an informant, children prioritized accent when it was placed in direct opposition of race. If that prioritization was evident in the current study, there would have

been a difference between trial blocks or conditions. Accent may trump race when directly

compared, but it seems that when these cues are presented in isolation, they are equally as strong

cues to credibility. Perhaps there is a maximum amount at which each of these social factors can

influence learning preferences when they are in conflict with epistemic expectations, and once

that ceiling is reached the addition of more social cues does not impact preferences any further.

Another reason why race and accent were not different could be because of the content of

what children were learning. Accent may be a more powerful cue in some contexts and race in

others. Past research shows that accent trumps race when it comes to social preferences (Kinzler

et al., 2009). Our research suggests that accent is equally as important as race in learning about

morphology. However, race could be more important in other contexts. For example, it would be

interesting to explore whether children prefer to learn math or music from an Asian informant

due to the Asian stereotype (Chang & Demyan, 2007).

Similarly, children with different qualities may prioritize one cue over the other. For

instance, monolingual or monoracial children may respond differently than bilingual or biracial

children. One study has shown that Black and Asian monoracial children do not show a

preference for their own group members during social tasks when they are asked who they would

rather play with, or during learning tasks when they are choosing who to mimic when using

novel objects (Gaither et al., 2014). The same study found that, by having biracial children color

a cartoon depicting a member of one of their racial identities, children can be primed to identify

with one race more strongly than another; they then prefer the informant from the primed group

in the learning and social tasks. Therefore, it seems that past accuracy may push biracial White-

Black children to identify with one racial group more strongly than the other and they would

choose the previously accurate speaker regardless of their race However, it is likely that bilingual

children would not be as susceptible to priming, since studies have found bilingual children tend to prefer native speakers of their dominant language, and are not any more open to foreign accents than monolingual speakers (Souza et al., 2013)

The words that were selected for this study were chosen based on words and patterns used in previous studies (Berko 1958; Ramscar & Yarlett, 2007) and supplemented with school-provided list of irregular nouns and verbs that children are frequently exposed to (Office of Language Acquisition Services, n.d.). Though not all of the words selected are exact replications of words used in similar studies, all of the words used do follow the same conjugation patterns as other studies (Ramscar and Yarlett, 2007; Arnon & Clark, 2011, Kondrad et al., in preparation). One methodological reason for why children finally endorsed the irregular forms in this study, when they did not in other studies (Kondrad et al., in preparation) is because of the particular words that children were making decisions about. Children learn some irregular forms more readily than others because they follow familiar patterns. For example, children make fewer overregularization errors for words like *rang* and *sang*, and make more errors for more unique irregulars like *stood* (Marcus, 1996). In my study, all of the irregular words used followed familiar patterns that had been utilized in other studies. It is possible that children were more comfortable with some of the words, and this pushed performance artificially up. I think this explanation is unlikely because when examining performance on a trial by trial basis, performance did not differ. Children were no more likely to choose the correct irregular on any one trial over any other trial.

In summary, this study suggests that preschoolers are sensitive to social category markers when it comes to learning about things that they already have expectations about. But additional follow up studies would help paint a clearer picture. What happens when there is a Black, native

speaker who provides correct irregulars, or a White, foreign speaker overregularized forms should be explored. In addition, isolating the impact of the social cues from the accuracy cue would help clarify whether accent and race alone are enough to encourage children to choose correct irregular forms, or whether the combination of social grouping factors and past reliability is what causes children choose the correct forms. Finally, it would be interesting to replicate this study with participants of other races and accents. Children in minority groups may cling more closely to those who look and sound like them, or they may be more accepting to those different from them.

Children are sensitive to a variety of cues to credibility that influence what they will learn and who they will learn it from. This is one of the first studies to specifically explore what happens when traditionally strong cues to credibility are pitted against children's own equally strong expectations about what is being learned. Preschoolers willingly disregard their strong expectations about the familiar paradigm when placed in conflict with what in-group members think. This study's findings that children learn better from those who look or sound like them have important implications for classroom environments. The presence of more racially and linguistically diverse teaching staff may help children from underrepresented social categories grasp classroom material quicker even if it conflicts with children's preexisting ideas.

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Table 1

Stimuli Used in Novel Label Trials

Novel objects	Informant 1 labels	Informant 2 labels
	"This is a wilp"	"This is a sarn"
	"This is a terb"	"This is a garg"
	"This is a tife"	"This is a goke"
	"This is a koob"	"This is a blap"
	"This is a bem"	"This is a vab"
	"This is a doff"	"This is a mel"
	"This is a pank"	"This is a coodle"
	"This is a stad"	"This is a noop"
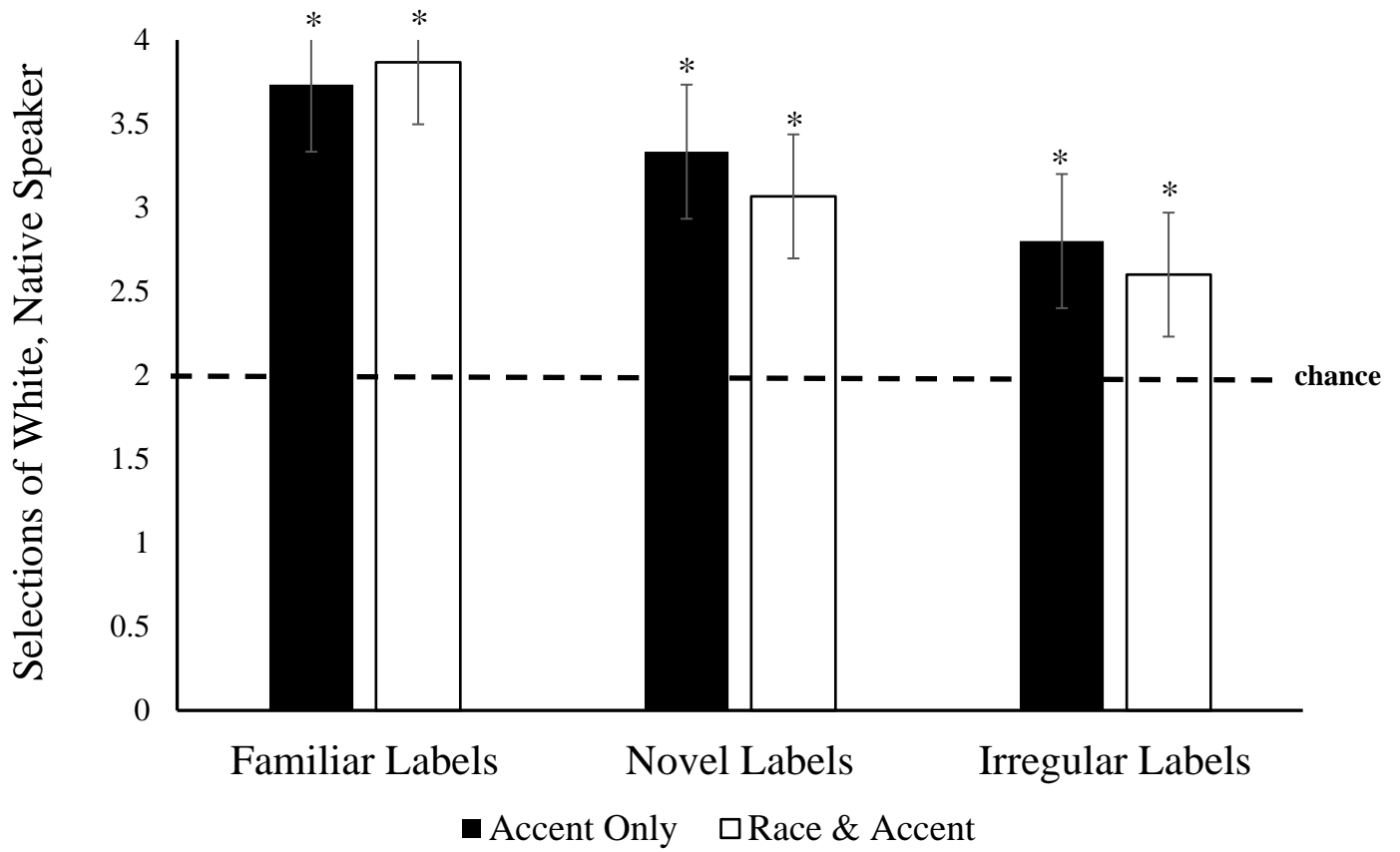
Figure 1. Average number of selections of the White, native speaker from each trial in the

Accent-then-Race condition.
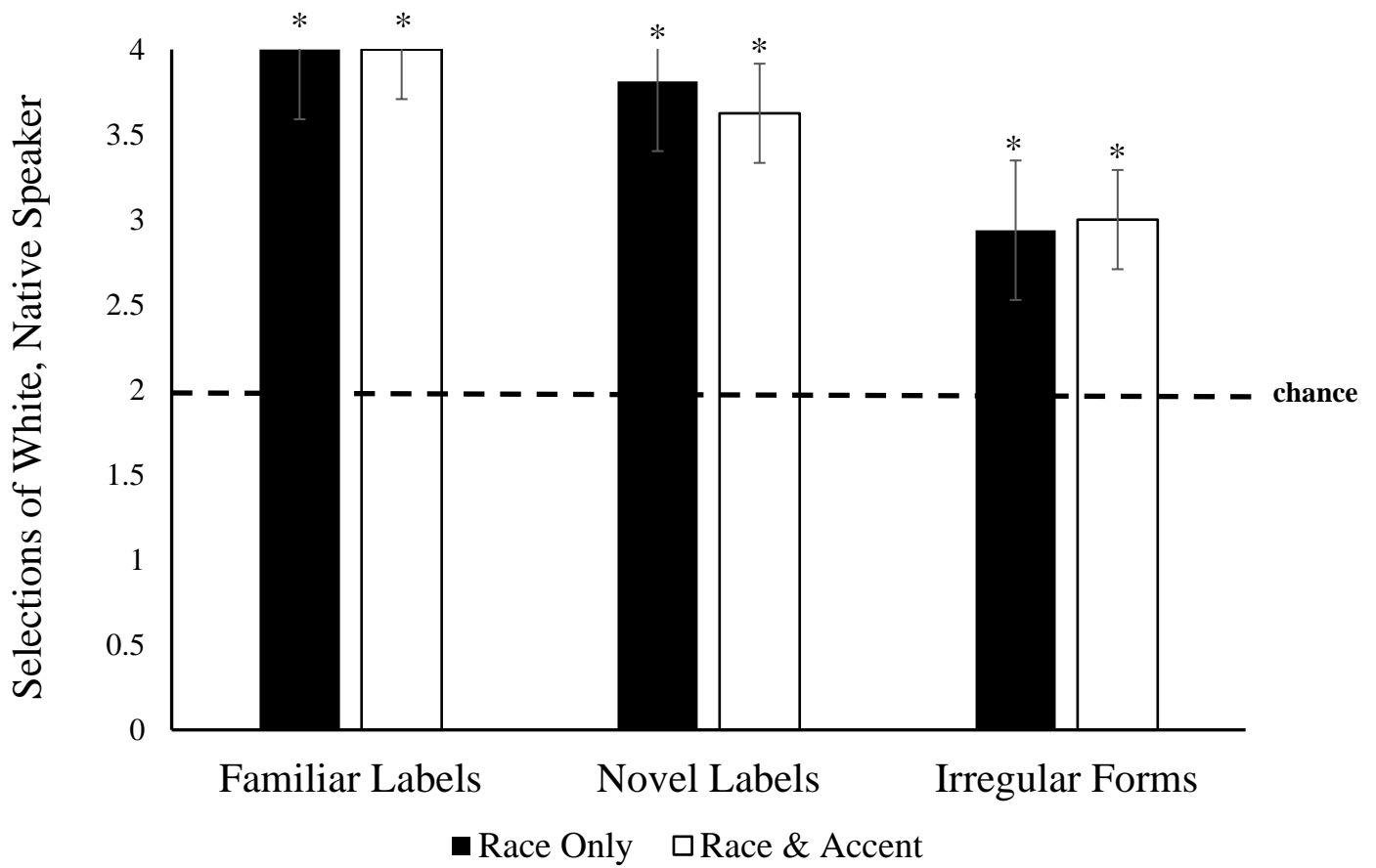
Figure 2. Average number of selections of the White, native speaker from each trial in the Race-

then-Accent condition.

Appendix A
Accent-then-Race Slideshow (Order 1A)

Selective Trust– Order 1A

May 2017

K   S

This is a K for Ms. Katie, because Katie starts with K. Can you say Katie? Let's see what she has to say

"Hi, I'm Katie!"

This is an S for Ms. Sarah because Sarah starts with S. Can you say Sarah? Let's see what she has to say.

"Hi, I'm Sarah!"

K   S

We're going to play a game where Ms. Katie *(point left)* and Ms. Sarah *(point right)* tell us about some pictures, and we have to decide who is saying the right thing! Are you ready?

K   S

"this is a table"   *"this is a key"*

Look at this!
Let's listen to what my friends call it.
Here's what Ms. Katie said *(point left and play clip)*
Here's what Ms. Sarah said *(point right and play clip)*
Who's saying the right thing?

K   S

"this is a book"   *"this is a stick"*
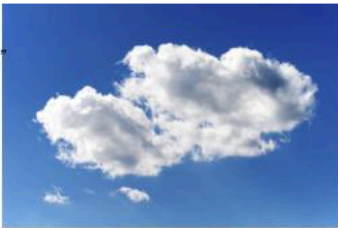
Look at this!
Let's listen to what my friends call it.
Here's what Ms. Sarah said. *(point right and play clip)*
Here's what Ms. Katie said. *(point left and play clip)*
Who's saying the right thing?

K   S

"this is a cloud"   *"this is a house"*

Look at this!
Let's listen to what my friends call it.
Here's what Ms. Katie said. *(point left and play clip)*
Here's what Ms. Sarah said. *(point right and play clip)*
Who's saying the right thing?

K

"this is a ball"

S

"this is a window"

Look at this!
Let's listen to what my friends call it.
Here's what Ms. Sarah said. *(point right and play clip)*
Here's what Ms. Katie said. *(point left and play clip)*
Who's saying the right thing?

K

"this is a wilp"

S

"this is a sarn"

Look at this!
Let's listen to what my friends call it.
Here's what Ms. Katie said. *(point left and play clip)*
Here's what Ms. Sarah said. *(point right and play clip)*
Who's saying the right thing?

K

"this is a koob"

S

"this is a blap"

Look at this!
Let's listen to what my friends call it.
Here's what Ms. Sarah said. *(point left and play clip)*
Here's what Ms. Katie said. *(point right and play clip)*
Who's saying the right thing?

K

"this is a terb"

S

"this is a garg"

Look at this!
Let's listen to what my friends call it.
Here's what Ms. Katie said. *(point left and play clip)*
Here's what Ms. Sarah said. *(point right and play clip)*
Who's saying the right thing?

K

"this is a tife"

S

"this is a goke"

Look at this!
Let's listen to what my friends call it.
Here's what Ms. Sarah said. *(point right and play clip)*
Here's what Ms. Katie said. *(point left and play clip)*
Who's saying the right thing?

K

"There are two teeth."

S

"There are two tooths."

This is a tooth. Can you say tooth?

Look! Now there is another one!
Let's listen to what my friends say.

Here's what Ms. Katie said. *(point left and play clip)*
Here's what Ms. Sarah said. *(point right and play clip)*
Who's saying the right thing?

K S

"There are two children."

This is a child. Can you say child?

"There are two childs."

Look! Now there is another one!
Let's listen to what my friends say.

Here's what Ms. Sarah said. *(point right and play clip)*
Here's what Ms. Katie said. *(point left and play clip)*
Who's saying the right thing?

K S

"Yesterday, this girl rode."

"Yesterday, this girl rided."

This girl knows how to ride. Can you say ride?
She rides every day.
Let's listen to what my friends say about it..
Here's what Ms. Katie said. *(point left and play clip)*
Here's what Ms. Sarah said. *(point right and play clip)*
Who's saying the right thing?

K S

"Yesterday, this bell rang."

"Yesterday, this bell ringed."

This is a bell that can ring. Can you say ring?
It rings every day.
Let's listen to what my friends say about it.
Here's what Ms. Sarah said. *(point right and play clip)*
Here's what Ms. Katie said. *(point left and play clip)*
Who's saying the right thing?

K S

"this is a baby"

"this is a spoon"

Look at this!
Let's listen to what my friends call it.
Here's what Ms. Sarah said. *(point right and play clip)*
Here's what Ms. Katie said. *(point left and play clip)*
Who's saying the right thing?

K S

"this is a frog"

"this is a plate"

Look at this!
Let's listen to what my friends call it.
Here's what Ms. Sarah said. *(point right and play clip)*
Here's what Ms. Katie said. *(point left and play clip)*
Who's saying the right thing?

Thank you so much for your help so far, I love learning what you think!

We are halfway done with our game, and we're going to take a short break.

Set timer for 2 minutes

I have a hula hoop, can you take a big jump inside of it? Can you jump in an out of it? Can you show me how you use it?

Now we are going to play another game with Ms. Katie and Ms. Sarah. And guess what? You got to hear what they said last time. But this time, you're going to get to SEE them too! This is going to be so much fun, are you ready?

K   S

Are you ready to see what they look like??

This is Ms. Katie *(point left)*.

This is Ms. Sarah *(point right)*.

We're going to play the rest of our game, where Ms. Katie and Ms. Sarah tell us about some more pictures and we have to decide who is saying the right thing, are you ready?

K   S

"this is a cow"

"this is a bed"

Look at this!
Let's listen to what my friends call it.
Here's what Ms. Katie said. *(point left and play clip)*
Here's what Ms. Sarah said. *(point right and play clip)*
Who's saying the right thing?

K   S

"this is a tree"

"this is an egg"

Look at this!
Let's listen to what my friends call it.
Here's what Ms. Sarah said. *(point right and play clip)*
Here's what Ms. Katie said. *(point left and play clip)*
Who's saying the right thing?

K   S

"this is a boat"

"this is a cat"

Look at this!
Let's listen to what my friends call it.
Here's what Ms. Katie said. *(point left and play clip)*
Here's what Ms. Sarah said. *(point right and play clip)*
Who's saying the right thing?

K   S

"this is a cake"

"this is a doll"

Look at this!
Let's listen to what my friends call it.
Here's what Ms. Sarah said. *(point right and play clip)*
Here's what Ms. Katie said. *(point left and play clip)*
Who's saying the right thing?

K   S

"this is a pank"

"this is a coodle"

Look at this!
Let's listen to what my friends call it.
Here's what Ms. Katie said. *(point left and play clip)*
Here's what Ms. Sarah said. *(point right and play clip)*
Who's saying the right thing?

K   S

"this is a stad"

"this is a noop"

Look at this!
Let's listen to what my friends call it.
Here's what Ms. Sarah said. *(point right and play clip)*
Here's what Ms. Katie said. *(point left and play clip)*
Who's saying the right thing?

K   S

"this is a bem"

"this is a vab"

Look at this!
Let's listen to what my friends call it.
Here's what Ms. Katie said. *(point left and play clip)*
Here's what Ms. Sarah said. *(point right and play clip)*
Who's saying the right thing?

K   S

"this is a doff"

"this is a mel"

Look at this!
Let's listen to what my friends call it.
Here's what Ms. Sarah said. *(point right and play clip)*
Here's what Ms. Katie said. *(point left and play clip)*
Who's saying the right thing?

K   S

"There are two women."

This is a woman. Can you say woman?

"There are two womans."

Look! Now there is another one!
Let's listen to what my friends say.

Here's what Ms. Katie said. *(point left and play clip)*
Here's what Ms. Sarah said. *(point right and play clip)*
Who's saying the right thing?

K   S

"There are two leaves."

This is a leaf. Can you say leaf?

"There are two leafs."

Look! Now there is another one!
Let's listen to what my friends say.

Here's what Ms. Sarah said. *(point right and play clip)*
Here's what Ms. Katie said. *(point left and play clip)*
Who's saying the right thing?

K   S

"Yesterday the workers built."

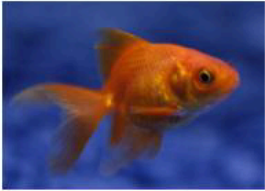*"Yesterday the workers builded."*

These workers know how to build. Can you say build?
They build everyday.

Let's listen to what my friends say about it.
Here's what Ms. Katie said. *(point left and play clip)*
Here's what Ms. Sarah said. *(point right and play clip)*
Who's saying the right thing?

K **S**

"Yesterday the fish swam."

"Yesterday the fish swimmed."

This fish knows how to swim. Can you
say swim?
It swims everyday.

Let's listen to what my friends say about it.
Here's what Ms. Sarah said. *(point right and play clip)*
Here's what Ms. Katie said. *(point left and play clip)*
Who's saying the right thing?

K **S**

"this is a puppy"

"this is a car"

Look at this!
Let's listen to what my friends call it.
Here's what Ms. Sarah said. *(point right and play clip)*
Here's what Ms. Katie said. *(point left and play clip)*
Who's saying the right thing?

K **S**

"this is a cup"

"this is a chair"

Look at this!
Let's listen to what my friends call it.
Here's what Ms. Sarah said. *(point right and play clip)*
Here's what Ms. Katie said. *(point left and play clip)*
Who's saying the right thing?

Debriefing

- Only at end of session; if piggy-backing, wait until after the piggy-backed study.
- Go through them with the participant, explaining that **sometimes one of your friends was saying things incorrectly.** Then say, e.g,. "Like this one! Here's a leaf. There are two leaves, right? Remember, she said there were two leafs. That's not right, is it?" etc. for the other items. Don't have to be terribly didactic about it

Teeth not tooths!

Children not childs!

Rode not
rided!

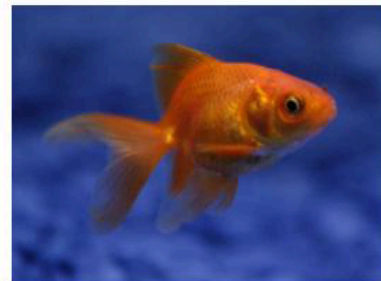Rang not ringed!

Women not womans!

Leaves not leafs!

Built not builded!

Swam not swimmed!

Appendix B

IRB Approval

Appalachian
STATE UNIVERSITY

INSTITUTIONAL REVIEW BOARD
Office of Research Protections
ASU Box 32068
Boone, NC 28608
828.262.2692
Web site: http://researchprotections.appstate.edu
Email: irb@appstate.edu
Federalwide Assurance (FWA) #00001076

To: Robyn Kondrad
Psychology
CAMPUS EMAIL

From: Lisa Curtin, PhD, IRB Chairperson
Date: 5/16/2017
RE: Notice of IRB Approval by Expedited Review (under 45 CFR 46.110)

STUDY #: 17-0277
STUDY TITLE: Selective Trust in Young Children
Submission Type: Initial
Expedited Category: (6) Collection of Data from Recordings made for Research Purposes,(7) Research on Group Characteristics or Behavior, or Surveys, Interviews, etc.
Approval Date: 5/16/2017
Expiration Date of Approval: 5/15/2018

The Institutional Review Board (IRB) approved this study for the period indicated above. The IRB found that the research procedures meet the expedited category cited above. IRB approval is limited to the activities described in the IRB approved materials, and extends to the performance of the described activities in the sites identified in the IRB application. In accordance with this approval, IRB findings and approval conditions for the conduct of this research are listed below.

Regulatory and other findings:

The IRB determined that this study involves minimal risk to participants.

All approved documents for this study, including consent forms, can be accessed by logging into IRBIS. Use the following directions to access approved study documents.

1. Log into IRBIS
2. Click "Home" on the top toolbar
3. Click "My Studies" under the heading "All My Studies"
4. Click on the IRB number for the study you wish to access
5. Click on the reference ID for your submission
6. Click "Attachments" on the left-hand side toolbar
7. Click on the appropriate documents you wish to download

Approval Conditions:

Appalachian State University Policies: All individuals engaged in research with human participants are responsible for compliance with the University policies and procedures, and IRB determinations.

Principal Investigator Responsibilities: The PI should review the IRB's list of PI responsibilities. The Principal Investigator (PI), or Faculty Advisor if the PI is a student, is ultimately responsible for ensuring the protection of research participants; conducting sound ethical research that complies with federal regulations, University policy and procedures; and maintaining study records.

Modifications and Addendums: IRB approval must be sought and obtained for any proposed modification or addendum (e.g., a change in procedure, personnel, study location, study instruments) to the IRB approved protocol, and informed consent form before changes may be implemented, unless changes are necessary to eliminate apparent immediate hazards to participants. Changes to eliminate apparent immediate hazards must be reported promptly to the IRB.

Approval Expiration and Continuing Review: The PI is responsible for requesting continuing review in a timely manner and receiving continuing approval for the duration of the research with human participants. Lapses in approval should be avoided to protect the welfare of enrolled participants. If approval expires, all research activities with human participants must cease.

Prompt Reporting of Events: Unanticipated Problems involving risks to participants or others; serious or continuing noncompliance with IRB requirements and determinations; and suspension or termination of IRB approval by an external entity, must be promptly reported to the IRB.

Closing a study: When research procedures with human subjects are completed, please log into our system at https://appstate.myresearchonline.org/irb/index_auth.cfm and complete the Request for Closure of IRB review form.

Websites:

1. PI responsibilities:
http://researchprotections.appstate.edu/sites/researchprotections.appstate.edu/files/PI%20Responsibilities.pdf

2. IRB forms: http://researchprotections.appstate.edu/human-subjects/irb-forms

Appendix C
Consent Form

Parent/Legal Guardian Consent for Child to Participate in Research
Information to Consider About this Research

Title of Research: Learning from Others
Principal Investigator: Dr. Robyn Kondrad (ASU)
Department: Psychology
Contact Information:
Dr. Robyn Kondrad: agelabs@appstate.edu; 828-262-6978

What is the purpose of this research? You are invited to participate in a research study to investigate how children use information provided by other people to learn about their environment. By conducting these studies, we hope to learn more about the kinds of verbal and non-verbal information children pay attention to, and how they use that information to guide their behavior. For example, if someone has accurately provided information about the name of a familiar object, will children trust that informant for future learning? Will they ask that person for help in naming other objects in the future? Similarly, if an informant looks more like or shares more characteristics with the child themselves, will they be more likely to trust that speaker relative to someone who looks or behaves less like they do? The results of these studies will be presented at research conferences and published in scholarly journal articles.

Why am I being invited to take part in this research? You are being invited to allow your child to participate because your child is the right age for the questions we are interested in studying. If you volunteer for your child to participate in the study, your child will be one of about 300 children to do so.

What will I be asked to do? The research procedures will be conducted in a quiet space either at your child's school or daycare facility at a time designated by the teacher or in our research space at Appalachian State University. The time required for your child's participation is one 15- to 20-minute session. The session will be video-taped so the research team can have an accurate record of your child's responses. If you agree to allow your child to participate, your child will be asked if s/he would like to play a game with the researcher. If your child verbally agrees, s/he will learn about one or more people (depicted in a picture or video) and those people's characteristics (e.g., what knowledge they have about the names and functions of different objects). Later your child will be invited to decide which of the informants they want to continue to interact with or learn from. Your child may also play a game involving perspective taking. For example, your child may be asked what another person might want for a snack after being told that the person doesn't like the same kinds of snacks as your child. Your child may also be asked to play a game that measures inhibitory control. For example, s/he may be asked to point to touch his or her head when the researchers says "shoulders" and touch shoulders when the researcher says "head".

What are possible harms or discomforts that I might experience during the research? To the best of our knowledge, there are no risks associated with participating in this research study. The researcher will ensure that your child is comfortable during the study. Children generally enjoy playing the types of games we use in our research.

What are possible benefits of this research? There may be no personal benefit from your or your child's participation but the information gained by doing this research may help others in the future. This research should help us learn more about how children learn from other people.

Will I be paid for taking part in the research? We will not pay you for the time you volunteer your child to be in this study; however your child (if you or the preschool/daycare allows it) will receive a small item (e.g., stickers) for participating. It will not cost you, your child, or (if applicable) your child's preschool/daycare anything to participate.

How will you keep my private information confidential? The information that your child provides in the study and his/her videotape will be kept confidential. Your and your child's information will be combined with information from other children taking part in the study when we share it with other researchers. You and your child will not be identified in any published or presented materials. Identification codes but not names will be used on all documents. Your files will be stored in the investigator's office under lock and key. Identifiable information will be destroyed once we are no longer working with it. Videotapes will be digitally archived and password-protected, and will be viewed only by trained research assistants unless you have given explicit permission for other uses on the video release form attached.

Whom can I contact if I have a question? The people conducting this study will be available to answer any questions concerning this research, now or in the future. You may contact the Principal Investigator at 828-262-6978. If you have questions about your rights as someone taking part in research, contact the Appalachian Institutional Review Board Administrator at 828-262-2692, through email at irb@appstate.edu or at Appalachian State University, Office of Research, IRB Administrator, Boone, NC 28608.

Do I have to participate? You and your child's participation in this study are voluntary. You and/or your child have the right to stop the study and/or withdraw from it at any time without penalty. If you or your child chooses to withdraw from the study, all video and data from your child's session will be destroyed. If at any point you or your child want to stop participating or to withdraw from the study, simply tell the researcher and the session will be ended immediately.

This research project has been approved on May 16, 2017 by the Institutional Review Board (IRB) at Appalachian State University. This approval will expire on May 15, 2018 unless the IRB renews the approval of this research.

Parent/Legal Guardian Consent for Child to Participate in Research
Information to Consider About this Research

Title of Research: Selective Trust in Young Children
Principal Investigators: Dr. Robyn Kondrad (ASU; agelabs@appstate.edu; 828-262-6978)
Department: Psychology

I have decided I want to take part in this research. What should I do now? If you
have read this form, had the opportunity to ask questions about the research and received
satisfactory answers, and want to participate with your child, then sign the consent form and
video release form below and return it to the researcher or your child's teacher (if applicable).
You may keep a copy of the consent agreement for your records.

Video Authorization: With your permission, video recordings taken during the study may be
used in research presentations of the findings of the study, or for a variety of other reasons
listed below. Your child's name would not be associated with any of these uses. If at any time in
the future you change your mind about what you selected below, simply notify us by contacting
Dr. Robyn Kondrad (828-262-6978; agelabs@appstate.edu) and we will stop using it (except in
the case of already published books or journals). Please review the authorization below,
indicate whether you **do** (Yes) or **do not** (No) agree to the video recordings being used in each
of the ways indicated below, and then sign your name and date at the bottom.

Professional presentations of the findings (e.g., conferences)	Yes	No
In presentations to psychology classes at Appalachian State	Yes	No
In presentations at workshops or other recruiting events	Yes	No
On the AGE Labs website at Appalachian State	Yes	No
On the AGE Labs Facebook page	Yes	No
On scholarly websites (e.g., Dept. of Psychology at ASU)	Yes	No
In news reports of this research	Yes	No
On display in the AGE Labs or the Dept. of Psychology at ASU	Yes	No

_____

Child's Name (Print)   Birthdate (MM/DD/YY)

_____

Parent or Legal Guardian Name (Print)   Signature   Date