Do Children Selectively Display Prosocial Behaviors Towards Members of their Linguistic Ingroup?

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DO PRESCHOOLERS SELECTIVELY DISPLAY PROSOCIAL BEHAVIORS TOWARDS MEMBERS OF THEIR LINGUISTIC INGROUP?

A dissertation submitted in partial satisfaction of the requirements for the degree of

DOCTOR OF PHILOSOPHY

in

PSYCHOLOGY

by

Jennifer Menjivard

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Abstract

Do Preschoolers Selectively Display Prosocial Behaviors Towards Members of their Linguistic Ingroup?

Jennifer Menjivar

Recent research has shown that young children are biased in favor of speakers of their native language (Kinzler, Dupoux, & Spelke, 2007). The current studies examined whether preschoolers (N = 96) would selectively help/share with a linguistic ingroup member. In two experiments, three- and five-year-old English speaking monolinguals played four games with either an English- or Spanish-speaking experimenter; within each game children had the opportunity to help the experimenter, usually by sharing their own resources. Five-year-olds required fewer cues than three-year-olds to prompt their helping. Although helping rates were low overall, in both experiments children of both ages helped the English- and Spanish-speaking experimenter equally. These findings suggest that in interactions with live speakers, preschool children may not be biased to selectively help native speakers.
Acknowledgements

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cannot wait to begin our life together and I am utterly excited about what the future holds for us.

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Finally, I could not have done this without the support of my father and grandmother who sacrificed so much so that I could be here. It is only because of their own brave journeys that I am able to complete mine. Gracias por creer en mi.
Do Preschoolers Selectively Display Prosocial Behaviors Towards Members of their Linguistic Ingroup?

The languages we speak offer many important non-linguistic cues about our social standing. Racial or ethnic background, nationality, and even religious affiliation (among other characteristics) can quickly be inferred from our speech. It is not terribly surprising then that humans, from a very young age, prefer to listen to their own (i.e., “native”) language and even demonstrate social preferences for those who also speak it with native-level proficiency. Newborns, for instance, prefer to listen to the language that their mother speaks (Moon, Cooper, & Fifer, 1993), and 5-year-olds, when asked to choose, claim that they would prefer to be friends with speakers of their native language (Kinzler, et al., 2007). The present studies address whether children are more likely to direct prosocial behaviors towards speakers of their own language.

While the native-language preference demonstrated in early infancy may be explained by infants’ perceptual preference for familiarity (Barille, Armstrong, & Bower, 1999), Kinzler et al.’s (2007) findings with older children are more akin to the ingroup bias phenomenon that has been demonstrated by older children. That is, it has been widely documented that children prefer others who belong to their racial group (Aboud, 1988), gender (Martin & Ruble, 2010), or other ingroups based on arbitrary variables (i.e., shirt-color; Bigler, Jones, & Loblinger, 1997). However, it is only fairly recently that we have learned that children also prefer those who speak the same language as them.
The work of Kinzler and her colleagues has paved the way for empirically testing whether children use linguistic affiliation as a cue that guides their choice of social partners. In their first study, Kinzler et al. (2007) found that 5-month-old infants preferred to look at a native versus foreign accented speaker (a perceptual preference) and 10-month-old infants selectively chose a gift offered by a speaker of their native language (a behavioral preference). That is, when asked to choose between a gift offered by a linguistic in-group member (a speaker of the child’s native language) or an out-group member (a speaker of a foreign language), 10-month-olds chose the in-group member’s gift. In the same study, five-year-olds said they would rather be friends with another child from their linguistic ingroup. These findings have been extended in a number of ways; for example, infants selectively eat food offered by a member of their linguistic ingroup (Shutts, Kinzler, McKee, & Spelke, 2009) and preschoolers are more likely to endorse a native accented speaker’s instructions on how to use novel objects (Kinzler, Corriveau, & Harris, 2011). Thus, there is growing evidence that from an early age linguistic affiliation can function as a guiding social category, analogous to race and gender, in children’s preferences.

Kinzler and her colleagues’ findings not only demonstrate that language and accent are cues that children use, but also that they may be more important to children than other seemingly more perceptually salient social categories. Kinzler, Shutts, DeJesus, and Spelke (2009) contrasted accent and race by pairing a picture of a White child with a foreign (French) accent and a Black child with a native (American English) accent; children were shown both options and asked to choose who they
would rather be friends with. Interestingly, White English-speaking 5-year-olds chose the native accented Black child, even though White children at this age tend to prefer their racial ingroup (Aboud, 1988; Katz & Kofkin, 1997). Likewise, Kinzler and Spelke (2011) used methods similar to those previously used to test linguistic biases (i.e., in Kinzler et al., 2007, 2009) and found that 10-month-olds and toddlers showed no race-based preferences, but 5-6 year-olds preferred same-race peers. In other words, while infants and toddlers demonstrated language-based biases, similar race-based biases were not seen until the age of 5 under the same conditions. These studies suggest that children develop language-based biases before racial ones, and that they prioritize linguistic over racial cues when they are pitted against each other.

What is particularly interesting about these findings is that children not only demonstrate a perceptual preference for speakers of their linguistic ingroup, but they selectively choose to engage *socially* with those who speak their language with a native accent. In most cases, children in these studies have played the role of a selective recipient of a social offering (i.e., having to choose between a material gift or food offered by a native versus foreign speaker). But one very recent study found that 2.5 year olds also selectively offered a gift to a speaker of their native language, an act that can be considered a prosocial behavior (Kinzler, Dupoux, & Spelke, 2012). An important question following from this finding is whether children would be more likely to help a linguistic ingroup member in need.

There has been much interest recently in examining young children’s prosocial behaviors. Findings demonstrate that infants and toddlers readily help adults
who need assistance in completing a goal, either by physically helping them with their goal (Dunfield, Kuhlmeier, O’Connell, & Kelley, 2011; Svetlova, Nichols, Brownell, 2010; Warneken & Tomasello, 2006; 2007) or by providing relevant information needed to accomplish a goal (Liszkowski, Carpenter, Striano, & Tomasello, 2006; Liszkowski, Carpenter, & Tomasello, 2008). This type of helping behavior has been labeled *instrumental helping* and it is seen as prosocial because children do not receive any direct benefits as a result of their helping. In fact, young children offer help even though the experimenter’s actions are not child-oriented (i.e., hanging towels on a clothesline), and even when they must overcome physical barriers to do so (Warneken, Hare, Melis, Hanus, & Tomasello, 2007). Perhaps most intriguing is the finding that children’s helping behaviors decrease when they are given material rewards in return, a sign that they are intrinsically versus extrinsically motivated (Warneken & Tomasello, 2008). Thus, young children seem to be very highly motivated to instrumentally help adults without receiving anything in return.

While there is much evidence that infants and young children enthusiastically help adults in some conditions, there are also other findings that suggest that they can be selective about their instrumental helping. For instance, toddlers seem to have a proclivity for helping those that need the most help: victims of harm. That is, they are more likely to help others who have been victims of harmful interactions rather than mere recipients of similar but neutral interactions, even discriminating between intentional and accidental harm (Vaish, Carpenter, & Tomasello, 2009; Vaish, Carpenter & Tomasello, 2010, Study 2; Vaish, Missana, & Tomasello, 2011).
addition, they seem to be sensitive to the helping behaviors of others, demonstrating a tendency to help those who have previously helped others (Vaish et al., 2010, Study 1). These findings suggest that children take into account the actions and characteristics of others when deciding whether to behave prosocially towards them. However, children’s selectivity in instrumental helping is not confined to scenarios in which someone is being harmed.

One recent study tested 18- and 30-month-olds on a variety of instrumental helping tasks and manipulated several variables that may affect children’s helping behaviors (Svetlova et al., 2010). In all conditions, children had to offer an adult a desired object in order to instrumentally help them. The “action” condition was similar to the traditional instrumental helping tasks. In the “emotion” condition, the experimenter appeared distressed and children had to infer that the desired object would end her distress and offer it to her. Finally, the “altruism” condition was similar to the emotion condition, but it required that children offer their own object to the experimenter (parents brought objects from home). Children were most likely to help in the action condition, and least likely to help in the altruism condition. These findings suggest that children of this age are less likely to behave prosocially when there is a real cost to them.

The findings from Svetlova et al. (2010) are especially intriguing when compared to studies that have examined children’s prosocial tendencies by looking at their sharing behaviors.
Brownell, Svetlova, and Nichols (2009) tested 18- and 25-month-olds on a “sharing” task that involved no cost to the child. Children had the option of delivering one snack to themselves and one to an adult experimenter, or to only deliver one snack to themselves; thus, regardless of their choice, they would receive the same outcome for themselves. In some trials, the experimenter verbalized her desire for the snack, whereas in other trials children were given no cues. Eighteen-month-olds responded randomly in both types of trials, whereas 25-month-olds shared only when the adult verbalized. It is somewhat surprising that 18-month-olds did not reliably share, especially considering that there was no cost to them. However, these findings suggest that young toddlers might require additional cues to understand the connection between others’ internal desires and their own actions. Dunfield et al. (2011), for example, found that a little less than half of 18-month-olds who were tested on a sharing task shared with an experimenter who held an outstretched hand despite the fact that sharing in this study was costly to the child. In this case, it is possible that the outstretched hand provided the right amount of prompting that children needed to make the connection between the experimenter’s desire and their own ability to help.

However, one study with older children suggests that active sharing may take years to develop. Fehr, Bernard, and Rockenbach (2008) gave children between the ages of 3 and 8 the task of allocating candy to themselves and an anonymous partner. In the “sharing” condition, children had to choose between giving two candies to themselves and none to their partner, or one candy to each. Thus, choosing the 2-0
outcome resulted in an advantage to themselves and a disadvantage to their partner. The youngest group of children, 3-4 year-olds, chose the egalitarian option only about 10% of the time, but even 7-8 year-olds chose it less than 50% of the time. Likewise, Smith, Blake, and Harris (2013) tested 3-8 year-olds in a similar task and found that it was not until the age of 7 that children shared equally, even though children of all ages claimed that doing so was the right thing to do. Together, these studies suggest that children may be less willing to share material resources than help on a strictly instrumental task.

Some studies, however, suggest that children are somewhat more willing to share with kin or friends than with strangers. Children were more likely to choose the egalitarian option in the sharing game when Fehr et al. (2008) told children that their anonymous partner was a child from their class (versus a child from a different class). Moore (2009) also found that 4- to 6-year-olds were more likely to make an egalitarian choice, in a task similar to Fehr et al.’s, when their partner was a friend versus a stranger or another child they knew but were not friends with. Similarly, Olson and Spelke (2008), using a third-party sharing task with dolls, found that preschoolers guided their dolls to share more with siblings and friends versus strangers. Thus, children seem to selectively share with those close to them.

Together, all of these findings suggest that children are highly motivated to instrumentally help, and are perhaps somewhat less enthusiastic about sharing resources. However, these studies also demonstrate that children are selective at times about whom they choose to behave prosocially towards. If children are more likely to
help victims and share with kin or friends, an interesting question is whether they use other social categories to guide their prosocial behaviors. There is some evidence from older studies that school-aged children behave more prosocially towards members of their own race and gender (Ladd, Lange, & Stremmel, 1983, Study 3; Zinser, Rich, & Bailey, 1981). In addition, studies with adults have found that in high-cost or emergency situations, White adults are more willing to help White versus Black adults (Kuntsman & Plant, 2008; Saucier, Miller, Doucet, 2005). One unpublished study found that 18-month-olds were more likely to help a speaker of their native language on a simple instrumental helping task (Buttelmann, Brosseau-Liard, Carpenter, & Tomasello, 2012). However, to my knowledge, no other studies have tested whether children (or adults) selectively help or share resources with others based on the language that they speak.

As outlined earlier, past studies have found that children are biased in favor of others who speak the same language as them (Kinzler et al., 2007; Kinzler et al., 2011, Shutts et al., 2009). Moreover, language may be a more important category for children than race for guiding social interactions (Kinzler et al., 2009; Kinzler & Spelke, 2011). If children demonstrate race and gender biases in their prosocial behavior (Aboud, 1988; Martin & Ruble, 2010), it is likely that they will also show a bias based on the language spoken by others. Thus, the primary research question in the current studies was whether preschool children would be more willing to help and share with a speaker of their native language than a speaker of a foreign language.
As instrumental helping seems to be a fairly robust occurrence in even very young children, the current study tested children’s willingness to instrumentally help by giving up or sharing objects that were initially given to them (similar to Svetlova et al.’s “altruism” condition). Because there are still many open questions regarding the age trajectory of children’s sharing behaviors, the current studies examined children’s sharing behaviors in two age groups: three- and five-year-olds. Several studies suggest that sharing is difficult for three-year-olds (Brownell et al., 2009; Svetlova et al., 2010), but that it increases with age (Fehr et al., 2008). On the other hand, most children have begun attending school by the age of five and some scholars suggest that there is a marked change in children’s valuing (or devaluing) of minority languages once they have started school (Wong-Fillmore, 1991). Children may then react differently to a Spanish versus English speaker by the time they are five years old, but not when they are three (before they have started school). Thus, a second question was whether linguistic biases in helping/sharing behaviors are stronger in five-year-olds.

In the current studies, three- and five-year-old children played a series of games with either a live English (English condition) or live Spanish speaker (Spanish condition). Thus, two additional differences between the current studies and the work done by Kinzler and her colleagues include that the present studies used 1) live speakers and 2) between-subjects conditions, rather than a forced-choice computerized video/picture task. Testing children’s helping of sharing with a real, live person may be more ecologically valid than having children encounter a person
solely on a computer screen. Thus, having a live speaker in the present studies might create a more stringent test of whether children truly demonstrate social biases in favor of those who speak the same language as them. In addition, as it is unlikely that children are ever forced to choose between two people who simultaneously need help, the procedure of the present studies is also more ecologically valid than the forced-choice procedures used by Kinzler and her colleagues.

A native English-Spanish bilingual played the role of both the English and Spanish speaker. During each game, children had the opportunity to help her (usually by sharing an object needed to complete a goal). Within each game, children were given up to four cues to prompt their helping behavior. Children received more points the earlier they helped within each task (e.g., 4 points after Prompt 1 versus 1 point after Prompt 4).

Based on Kinzler et al.’s (2007, 2009, 2011, 2012) findings that suggest that children are biased in favor of their native language, I hypothesized that children would have higher mean helping scores in the English condition than in the Spanish condition. Because helping behaviors that are costly to the child are seen less frequently in younger children (Fehr et al., 2008; Svetlova et al., 2010), I hypothesized that five-year-olds would have higher helping scores than three-year-olds. Finally, as Wong-Fillmore (1990) suggests that the school context accelerates children’s development of language biases, I expected there to be an interaction between age and condition. Specifically, I predicted that five-year-olds would demonstrate a larger difference between conditions than three-year-olds.
Method

Experiment 1

Participants

Participants included 48 children who belonged to one of two age groups: 24 three-year-olds (range = 36-48 months; $M = 40.54$; SD= 3.45) and 24 five-year-olds (range = 61-71 months; $M = 65.08$; $SD = 3.13$). Children were randomly assigned to the English or Spanish condition, with an equal number of three- and five-year-olds in each. There was an equal number of boys and girls in the English condition, and 14 boys and 10 girls in the Spanish condition. There was no difference in the mean age of three-year-olds in the English ($M = 39.25$, $SD = 3.08$) and Spanish condition ($M = 41.83$, $SD = 3.43$), $t (22) = 1.94$, $p = .07$, Cohen’s $d = .79$. Likewise, there was no difference in age of five-year-olds in the English ($M = 65.83$, $SD = 2.98$) and Spanish condition ($M = 64.33$, $SD = 3.23$), $t (22) = 1.18$, $p = .25$, Cohen’s $d = .48$. There were 21 first born children (English Condition: N = 7; Spanish Condition: N= 14), 17 second born children (English Condition: N = 12; Spanish Condition: N = 5), and 10 only children (English Condition: N = 5; Spanish Condition: N = 5); a chi-square analysis revealed there was no difference in birth order for the two conditions, $\chi^2 (2) = 5.22$, $p = .07$.

Parents were given an Exposure Questionnaire (see Appendix A) created for the present study to determine whether children were exposed to a language other than English (see question 18). If parents stated that their child spoke English but regularly heard a second language (at least once a week), they were excluded from
the study. Thus, all participants were monolingual and had no regular exposure to a second language. The Exposure Questionnaire also contained several items measured on a Likert scale assessing how much access children had to people of diverse racial and linguistic backgrounds. A “diversity score” was created by adding parents’ ratings on seven of these questions: 1) how often their children traveled to places where people spoke a different language than them (question 8, range= 0-5), 2) how often their children had traveled to places where people belonged to a different race than them (question 9, range = 0-5), 3) how often their children interacted with peers that belonged to a different race than them (question 11, range = 1-5), 4) how often their children interacted with adults that belonged to a different race than them (question 13, range = 1-5), 5) how much their school/daycare emphasized the importance racial diversity (question 15, range 1-5), 6) how much their school emphasized the importance of linguistic diversity (question 16, range 1-5), and 7) how often their school sent home hand-outs in multiple languages (question 17, range 1-5); diversity scores could range from 5-35 points.¹ Because half of these questions were related to children’s school or daycare environments, we did not include children who did not attend either in the diversity analyses (N = 6: 4 three-year-olds, 2 five-year-olds). There was no difference in diversity scores between children in the English (M = 20.26, SD = 3.60) and Spanish (M= 17.50 SD = 6.43) conditions, t (37)

¹ The original analytic plan was to test whether diversity scores correlated to helping scores in the Spanish condition. However, variability in helping scores was so low that correlational analyses were not appropriate.
= 1.64, \( p = .11 \), Cohen’s \( d \) = .53. These scores indicate that parents perceived their children to have moderate exposure to diversity.

The majority of participants were identified by their parents as White (\( N = 40; 83.3\% \)), and the rest were identified by more than one ethnicity (\( N = 8; 16\% \)). In addition, parents were asked to report their annual family income; parents were asked to choose one of six annual income categories: 1) over 100,000 (\( N = 18; 37\% \)), 2) 75,000-100,000 (\( N = 10; 20\% \)), 3) 50,000-75,000 (\( N = 13; 27\% \)), 4) 30,000-50,000 (\( N = 3; 6\% \)), 5) 15,000-30,000 (\( N = 1; 2\% \)), and 6) less than 15,000 (\( N = 0 \)). Three parents did not respond to this question. Thus, the majority of participants came from upper to middle class households.

**Design and Materials**

The study utilized a between-subjects design with half of the children interacting with an English-speaking experimenter (English condition), and half of the children interacting with a Spanish-speaking experimenter (Spanish condition). The role of the experimenter was always played by the same female researcher, a native English-Spanish bilingual. In order to keep the two conditions as equal as possible with the exception of the language being spoken by the experimenter, all of her verbalizations followed a set script; the Spanish and English scripts were direct translations of each other.

Children participated in a series of four tasks presented as games, each designed to elicit helping and/or sharing with the experimenter. The order of the four
tasks was counterbalanced using a Latin square design so that each task appeared in each position (i.e., first, second, third, or fourth) an equal number of times across children; this resulted in four possible orders. Age and gender were also counterbalanced, so that an equal number of males and females and three- and five-year-olds experienced each of the four possible orders.

During a warm-up period, an adult confederate and the child played with a ball-and-hammer toy. This toy consisted of a transparent plastic box with four colored holes at the top and came with four colored balls and a toy hammer. The warm-up game was played by using the toy hammer to push the four balls through the corresponding holes.

In one of the tasks, children were given the option to choose one of four themed sticker books (zoo, ocean, train station, or airport) and corresponding stickers to play with. The child and the experimenter each received a colored envelope and a sticker book; the child’s envelope contained 5 stickers, whereas experimenter’s was empty. In another task children selected a page from a coloring book, and a choice of one marker from a set of Crayola markers to color with. The experimenter selected an intentionally disabled (i.e. dried out) marker to attempt to color with. In a third task, the child played with a magnetic fishing puzzle with the experimenter, while the confederate read a textbook. In the final task, the experimenter and the child each received a canister of play-doh and a tool for creating shapes with the play-doh.

The confederate wore a fanny pack during the entire procedure where she kept an additional functioning marker and stickers for the experimenter. The confederate
also carried around a clipboard with papers on it in order to appear busy, as an excuse for not being able to help the experimenter during the various helping opportunities.

All activities took place at a 3 x 5 foot wooden table, with the child sitting between the experimenter and the confederate. The child faced a one-way mirror, behind which there was a video camera recording the entire session.

Procedure and Coding Scheme

The study began with a warm-up period between the confederate and the child, in order to familiarize the child with the setting and build comfort. The confederate sat at a table with the child while they played with the ball-and-hammer toy for approximately 5 minutes or until the child appeared comfortable.

After the warm-up period, the experimenter entered the room and told the confederate what she did that weekend (See Appendix B for the experimenter’s monologue); the experimenter directed her gaze mostly towards the confederate during this monologue but occasionally glanced over at the child. Children in the English condition heard this monologue in English, and children in the Spanish condition heard the exact same monologue in Spanish (i.e., a direct translation). The purpose of this scripted monologue was to reveal to the child that the experimenter spoke either English or Spanish (depending on the condition). During the monologue, the experimenter stated that she would not talk much after this because she was getting sick and had a sore throat, as she held her throat for emphasis. The confederate then turned to the child and introduced the speaker as her friend with whom they would be playing. The confederate also reminded the child that the
The experimenter would not be able to talk much due to her sore throat. The purpose of limiting the experimenter’s verbalizations was to avoid having the child interact more with the experimenter in the English condition than in the Spanish condition. After the experimenter’s introduction, the experimental tasks began. The following four tasks were administered in counterbalanced order across participants:

*Coloring task:* In this task, the experimenter and the child took turns coloring a picture from a coloring book, but the experimenter’s marker was out of ink. The dependent variable was a score based on how many prompts (out of 4), it took the child to offer his or her marker. If the child did not offer his or her marker to the experimenter, he or she received a score of 0.

As the task began, the confederate brought out a bucket of markers and asked first the experimenter, then the child to choose a marker to color with. The experimenter always chose the same non-functioning marker. The confederate then asked the child to choose a page from a coloring book to color. The confederate explained that the child and the experimenter would take turns coloring the picture, and that the child should go first. After the child had a turn, the confederate announced that it was the experimenter’s turn to color and left the table. While the confederate was away, the experimenter attempted to color but was unable to because her marker was out of ink. At this point the experimenter looked concerned and stated “It’s not working” (English condition) or “No funciona” (Spanish condition) twice with 5 seconds in between each verbalization while alternating between shaking her marker and attempting to color (Prompt 1). If the child offered the experimenter his
or her marker at this point, the child received 4 points and no more prompts were provided. If the child did not offer his or her marker, the confederate returned to the table with a clipboard and stated, “Oh, it looks like [experimenter’s name]’s marker isn’t working!” (Prompt 2) and then appeared busy looking at her clipboard. If the child offered his or her marker after Prompt 2, the child received 3 points and no more prompts were provided. If the child did not offer his or her marker, the experimenter sat silently and stared at the child’s marker (Prompt 3). If the child offered his or her marker during those 10 seconds, the child received 2 points and no more prompts were provided. If he or she did not, the confederate looked up from the clipboard and asked, “Do you want to give your marker to [experimenter’s name]?” (Prompt 4). If the child offered his or her marker to the experimenter, the child received 1 point; if not, the child received 0 points.

If the child offered his or her marker after any of the prompts, the experimenter happily accepted the marker and the confederate stated, “Now she can color again!” Before the experimenter began coloring, however, the confederate searched through her fanny pack and found a new working marker to give to the experimenter and the experimenter returned the child’s original marker. If the child did not offer his or her marker even after prompt 4, the confederate also searched through her fanny pack, found a new working marker to give to the experimenter, and stated “Now she can color again!” Thus, the child received the same feedback regardless of whether he or she shared. The task came to an end after the experimenter had a turn coloring.
**Sticker task:** In this task, the experimenter and the child each received a sticker book to place stickers on. However, while the child was given 5 stickers, the experimenter was given none. One dependent variable for this task was a score based on how many prompts (out of 4) the child required in order to offer some of his or her stickers to the experimenter. A second dependent variable was the number of stickers the child offered (out of 5).

The task began with the confederate showing the child four options of sticker themes. Once the child selected a theme, the confederate went to retrieve the corresponding stickers. The confederate then returned with two envelopes, one for the child and one for the experimenter, and stated that they should each open their envelopes while she went to get the sticker books. While the confederate was away, as the child opened his or her envelope, the experimenter stated “I don’t have any” (English condition) or “Yo no tengo” (Spanish condition) twice with 5 seconds in between each verbalization, looked into the envelope and turned it over to show that it was empty (Prompt 1). If the child offered the experimenter any stickers at this point, he or she received 4 points and no more prompts were provided. If the child did not offer any stickers, the confederate returned to the table with two sticker books and stated, “Oh, it looks like [experimenter’s name] doesn’t have any stickers. Too bad I don’t have any more!” (Prompt 2) and then appeared busy looking at her clipboard. If the child offered any of his or her stickers in response to Prompt 2, the child received 3 points and no more prompts were provided. If he or she did not offer any stickers, the experimenter sat silently and stared at the child’s stickers for 10 seconds (Prompt 3).
If the child offered any of his or her stickers within 10 seconds of Prompt 3, the child received 2 points and no more prompts were provided. If he or she did not, then the confederate looked up from the clipboard and asked, “Do you want to give some of your stickers to [experimenter’s name]?” (Prompt 4). If the child agreed and offered any of his or her stickers to the experimenter, the child received 1 point; if not, the child received 0 points.

If the child offered any of his or her stickers after any of the four prompts, the experimenter happily accepted the sticker(s) and the confederate stated, “Now she can play!” Before the experimenter began using the stickers, however, the confederate searched through her fanny pack and found five stickers to give to the experimenter. The experimenter then returned the sticker(s) that the child offered. If the child did not offer any of his or her stickers even after prompt 4, the confederate also searched through her fanny pack and found 5 stickers to give to the experimenter and stated, “Now she can play!” Thus, the child received the same feedback regardless of whether he or she shared. The task came to an end after the experimenter and the child finished sticking all five stickers onto their sticker books.

*Play-doh task:* In this task, the child and the experimenter each received a container with play-doh in it and a play-doh shaping tool. While they each played with their respective play-doh and tools, the confederate took away the experimenter’s tool and took it to another room. The dependent variable was a score based on how many prompts (out of four) it took the child to offer his or her play-doh tool to the experimenter; if the child did not, he or she received a score of 0.
The confederate began by asking the child to choose what color play-doh he or she wanted to play with. The confederate then brought the experimenter and the child each a container of play-doh (both the same color) and a shaping tool. The confederate instructed the child how to use the tool to make shapes with the play-doh until the child felt comfortable using it. The confederate then instructed the experimenter and the child to play with their respective tools and play-doh. After about a minute, the confederate announced that she was going to go to another room to check on her friend and left the room. When she returned after about 10 seconds, the confederate walked directly up to the experimenter and said, “Someone needs this in the other room”, took away the experimenter’s tool, and left the room. In response, the experimenter outstretched her arm in the direction of the confederate as she walked away and say, “No, wait!” (English condition) or “No, espera!” (Spanish condition) then, “My toy!” or “Mi jugete!”, with 5 seconds between each verbalization (Prompt 1). If the child offered the experimenter his or her tool at this point, the child received 4 points and no more prompts were provided. If the child did not offer his or her tool, the experimenter sighed and looked sad by pouting and looking down at the table (Prompt 2). If the child offered his or her tool during the 10 seconds following Prompt 2, the child received 3 points and no more prompts were provided. After 10 seconds, the experimenter re-entered the room and stated, “Oh, it looks like [experimenter’s name] still wants to play with her tool!” (Prompt 3) and then appeared busy looking at her clipboard. If the child offered his or her tool within 10 seconds of Prompt 3, the child received 2 points and no more prompts were
provided. If he or she did not share the tool after 10 seconds, the confederate asked, “Do you want to give your tool to [experimenter’s name]?” (Prompt 4). If the child agreed and offered his or her tool to the experimenter, the child received 1 point; if not, the child received 0 points.

If the child offered his or her tool at any point, the experimenter happily accepted the tool and the confederate stated, “Now she can play!” The experimenter then stated “Let me check if the other tool is ready,” left the room, and came back with the experimenter’s tool. The experimenter then took her tool and returned the child’s tool. If the child did not offer his or her tool even after prompt 4, the confederate also returned the experimenter’s tool and stated, “Now she can play!” Thus, the child received the same feedback regardless of whether he or she shared. The task came to an end after a few more minutes of the child and the experimenter playing with the play-doh.

*Book task:* In this task, the child helped the confederate move an item that the experimenter was using while the experimenter was out the room. The dependent variable was a score based on how many prompts (out of 4) the child required before he or she showed the experimenter where the item was; if the child did not indicate the item’s location, he or she received a score of 0.

The confederate and the child sat at the table and played with a magnetic fishing puzzle while the experimenter read a textbook, also at the table. During this time, the experimenter received a phone call and exited the room. While the experimenter was out of the room, the confederate asked the child to help her clean
up and put the book away on top of a cabinet on the other side of the room. Then the child continued playing with the puzzle, while the confederate sat at the table reading from her clipboard. After about 30 seconds, the experimenter returned to the room, looked around the table where she left the book and with both palms up said, “Where is it?” (English condition) or “Donde esta?” (Spanish condition) twice with 5 seconds between each verbalization (Prompt 1). If the child showed the experimenter where the book was (either by pointing to or retrieving the book), the child received 4 points and no more prompts were provided. If the child did not show the experimenter where the book was after Prompt 1, the experimenter scanned the entire room, turning her head, and looked under the table nearby couch (Prompt 2). If the child showed the experimenter where the book was within 10 seconds, the child received 3 points and no more prompts were provided. If the child did not show the experimenter where the book was after Prompt 2, the confederate looked up from her clipboard and stated, “Oh, it looks like [experimenter’s name] still wants to read her book!” (Prompt 3) and then appeared busy looking at her clipboard. If the child showed the experimenter where the book was within 10 seconds of Prompt 3, the child received 2 points and no more prompts were provided. If he or she did not show the experimenter where the book was after 10 seconds, the confederate asked, “Do you want to show [experimenter’s name] where the book is?” (Prompt 4). If the child then showed the experimenter where the book was, the child received 1 point; if not, the child received 0 points.
If at any point the child pointed to the book or retrieved it, the experimenter exclaimed “Oh!”, retrieved it, and began reading the book again. The confederate then stated, “Now she can read again!” If the child did not show the experimenter where the book was even after prompt 4, the confederate retrieved it for her and stated, “Now she can read again!” Thus, the child received the same feedback regardless of whether he or she helped. The task came to an end after the child completed the fish puzzle. Note that this is the only task in which the child did not have to give up his or her own object in order to help the experimenter.

As outlined in the procedure, children were given up to four prompts within each task to help/share with the experimenter. The number of points children received depended on how many prompts they required before helping or sharing, with points decreasing as the number of prompts increased. In each task, children received as many as four points (if they helped/shared after the first prompt) and as few as zero points (if they did not help/share even after the fourth prompt). One additional dependent measure was the number of stickers shared during the sticker task; children could receive from 0 to 5 points for this measure.

All tasks were video recorded and coded by a research assistant. To assess inter-rater reliability, two independent coders coded 50% of the data; agreement was 97%. Cases of disagreement were resolved by a third coder.
Results

Preliminary analyses revealed no effects or interactions involving gender, birth order, or task order; thus, subsequent analyses collapsed across these factors. A mixed 4 (Task: Sticker, Marker, Play-doh, Book) x 2 (Condition: English versus Spanish) x 2 (Age: 3 versus 5) ANOVA was used to test the hypotheses that 1) children would have higher helping scores in the English versus Spanish condition, 2) five-year-olds would help more than three-year-olds, and 3) there would be an interaction between age and condition. The analysis revealed reliable main effects of age, $F(1, 44) = 5.85, p = .02, \eta^2_p = .117$, and task, $F(1, 44) = 8.70, p < .001, \eta^2_p = .16$, and a significant interaction between age and task, $F(1, 44) = 3.22, p = .03, \eta^2_p = .07$. There was no effect of condition, $F(1, 44) = .04, p = .83, \eta^2_p = .001$, and no interaction between age and condition, $F(1, 44) = .10, p = .75, \eta^2_p = .002$. No other effects were reliable.

Contrary to Hypothesis 1, there was no difference in helping scores between the English ($M = 1.27, SD = .69$) and Spanish condition ($M = 1.31, SD = .69$). Consistent with Hypothesis 2, three-year-olds had lower mean helping scores ($M = 1.05, SD = .69$) than five-year-olds, ($M = 1.53, SD = .69$). Hypothesis 3 was also not supported, as the difference between the English and the Spanish condition was the same for the three-year-olds and five-year-olds (See Figure 1).

In order to explore the main effect of task, simple contrasts were conducted with the book task as the comparison group; this was motivated by the fact that 1) the book task was the only task in which children did not need to give up an object in
order to help (i.e., it was strictly an instrumental helping and not sharing task); and 2) children had the highest mean helping scores in this task (see Figure 2). Simple contrasts revealed that the mean helping score for the book task \((M = 1.85, SD = 1.3)\) differed significantly from the mean helping score for the sticker task \((M = 1.00, SD = .76)\), \(F(1, 44) = 14.57, p < .001, \eta_p^2 = .25\), the marker task \((M = 1.29, SD = 1.08)\), \(F(1, 44) = 6.05, p = .018, \eta_p^2 = .12\), and the play-doh task \((M = 1.02, SD = .99)\), \(F(1, 44) = 19.09, p < .001, \eta_p^2 = .30\).

Because the book task was different from the other three in that it did not require sharing, and scores in this task were higher, a separate 2 (condition) X 2 (age) ANOVA was conducted with only the book task as the dependent variable. Again, there was a main effect of age, \(F(1, 44) = 8.56, p = .005, \eta_p^2 = .16\), but no main effect of condition, \(F(1, 44) = .57, p = .45, \eta_p^2 = .01\), and no interaction, \(F(1, 44) = .95, p = .34, \eta_p^2 = .02\). Five-year-olds \((M = 2.42, SD = 1.33)\) helped faster than three-year-olds \((M = 1.29, SD = 1.33)\) in the book task, but there was no difference between the English \((M = 2.00, SD = 1.33)\) and Spanish \((M = 1.71, SD = 1.33)\) conditions regardless of age.

To explore the interaction between age and task, simple effects showed no effect of task for three-year-olds, \(F(1, 22) = 1.55, p = .22, \eta_p^2 = .06\), but a significant effect of task for five-year-olds, \(F(1, 22) = 10.13, p < .001, \eta_p^2 = .32\). Thus, only five-year-olds had higher scores in the book task.

In addition to the main dependent variables, we also examined the number of stickers that children shared in the sticker task. A 2 (Age: 3 versus 5) X 2 (Condition:
English versus Spanish) ANOVA revealed that there was a significant main effect of age, $F(1, 44) = 4.96, p = .03, \eta^2_p = .10$, but no effect of condition, $F(1,44) = .43, p = .52$, $\eta^2_p = .01$, and no interaction, $F(1, 44) = 2.9, p = .09, \eta^2_p = .06$. Five-year-olds (M= 1.6, SD = 1.10) shared more stickers than three-year-olds (M = .92, SD = 1.10), but children of both ages shared equally in the English (M = 1.16, SD = 1.10) and the Spanish condition (M = 1.38, SD = 1.10).

**Discussion**

The main hypothesis was that children would help the experimenter earlier when she spoke English versus Spanish. This hypothesis was motivated by findings by Kinzler and her colleagues (2007, 2008) suggesting that children are biased in favor of speakers of their native language. In contrast to the hypothesis, children helped equally in the English and Spanish conditions.

A second hypothesis was that five-year-olds would require fewer cues to prompt helping behavior than three-year-olds. This prediction was supported, as three-year-olds had significantly lower helping scores than five-year-olds. Because most of the tasks required children to give up their object in order to help, these results are consistent with findings that suggest that younger children are less willing to share than older children (Fehr et al., 2008). Possible explanations for this age difference will be explored in the General Discussion.

In addition, it was hypothesized that there would be an interaction between age and condition, such that there would be a greater difference across conditions in
the five-year-old group than in the younger children. This was motivated by Wong-Fillmore (1990)’s suggestion that schooling in the United States may increase children’s language-based discrimination. However, no such interaction was found and children of neither age differentiated between the English and the Spanish speaker. Again, possible reasons for this will be considered in the General Discussion.

It is important to note that children’s helping scores were generally quite low (see Table 1). Children, on average, received a score of approximately 1 (out of a possible 4 points) in all four tasks, indicating that children did not help until the final prompt. A score of 1 was given when children helped the experimenter only after they received a direct request from the confederate; thus, these scores seem to suggest compliance rather than spontaneous helping. Thus, the fact that there was no difference in helping scores across conditions may be due to this floor effect. That is, it may be that children’s helping scores were so low in both conditions that the study could not capture any differences between how children reacted to the English versus Spanish speaker.

The low scores in our measures are inconsistent with past findings suggesting that even very young children seem to be highly motivated to instrumentally help adults (Warneken & Tomasello, 2006; Warneken et al., 2007). In order to avoid a ceiling effect, the tasks in the present study were intentionally made challenging by requiring children to share their resources; Svetlova et al. (2010) found that children were less willing to help when they had to give up an object of their own. However,
one of the tasks (the book task) was a simple instrumental task that did not require children to make such a sacrifice. Although (five-year-old) children scored higher in the book task than in the other three, there was no interaction between task and condition, suggesting there was no difference between conditions on any of the tasks. Thus, in addition to the challenge of having to give up a resource, there may be other factors may have contributed to children’s low scores.

One possibility is that children may have been hesitant to help the experimenter because she was not very engaged with them. Specifically, in both conditions the experimenter did not participate in the initial warm-up period, did not talk much besides her scripted monologue and cues, and was generally less involved with the child than the confederate. Past studies have found that children’s performance can decrease when the experimenter is an unfamiliar versus a familiar adult (Shimpi, Akhtar, & Moore, under review; Slaughter, Nielsen, & Enchelmaier, 2008). Children may have also been hesitant to interact with the experimenter because she had a sore throat. The limited interactions between children and the experimenter may not have allowed children to feel comfortable enough with the experimenter to help and share with her. This possibility was explored in a second study.

**Experiment 2**

To examine the possibility that children did not selectively help the English speaker due to a floor effect stemming from children’s discomfort with the experimenter in both conditions, we conducted a second study. The aim of
Experiment 2 was for children to feel more comfortable with the experimenter, and increase helping scores overall. In Experiment 2, the experimenter played a more active role by participating in the initial warm-up period and increasing her verbalizations and interactions with the child. If helping scores were to increase in general, we might be able to see differences in helping scores across the two conditions. Thus, the hypotheses for Experiment 2 remained the same as the previous study, with the additional prediction that overall helping scores would increase from Experiment 1 to Experiment 2.

**Method**

**Participants**

Participants were 48 children who belonged to one of two age groups: 24 three-year-olds (range = 36-47 months; $M = 39.71$, $SD = 3.25$) and 24 five-year-olds (range = 60 -71 months; $M = 63.63$, $SD = 3.63$). Children were randomly assigned to the English or Spanish condition. There was an equal number of three- and five-year-olds in each of the two conditions; there was roughly an equal number of boys and girls in each condition (13 boys in the English condition; 11 boys in the Spanish condition). There was no difference in the mean age of three-year-olds in the English ($M = 40.17$, $SD = 3.61$) and Spanish ($M = 39.25$, $SD = 2.93$) conditions, $t(22) = .68$, $p = .50$, Cohen’s $d = .28$. Likewise, there was no difference in the mean age of five-year-olds in the English ($M = 63.58$, $SD = 3.65$) and Spanish condition ($M = 63.67$, $SD = 3.77$), $t(22) = .05$, $p = .96$, Cohen’s $d = .02$. There were 12 first born children...
(English Condition: N = 9; Spanish Condition: N = 3), 20 second born children (English Condition: N = 8; Spanish Condition: N = 12), and 13 only children (English Condition: N = 5; Spanish Condition: N = 8); a chi-square analysis revealed there was no difference in birth order for the two conditions, χ² (2) = 4.47, p = .11.

All participants were monolingual and had no regular exposure to a second language. There was no difference in diversity scores between children in the English (M = 19.52, SD = 5.06) and Spanish (M= 16.68, SD = 5.27) conditions, t (43) = 1.84, p = .07, Cohen’s d = .55. Only two children were not included in the diversity analysis because they did not attend daycare or school (both were three-year-olds). These scores indicate that parents perceived their children to have moderate exposure to diversity.

The majority of participants were identified by their parents as White (N = 33; 68.8%) and the rest were identified by more than one ethnicity (N =13; 27.1%); two parents did not disclose an ethnic identity. Parent report of family household income was the following: 1) over 100,000 (N= 25; 52.1%), 2) 75,000-100,000 (N = 10; 20.8%), 3) 50,000-75,000 (N = 6; 12.5%), 4) 30,000-50,000 (N = 5; 10.4%), 5) 15,000-30,000 (N=1; 2.1%), and 6) less than 15,000 (N=0). One parent did not respond to this question. Thus, the majority of participants came from upper to middle class households.

**Design and Procedure**

Experiment 2 used the same design and materials as Experiment 1; Experiment 2 also followed a similar procedure as Experiment 1 with a few
exceptions. Whereas in the first study the experimenter’s verbalizations were limited to a set script, in Study 2 the experimenter was free to speak and interact with the child in both conditions. However, the experimenter refrained from asking children questions due to the fact that children in the Spanish condition would be unable to respond to questions posed in a language they did not understand. Besides this, the experimenter was free to engage with the child in both conditions by making statements and non-verbal communicative gestures such as pointing. In addition, in contrast to the first experimenter, the experimenter joined the child and the confederate during the warm-up task. The experimenter said the same monologue as in Experiment 1, except for the last phrase in which she previously stated that she had a sore throat. These changes from Experiment 1 were implemented with the intention of raising children’s overall comfort level and helping scores.

All tasks were video recorded and coded by a research assistant. To assess inter-rater reliability, two independent coders coded 50% of the data; agreement was 93%. Cases of disagreement were resolved by a third coder.

Results

Preliminary analyses again revealed no effects or interactions involving gender, birth order, and task order, so subsequent analyses collapsed across these factors. A mixed 4 (Task: Sticker, Marker, Play-Doh, Book) x 2 (Condition: English versus Spanish) x 2 (Age: 3 versus 5) revealed a significant main effect of age, $F(1, 43) = 6.43, p = .015, \eta^2_p = .13$, and task, $F(3, 44) = 32.79, p < .001, \eta^2_p = .43$. Again,
three-year-olds had lower mean helping scores ($M = 1.07, SD = .68$) than five-year-olds ($M = 1.57, SD = .68$). In contrast to Experiment 1, there was no interaction between age and task, $F (3, 44) = 1.67, p = .18, \eta^2_p = .04$.

Similar to Experiment 1, and contrary to the hypotheses, there was no effect of condition, $F (1, 44) = .71, p = .40, \eta^2_p = .02$, and no interaction between age and condition, $F (1, 44) = .01, p = .92, \eta^2_p = .00$. Thus, children helped equally in the English ($M = 1.41, SD = .68$) and Spanish conditions ($M = 1.24, SD = .68$), and this was true for both age groups.

In order to explore the main effect of task, simple contrasts were again conducted with the book task as the comparison group. These analyses revealed that the mean helping score for the book task ($M = 2.52, SD = 1.32$) differed significantly from the mean helping score for the sticker task ($M = 1.04, SD = 1.03$), $F (1, 44) = 37.14, p < .001, \eta^2_p = .46$, the marker task ($M = .77, SD = .60$), $F (1, 44) = 80.02, p < .001, \eta^2_p = .65$, and the play-doh task ($M = .96, SD = 1.25$), $F (1, 44) = 60.13, p < .001, \eta^2_p = .57$.

Because the book task was different from the other three in that it did not require sharing, and scores in this task were higher, a separate 2 (condition) X 2 (age) ANOVA was conducted with only the book task as the dependent variable. There was a main effect of age, $F (1, 44) = 4.36, p = .04, \eta^2_p = .09$, but no main effect of condition, $F (1, 44) = 3.49, p = .07, \eta^2_p = .07$, and no interaction, $F (1, 44) = .30, p = .59, \eta^2_p = .007$. Five-year-olds helped faster ($M = 2.12, SD = 1.31$), than three-year-olds ($M = 2.92, SD = 1.31$) in the book task, but there was no difference between the
English \((M = 2.88, SD = 1.31)\) and Spanish \((M = 2.17, SD = 1.31)\) conditions (although the difference approached significance) regardless of age.

We again measured the number of stickers that children shared in the sticker task. A one-way ANOVA revealed no main effect of age \(F(1, 44) = 2.69, p = .11, \eta^2_p = .06\) or condition, \(F(1, 44) = .03, p = .89, \eta^2_p = .001\). However, there was an interaction between age and condition, \(F(1, 44) = 5.62, p = .02, \eta^2_p = .11\) (see Figure 3). Three-year-olds shared more stickers in the Spanish condition \((M = 1.00, SD = .60)\) than the English condition \((M = .50, SD = .52)\), \(t(22) = 2.17, p = .04, Cohen’s d = .89\). In contrast, five-year-olds shared an equal number of stickers in the English \((M = 1.42, SD = 1.00)\) and Spanish \((M = .83 SD = .94)\) conditions, \(t(22) = 1.47, p = .15, Cohen’s d = .61\). These findings differ from Experiment 1, in which children shared equally in the two conditions, regardless of age.

To test whether there were any differences between Experiment 1 and Experiment 2, a mixed 4 (Task: Sticker, Marker, Play-doh, Book) x 2 (Condition: English versus Spanish) x 2 (Age: 3 versus 5) x 2 (Study: Experiment 1 versus 2) ANOVA was conducted. There was no overall difference in helping scores between Experiment 1 \((M = 1.29, SD = .69)\) and Experiment 2 \((M = 1.32, SD = .69)\), \(F(1, 88) = .05, p = .82, \eta^2_p = .001\). However, there was an interaction between study and task, \(F(3, 88) = 6.29, p < .001, \eta^2_p = .07\). Figure 4 illustrates that this interaction seemed to be due to the marker and book tasks. There was a significant difference in helping scores for the marker task between Experiment 1 and 2, \(t(94) = 2.95, p = .004, Cohen’s d = .60\), such that children in Experiment 1 had higher scores \((M = 1.29, SD = \ldots)\).
1.07) than in Experiment 2 ($M = .77$, $SD = .59$). There was also a significant
difference in helping scores for the book task between Experiment 1 and 2, $t (94) = 2.32$, $p = .02$, Cohen’s $d = .46$, such that children helped more for the book task in Experiment 2 ($M = 2.52$, $SD = 1.38$) than Experiment 1 ($M = 1.85$, $SD = 1.43$).

**Discussion**

The main purpose of Experiment 2 was to investigate whether increasing
rapport between participants and the experimenter would result in a rise in helping
scores, allowing condition differences to emerge. Once again, in contrast to the main
hypothesis, children of both ages helped equally across the two conditions. These
findings are consistent with the results of Experiment 1. In addition, similar to
Experiment 1, five-year-olds had higher helping scores than three-year-olds in
general. Possibilities for this age difference will be explored further in the General
Discussion.

There was no overall difference in helping scores between experiments;
increasing the experimenter’s interactions with the child did not seem to increase
helping scores. However, there was an interaction between experiment and task. For
the play-doh and sticker tasks, scores stayed the same across the two experiments.
Unexpectedly, however, children were faster to help during the marker task in
Experiment 1 versus Experiment 2. Thus, children showed the opposite pattern than
expected during this task: they took longer to share their marker in Experiment 2
when the experimenter interacted with them more. One possible explanation for this
may be that children felt more comfortable denying the experimenter their resource when they had become more familiar with her. The only task for which scores in Experiment 2 increased as predicted was the book task, the only one that did not require sharing. As the only difference between the two experiments was that the experimenter increased her interactions with children, these findings suggest that when children were more engaged with the experimenter, they were more willing to help her find an object, but not to share with her.

Another unexpected finding was that three-year-old children shared more stickers with the Spanish speaker than the English speaker. However, Figure 3 illustrates that three-year-olds did not share very many stickers with the Spanish speaker. On the contrary, what seems to have driven the condition difference for the three-year-olds was that they shared very few stickers with the English speaker. Again, one possible explanation is that children felt more at ease with the English speaker and consequently more comfortable denying her a resource. The fact that there was no condition difference for either age group in Experiment 1, when interactions between the child and the experimenter were low and children presumably felt less comfortable, provides further evidence for this explanation.

Overall, these findings suggest that children did not selectively help a speaker of their native language in comparison to a foreign speaker. Again, five-year-olds helped more than three-year-olds, although scores were also generally low (see Table 2). Interestingly, increasing the experimenter’s interactions with children seemed to decrease their helping in one task that required sharing, but it increased scores in the
one task that did not require sharing. That is, children offered their own marker more readily in Experiment 1 versus Experiment 2; however, children required fewer prompts to help the experimenter find her book in Experiment 2 versus Experimenter 1.

**General Discussion**

The current set of studies explored whether three- and five-year old children would help a speaker of their native language (English) more than a speaker of a foreign language (Spanish) in tasks that required children to share their resources. It was hypothesized that 1) children would have higher helping scores in the English versus Spanish condition, 2) five-year-olds would have higher scores than three-year-olds, and 3) the gap between the two conditions would be larger for five-year-olds than three-year-olds.

The only hypothesis that was supported was that five-year-olds required fewer cues to prompt their helping behaviors than three-year-olds, which was consistent across the two studies. This may suggest that younger children require more obvious cues in order for them to understand the relationship between someone else’s needs and the availability of resources. Specifically, it may have been more difficult for three-year-olds to reflect on the fact that they were in possession of the resources the experimenter needed. Similarly, Brownell et al. (2010) found that 25-month-olds only reliably shared when the recipient verbalized her desire for a resource, even when sharing resulted in no cost to the child. Thus, it is possible that when three-year-olds did not help in the tasks that required sharing, it was because they simply did not
make the connection between the experimenter’s desires and their own ability to help. In the present studies, children received prompts that became progressively more explicit, ending with a direct request from the confederate to help the experimenter. This final prompt seems to be analogous to the recipient’s verbalization in Brownell et al. (2010). It is surprising, however, that three-year-olds would require such explicit cues, as children in Brownell et al.’s study were significantly younger.

The fact that five-year-olds required fewer cues to help the experimenter than three-year-olds can also be interpreted from a theory of mind perspective. Theory of mind refers to an understanding of others’ mental states. The tasks in the present studies required children to infer the experimenter’s desires; children had to understand that the experimenter needed something, whether it was information (the book task) or a resource (all other tasks), in order to complete a goal. As research has found that theory of mind abilities increase steadily over the preschool years (Wellman, Cross, & Watson, 2001), this may in part explain why three-year-olds had lower scores than five-year-olds.

Finally, another possibility is that three-year-olds may not have known that they ought to help; that is, they may not have understood that sharing was the right thing to do. However, a recent study examined children’s (ages 3-8) implicit understanding of sharing versus their actual sharing behaviors (Smith et al., 2013). They found that children of every age group reported that they should share their resources equally between themselves and an anonymous peer; however, when actually put to the test, it wasn’t until the age of seven that children did so reliably.
One way to tease apart these multiple possibilities would be to examine children’s verbal and non-verbal reactions to the experimenter’s need for help and compare the two age groups. For example, differences in social referencing behaviors between three- and five-year-olds may indicate that the younger group’s lower scores were due to their failure to notice the experimenter’s needs. This will be explored in future analyses.

Another finding that was consistent in the two experiments was that there was a main effect of task. Children, in general, helped more readily in the book task than in all other tasks. However, in Experiment 1 there was an interaction between task and age. While in Experiment 2, children of both ages had higher scores in the book task than the other tasks, only the five-year-olds did so in Experiment 1. It is not clear why three-year-olds in Experiment 1 did not display this task difference; perhaps they needed more interactions with the experimenter in order for them to feel comfortable enough to share information with her. However, as there was a main effect of task in both studies, it is important to consider how the tasks differed from each other.

Svetlova et al. (2010) differentiated between three factors that may be involved in instrumental helping: action, altruism, and emotion. In the action condition, children simply had to perform the correct action to help the experimenter complete a goal. In the “emotion” condition, the experimenter appeared distressed and children had to offer the experimenter a desired object to end her distress. Finally, in the “altruism” condition children had to offer their own object to the experimenter. In the present studies, there were four tasks that differed from each other in several
ways. In the book task, the confederate and child moved the experimenter’s book to a
different location when the experimenter was not in the room. When the experimenter
returned, the test was whether children informed the experimenter of the book’s new
location. Thus, in order for the children to help in this task, they had to provide the
experimenter the information she needed to complete her goal of reading the book.
This task was the most similar to Svetlova et al.’s action tasks, because the
experimenter was not distressed and there was no cost to the child (other than having
to stop their current activity). Similarly to Svetlova et al.’s findings, this was the task
in which children scored the highest. These results are also consistent with past
studies that have found that infants as young as 12 months provide information that
an adult needs to complete a goal (Liszkowski et al., 2006, 2007).

Although scores were higher in the book task, the effect of condition was not
statistically significant when examining scores in this task alone. However, the effect
of condition did approach significance in Experiment 2 with a trend for children to
help faster in the English condition than the Spanish condition. These findings
suggest that we might have seen an effect of condition if we increased the number of
participants. Future studies should explore children’s helping towards a native versus
foreign speaker with a series of tasks in which there are no costs to the child.

In the other three tasks, there was a cost to children’s helping; that is, in order
for them to help the experimenter complete a goal, they had to offer her their own
object (similar to Svetlova et al.’s “altruism” condition). In the sticker task, children
had five stickers, while the experimenter had none; in order for them to help the
experimenter complete her goal of decorating a picture, they had to offer her at least one sticker. The marker task was very similar to the sticker task; in order for children to help the experimenter complete her goal of coloring a picture, they had to offer her their marker. The major difference between the marker and sticker tasks is that in the former, children had to offer the experimenter their only resource (they only had one marker), whereas in the sticker task they could share some of their stickers and still have some for themselves. Svetlova et al., found that children performed the worst in the altruism condition. Thus, the marker task would seem to be more difficult than the sticker task. Although there were no differences in scores between the sticker and the marker tasks in either experiment, scores decreased in the marker task from Experiment 1 to Experiment 2, whereas they stayed the same for the sticker task. This may be due to the fact that children were more reluctant to share their one resource in the marker task, and they felt comfortable denying the request in Experiment 2 when they had had more opportunity to establish rapport with her.

Finally, in the play-doh task, the experimenter’s play-doh tool was taken away by the confederate and the experimenter became distressed. In order for children to help the experimenter complete the goal of using the tool to make shapes, they had to understand that the experimenter was distressed because she no longer had her tool. Thus, the play-doh task combined Svetlova et al.’s altruism and emotion conditions. We might have expected that the play-doh task would be the hardest one for children because there were multiple demands on them. On the other hand, the play-doh task could be seen as easier than the marker and sticker tasks because children had
multiple cues suggesting the experimenter needed help (i.e., distress as well as the need for a resource). However, there was no difference between the play-doh task and the other two sharing tasks. Overall, the main difference was between the book task and the other three tasks. Thus, it seems that whether or not helping was associated with a cost to the child, what Svetlova refers to as altruism, had the greatest impact on children’s helping.

In contrast to the main prediction, children did not display a bias in favor of the English speaker. These findings go against previous research by Kinzler et al. (2007; 2008; 2011). In particular, Kinzler et al. (2012) found that 2.5 year olds were more likely to offer a gift to a speaker of their native language than a foreign speaker. The current studies differed from Kinzler et al.’s in two major ways. First, the present studies used a live speaker, while Kinzler and her colleagues used images presented on a computer. The benefit of using computerized images is that the experimenters have total control over how the speaker looks, and they are able to keep other factors (such as tone of voice) consistent across all participants. However, using live speakers is more ecologically valid. The fact that children reacted the same way to a native and foreign speaker in a more natural context may suggest that children are not biased against live foreign speakers. However, one limitation of the present studies is that they differed in more than one way from Kinzler et al’s studies. Thus, it is difficult to pinpoint which factor(s) are at the root of the differences.

Besides using live speakers, the current studies also differ from Kinzler et al’s studies in the use of a between-subjects design. While Kinzler and her colleagues
always used within-subjects paradigms in which children were asked to make a choice between a native and a foreign speaker, the current studies used a between-subjects design in which children encountered only a native speaker or only a foreign speaker. It is possible that the forced-choice paradigm used in Kinzler et al’s studies highlights the difference between the foreign and native speaker by allowing children to compare them directly. In contrast, encountering only a native speaker or only a foreign speaker may not lead children to reflect about the speaker’s linguistic characteristics. That is, children may be particularly responsive to a native speaker only when directly confronted with both a native and a foreign speaker at the same time. Having the side-by-side comparison that is available in a within-subjects (but not between-subjects) design may provide children with the opportunity to reflect about the differences between two speakers and may influence their own actions.

One possible future direction would be to use a within-subject forced-choice task to test whether children would selectively help a native speaker. Only one unpublished study, to my knowledge has done this (Buttelmann et al., 2012). However, the task in this study was a simple instrumental helping task that did not require sharing resources. In this study, 18-month-olds watched as a live native and foreign speaker simultaneously dropped some sticks. They found that children picked up more sticks for the native speaker than the foreign speaker in comparison to a baseline measure. Future studies should similarly test whether children choose to instrumentally help a native speaker in a forced-choice task when it is associated with a cost to the child. However, the fact that children in Buttelmann et al. did treat a
native and foreign speaker differently in a forced-choice task with live speakers suggests that the difference between the current results and past findings may be mostly due to the between-subjects design of the current studies.

Another explanation for the similar scores in the two conditions may be that children in the present studies were used to encountering people from different linguistic and cultural backgrounds than their own. Although the majority of participants were monolingual, white, and came from high socioeconomic backgrounds, parents reported that they had moderate exposure to diversity. That is, parents reported that their children were exposed to people who came from different racial and linguistic backgrounds and that their schools emphasized the importance of racial and linguistic diversity. Thus, although we made sure that children did not regularly hear a language other than English, the fact that participants knew other children and adults who came from different backgrounds and went to schools that supported diversity may be related to them being more open to a speaker of a foreign language.

Another factor that may have contributed to the lack of difference between conditions may have been that helping scores were generally very low. This was initially a problem in Experiment 1, so we attempted to increase helping scores in the second study by increasing the experimenter’s interactions with the child. What resulted was that children had either lower or similar scores in the tasks that required sharing. That is, children took longer to share their marker in Experiment 2, although there was no difference across studies in the play-doh task and sticker tasks. It is not
immediately clear why increasing the experimenter’s interactions with children would decrease helping scores in the marker task; one possibility is that children felt more comfortable saying no to requests for help when they felt more engaged with the experimenter.

Nonetheless, helping scores were generally low in both experiments. As discussed earlier, these findings are consistent with past findings that sharing is rare until about the age of 8 (Fehr et al., 2008; Smith et al., 2013). Tasks that required sharing may have been too difficult, even for five-year-olds. Thus, a possible future direction would be to test older children using a similar design as the present studies. Only the book task did not require children to share their resources; children simply had to show the experimenter where the book was when she returned. Even in this task, mean scores were not very high. Although scores increased for this task in Experiment 2, they were not as high as would be expected for a simple instrumental helping task that did not require sharing. This is particularly surprising in comparison to past studies that have found that children as young as 12-months provide information for an adult in a similar task, with less explicit cues (Liszkowski et al., 2006, 2007). Thus, there may be other factors contributing to these low scores.

One such factor may be that children did not perceive that they had the competence to help an adult, especially in the presence of a second adult (the confederate), as well as with a parent in the room. Ladd et al., (1983) found that children are more likely to help when their competence is increased, so the presence of the confederate may have lowered children’s relative perceived competence.
Relatedly, children may have expected the confederate to help the experimenter; or they may have taken the confederate’s not helping the experimenter as a cue that they should not help either. Thus, children may have been more likely to help if there were no other adults present or if the person requiring help was a peer. Future studies should explore three-year-olds’ helping/sharing behaviors in the absence of an adult, and when the recipient is a peer.

Finally, one other explanation for children’s low scores may have to do with the participants’ household backgrounds. One recent study found that children who come from higher socioeconomic backgrounds had lower scores than children from lower socioeconomic backgrounds on a task in which children had the option to donate some prize tokens that they had been given to an anonymous sick child (Miller, Kahle, Lopez, & Hastings, 2013). Most children in the current studies came from households with very high family incomes, which may be one reason why their helping scores were so low. Thus, another future direction would be to test children from a wider range of socioeconomic backgrounds.

In contrast to the third hypothesis, there was no interaction between age and condition. That is, children were equally likely to help in both conditions regardless of their age. One limitation in the present studies regarding this hypothesis was that the majority of children, including three-year-olds, were enrolled in preschool or a day-care facility. It was predicted that five-year-olds would be more biased against the Spanish speaker because they were more likely to have started school than three-year-olds, as Wong-Fillmore (1990) suggested that schooling might increase
children’s linguistic biases. However, no bias was shown at either age. Because almost all the participants were enrolled in school or day-care, children of both ages in the present sample had similar experiences outside the home. In order to more explicitly test the effect of schooling on linguistic biases, future studies should test children attending school versus children who have not started school, while keeping age constant.

Future analyses will explore children’s non-verbal behaviors as well as spontaneous verbalizations during the study. One reason for doing so is to explore whether children demonstrated biases against the foreign speaker or in favor of the native speaker in other ways besides the main measures. Specifically, children’s non-verbal behaviors will be examined to explore whether children displayed more positive behaviors (i.e., smiles, looks towards the experimenter) or negative behaviors (i.e., turning away from the experimenter, hoarding objects) in either of the two conditions. Children’s verbal responses will also be examined to explore, for example, whether children attempted to verbally comfort the experimenter or seek help from the confederate more in one condition versus the other. These verbal and non-verbal behaviors will also be compared between the two age groups to explore possible explanations for the age and task differences.

Overall, children helped just as much (or just as little) regardless of whether they were interacting with a speaker of their native language or a foreign language. While the main hypotheses were not supported, these findings suggest that children may not be as biased against foreign speakers as previously thought based on past
The present findings bring into question the ecological validity of past studies that have found that children prefer speakers of their native language; almost all of these studies have used forced-choice paradigms with speakers introduced only on a video screen (Kinzler et al., 2007, 2008, 2011, 2012; but see Buttelmann et al., 2012). The fact that in a context in which children interacted with live speakers, children treated a foreign and a native speaker equally suggests that, even if infants and young children discriminate perceptually between native and foreign speakers, these perceptual biases do not necessarily translate into behavioral prejudices in preschoolers. While it would be preferable to see higher rates of sharing in children of this age, it is encouraging that in this more natural context children did not help a speaker of a foreign language less than a speaker of their native language.

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*Developmental Psychology, 45*, 534-543.


Table 1

Number of children (out of 48) who scored 0, 1, 2,3, or 4 in each task for each age and condition in Experiment 1.

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<th></th>
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<th>Book</th>
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<td>7 6</td>
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Note. E = English condition; S = Spanish condition
Table 2

*Number of children (out of 48) who scored 0, 1, 2, 3, or 4 in each task for each age and condition in Experiment 2.*

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*Note.* E = English condition; S = Spanish condition
Figure 1. Mean helping scores (out of 4) by age and condition in Experiment 1, with standard errors.
Figure 2. Mean helping scores in each task in Experiment 1, with standard errors.

*p < .05, **p < .001
Figure 3. Mean number of stickers shared by age and condition in Experiment 2, with standard errors.

* p < .05
Figure 4. Mean helping scores in each task and experiment, with standard errors.

* p < .05, ** p < .01
Appendix A

Exposure Questionnaire

1. How would you rate your child’s **SPEAKING** ability in English?

   1. Poor  
   2.  
   3.  
   4.  
   5. Excellent

2. How would you rate your child’s ability to **UNDERSTAND** English?

   1. Poor  
   2.  
   3.  
   4.  
   5. Excellent

3. How long has your child been regularly exposed to English?

   - Since birth
   - Since age 1
   - Since age 2
   - Since age 3
   - Since age 4
   - Since age 5
   - Other, explain:

4. How often does your child **HEAR** English?

   - Daily
   - At least once a week
   - Less than once a week

5. How often does your child **SPEAK** English?

   - Daily
   - At least once a week
   - Less than once a week

6. Where was your child **FIRST** exposed to English (Please check all that apply)?

   - Home- with both parents
   - Home- with one parent
   - Home- with sibling(s)
   - Home-babysitter/nanny
   - Relatives
   - Daycare center
   - School
   - Other, please describe below:
7. Where is your child exposed to English **NOW**?

- Home- with both parents
- Home- with one parent
- Home- with sibling(s)
- Other, please describe below:
- Home-babysitter/nanny
- Relatives
- Daycare center
- School

8. Has your child been in places where languages are spoken that he/she does not speak (e.g., traveling)?

- Yes  No

If yes, how often?

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<tbody>
<tr>
<td>Rarely</td>
<td>Very Frequently</td>
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9. Has your child been in places where there are many people who belong to a different race than her/him?

- Yes  No

If yes, how often?

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<tbody>
<tr>
<td>Very Rarely</td>
<td>Very Frequently</td>
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10. Does your child watch television shows that feature a language that he/she does not speak?

- Yes  No

If yes, how often?

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<td>Very Rarely</td>
<td>Very Frequently</td>
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11. My child has regular contact with peers (other children) who belong to a **DIFFERENT** race than her/him:
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<tr>
<td></td>
<td>Strongly Disagree</td>
<td>Neutral/ I don't know</td>
<td>Strongly Agree</td>
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</table>

12. My child has regular contact with peers (other children) who belong to the **SAME** race as her/him:

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<tr>
<td></td>
<td>Strongly Disagree</td>
<td>Neutral/ I don't know</td>
<td>Strongly Agree</td>
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</table>

13. My child has regular contact with adults (besides parents) who belong to a **DIFFERENT** race than her/him:

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</thead>
<tbody>
<tr>
<td></td>
<td>Strongly Disagree</td>
<td>Neutral/ I don't know</td>
<td>Strongly Agree</td>
<td></td>
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</tbody>
</table>

14. My child has regular contact with adults (besides parents) who belong to the **SAME** race as her/him:

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<tbody>
<tr>
<td></td>
<td>Strongly Disagree</td>
<td>Neutral/ I don't know</td>
<td>Strongly Agree</td>
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</table>

15. My child's school/daycare emphasizes **RACIAL** diversity as part of their educational philosophy:

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<tbody>
<tr>
<td></td>
<td>Strongly Disagree</td>
<td>Neutral/ I don't know</td>
<td>Strongly Agree</td>
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☐ N/A, my child does not attend school/daycare

16. My child's school/daycare emphasizes **LINGUISTIC** diversity as part of their educational philosophy:

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<tbody>
<tr>
<td>Strongly Disagree</td>
<td>Neutral/ I don't know</td>
<td>Strongly Agree</td>
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</tbody>
</table>
17. My child’s school/daycare makes handouts available in multiple languages:

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</thead>
<tbody>
<tr>
<td></td>
<td>Strongly Disagree</td>
<td>Neutral/I don’t know</td>
<td>Strongly Agree</td>
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</tr>
</tbody>
</table>

☐ N/A, my child does not attend school/daycare

18. How would you classify your child:

☐ Speaks English only and does not hear another language

   *Stop! You are done with this questionnaire!*

☐ Speaks English and regularly hears another language

   Please list the other language below:
   Language #2: ______________________

☐ Understands English and another language fluently, but only fluently speaks English

   Please list the other language below:
   Language #2: ______________________

☐ Understands and can fluently speak English and another language

   Please list the other language below:
   Language #2: ______________________

☐ Other, please describe:

19. How would you rate your child’s **SPEAKING** ability in Language #2?

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</table>
20. How would you rate your child’s **UNDERSTANDING** ability in Language #2?

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<tr>
<td>Poor</td>
<td>Poor</td>
<td>Poor</td>
<td>Poor</td>
<td>Poor</td>
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</tbody>
</table>

21. How often does your child **HEAR** Language #2?

- [ ] Daily
- [ ] At least once a week
- [ ] Less than once a week

22. How often does your child **SPEAK** Language #2?

- [ ] Daily
- [ ] At least once a week
- [ ] Less than once a week

23. How long has your child been exposed to Language #2?

- [ ] Since birth
- [ ] Since age 1
- [ ] Since age 2
- [ ] Since age 3
- [ ] Since age 4
- [ ] Since age 5
- [ ] Other, explain:

24. Where was your child **FIRST** exposed to Language #2 (Please check all that apply)?

- [ ] Home - with both parents
- [ ] Home - with one parent
- [ ] Home - with sibling(s)
- [ ] Other, please describe below:
- [ ] Home-babysitter/nanny
- [ ] Relatives
- [ ] Daycare center
- [ ] School

25. Where is your child exposed to Language #2 **NOW**?

62
☐ Home- with both parents
☐ Home- with one parent
☐ Home- with sibling(s)
☐ Other, please describe below:
☐ Home-babysitter/nanny
☐ Relatives
☐ Daycare center
☐ School

26. In an average week, my child **SPEAKS**…

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<th>4</th>
<th>5</th>
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<th>7</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Only</td>
<td></td>
<td></td>
<td>Both</td>
<td></td>
<td></td>
<td>Only</td>
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<tr>
<td>English</td>
<td></td>
<td></td>
<td></td>
<td>Equally</td>
<td></td>
<td></td>
<td>Language #2</td>
</tr>
</tbody>
</table>

27. In an average week, my child **HEARS**….

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<tr>
<td>English</td>
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<td></td>
<td>Equally</td>
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<td>Language #2</td>
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</table>

28. At **home**, my child **SPEAKS**…

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<th>7</th>
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</thead>
<tbody>
<tr>
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<td>Only</td>
<td></td>
<td></td>
<td>Both</td>
<td></td>
<td></td>
<td>Only</td>
</tr>
<tr>
<td>English</td>
<td></td>
<td></td>
<td></td>
<td>Equally</td>
<td></td>
<td></td>
<td>Language #2</td>
</tr>
</tbody>
</table>

29. At **home**, my child **HEARS**…

<table>
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<tr>
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<th>4</th>
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<th>7</th>
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</thead>
<tbody>
<tr>
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<td>Only</td>
<td></td>
<td></td>
<td>Both</td>
<td></td>
<td></td>
<td>Only</td>
</tr>
<tr>
<td>English</td>
<td></td>
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<td></td>
<td>Equally</td>
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<td>Language #2</td>
</tr>
</tbody>
</table>

30. At **school or daycare**, my child **HEARS**….

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<th>4</th>
<th>5</th>
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<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Only</td>
<td></td>
<td></td>
<td>Both</td>
<td></td>
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<td>Only</td>
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<tr>
<td>English</td>
<td></td>
<td></td>
<td></td>
<td>Equally</td>
<td></td>
<td></td>
<td>Language #2</td>
</tr>
</tbody>
</table>

☐ N/A, my child does not attend school/daycare

31. At **school or daycare**, my child **SPEAKS**…

63
32. The television shows my child watches are...

<table>
<thead>
<tr>
<th></th>
<th>1 Only English</th>
<th>2</th>
<th>3</th>
<th>4 Both English</th>
<th>5</th>
<th>6</th>
<th>7 Only Language #2</th>
</tr>
</thead>
</table>

33. The music my child listens to is...

<table>
<thead>
<tr>
<th></th>
<th>1 Only English</th>
<th>2</th>
<th>3</th>
<th>4 Both English</th>
<th>5</th>
<th>6</th>
<th>7 Only Language #2</th>
</tr>
</thead>
</table>

34. The books we read are...

<table>
<thead>
<tr>
<th></th>
<th>1 Only English</th>
<th>2</th>
<th>3</th>
<th>4 Both English</th>
<th>5</th>
<th>6</th>
<th>7 Only Language #2</th>
</tr>
</thead>
</table>

35. My child has regular contact with peers (other children) who speak English:

|   | 1 Strongly Disagree | 2 | 3 Neutral/ I don't know | 4 | 5 Strongly Agree |

36. My child has regular contact with peers (other children) who speak Language #2

|   | 1 Strongly Disagree | 2 | 3 Neutral/ I don't know | 4 | 5 Strongly Agree |

37. My child has regular contact with adults (besides parents) who speak English

|   | 1 Strongly Disagree | 2 | 3 Neutral/ I don't know | 4 | 5 Strongly Agree |

38. My child has regular contact with adults (besides parents) who speak Language #2
39. Has your child been in places where Language #2 is primarily spoken (e.g., traveling)?

☐ Yes  ☐ No

If yes, how often?

1  2  3  4  5
Rarely  Often  Very often

40. Have you noticed a change in your child’s language preference after starting school/daycare?

☐ Yes  ☐ No  ☐ N/A, my child does not attend daycare/school

41. If yes to question #40, please indicate how your child’s language preference has changed:

☐ Used to prefer English, now prefers Language #2
☐ Used to prefer Language #2, now prefers English
☐ Used to prefer English, now has no preference
☐ Used to prefer Language #2, now has no preference

-----END-----
Appendix B

Experimenter Monologue

**English version:** Hi. Let me tell you what I did this weekend. On Friday, I went to the park with my friends and played. On Saturday I went out to dinner with my family. Finally, on Sunday, I went to the beach and swam in the ocean. Overall, it was a very fun weekend, but I think I’m getting sick and my throat hurts.

**Spanish version:** Hola. Dejame contarte lo que hice este fin de semana. El viernes, fui al parque con mis amigos y jugamos. El sabado, fui a cenar con mi familia. Finalmente, el domingo, fui a la playa y nade en el mar. En total, fue un fin de semana muy divertida, pero pienso que me estoy enfermando y me duele la garganta.

*Underlined phrases were omitted from Experiment 2*