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The role of intergroup biases in children's endorsement of information about novel individuals

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ABSTRACT

A great body of evidence suggests that children are remarkably selective in accepting information from different sources. Yet, very few studies have focused on children's learning about the attributes of others. In three experiments, we examined how 6- and 7-year-olds' ingroup and outgroup biases about novel target individuals and their biases to follow ingroup informants interact in social learning contexts. Overall, children exhibited a positivity bias, accepting positive testimony about ingroup and outgroup targets, but this bias was significantly higher for ingroup targets. Furthermore, whereas children accepted the positive testimony about ingroup targets regardless of the informant's group membership, children selectively relied on ingroup informants when endorsing information about outgroup targets. These results suggest that children's existing biases interact with their acquisition of knowledge in complex ways and shape their social evaluations. These findings may have important implications for developing strategies to prevent negative biases against outgroup individuals among children.

Introduction

As novices in many subjects, children acquire much of their knowledge from the individuals around them. Previous studies on children's social learning have contributed significantly to our

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understanding of the cues children use when selectively endorsing information provided by others about the labeling and operation of novel objects (e.g., Birch, Vauthier, & Bloom, 2008; Corriveau & Harris, 2009a, 2009b; Corriveau, Kinzler, & Harris, 2013). Relatively little is known, however, about how children learn from others about the social world, in particular about the attributes of novel individuals. Investigating children's strategies for knowledge acquisition in the social domain is important because it can contribute to our understanding of the principles according to which children's perceptions of other agents are formed and can possibly be modified, particularly given that children already exhibit certain biases regarding novel agents that are based on various cues—cues that mark social group membership, for instance (e.g., Baron & Dunham, 2015; Kinzler, Dupoux, & Spelke, 2007). In the present study, we asked whether and how children's existing biases for evaluating ingroup and outgroup individuals change in the light of information provided by ingroup or outgroup informants.

Learning from others is valuable because it allows one to attain information that no one has direct access to and to avoid a costly trial-and-error exploration process. Although the social means of learning are particularly crucial for young children, they can potentially lead to erroneous information if the source of the information is not reliable. Consequently, choosing the right individual to learn from is critical for acquiring useful and accurate information. Previous research suggests that young children and even infants are selective when endorsing information from different sources (for a review, see Poulin-Dubois & Brosseau-Liard, 2016). In a typical procedure used in this line of research, children are presented with two informants who differ in certain attributes and who offer conflicting information about a certain object (e.g., labeling the object differently, operating the object in different ways). They are then asked to endorse information coming from one of the informants (Jaswal & Neely, 2006). Studies using similar paradigms reveal that one important cue that children rely on is the past accuracy of the informant (Birch et al., 2008; Brooker & Poulin-Dubois, 2013; Corriveau & Harris, 2009a, 2009b; Jaswal & Neely, 2006; Koenig & Harris, 2005; Lucas, Lewis, Pala, Wong, & Berridge, 2013). When children have no opportunity to directly evaluate the accuracy of an informant, they attend to other cues that inform them indirectly about the informant's reliability. For instance, children trust informants who are confident in their knowledge (Jaswal & Malone, 2007), who provide solid reasoning for the information they give (Corriveau & Kurkul, 2014; Koenig, 2012), and who are specialized in the particular domain of the information that was provided (Kushnir, Vredenburgh, & Schneider, 2013). Children also rely on consensus; they tend to trust information coming from the majority as opposed to a dissenter (Corriveau, Fusaro, & Harris, 2009). Finally, children are sensitive to informants' group membership and favor information provided by ingroup individuals rather than outgroup individuals (Buttelmann, Zmyj, Daum, & Carpenter, 2013; Corriveau et al., 2013; Kinzler, Corriveau, & Harris, 2011).

Unlike information about objects, information about individuals is often subjective and context dependent; it can nevertheless help children to learn efficiently about the complex social world. Studies focusing on children's learning about other individuals suggest that children are selective and that they consider the past accuracy and expertise of the informants also when learning about agents (Boseovski & Thurman, 2014; Boseovski, 2012). In addition to informant characteristics, children's endorsement of information is also influenced by a "positivity bias," a tendency to expect agents to possess positive personality characteristics (Boseovski, Shallwani, & Lee, 2009; Mezulis, Abramson, Hyde, & Hankin, 2004; Rholes & Ruble, 1986). A positivity bias is observed in children from 3 years of age onward (for a review, see Boseovski, 2010). It can manifest itself as a propensity to focus more on positive information than on negative information about oneself and others (e.g., Benenson & Dweck, 1986; Boseovski et al., 2009; Heyman & Gelman, 1998; Rholes & Ruble, 1984) or to assume that positive attributes are more stable than negative attributes (Heyman & Giles, 2004). Remarkably, this bias can be so robust that, in some cases, children continue to attribute positive characteristics to agents despite their past negative behaviors (Rholes & Ruble, 1986). Positivity bias has also been demonstrated using a social learning paradigm where children aged 3–7 years were shown to be more likely to endorse the testimony of an informant when that informant made a positive trait attribution about an individual (Boseovski, 2012). Extending this bias to nonhuman agents, 6- to 7.5-year-olds prefer to endorse positive testimony about a novel animal, even when an expert provides conflicting negative testimony about it (Boseovski & Thurman, 2014).

Previous research suggests, however, that a positivity bias might not apply to the same degree to all agents in children's environment. For instance, preschool children are sensitive to markers of social category membership such as race, gender, and language or even arbitrary markers such as T-shirt color, and they tend to prefer individuals who belong to the same category as themselves (e.g., Aboud, 1988; Dunham, Baron, & Carey, 2011; Kinzler et al., 2007; Martin, 1989). At around 4 years of age, children also attribute more positive characteristics to ingroup individuals than to outgroup individuals (Aboud, 2003; Bigler & Liben, 1993; Dunham et al., 2011; Over, Eggleston, Bell, & Dunham, 2018). Negative biases toward outgroup individuals, on the other hand, are generally reported to emerge later, at around 6 years of age (Aboud, 2003; Baron & Banaji, 2006; Baron & Dunham, 2015; Brewer, 1999; Buttelmann & Böhm, 2014; Kowalski & Lo, 2001; Martin, 1989; Rutland et al., 2007), but some evidence suggests that, in socially homogeneous environments, they can be observed between 3 and 5 years of age (Rutland, Cameron, Bennett, & Ferrell, 2005). Importantly, intergroup biases influence children's learning about the attributes of novel individuals. For instance, 5- to 9-year-olds' intergroup attitudes predict how they remember information about novel members of different groups (Averhart & Bigler, 1997; Nesdale & Brown, 2004). Similar effects are shown using a minimal group paradigm; whereas children aged 6–8 years can make negative predictions about ingroup members on learning about their negative actions, the effect of the negative information is attenuated for ingroup members but is enhanced for outgroup members (Baron & Dunham, 2015). These tendencies are explained by mechanisms such as processing information differently depending on whether it is consistent with existing stereotypes (e.g., Koblinsky, Cruse, & Sugawara, 1978; Kropp & Halverson, 1983; Liben & Signorella, 1980) and maintaining one's self-esteem by emphasizing positive attributes about one's group membership (e.g., Tajfel & Turner, 2004).

In sum, whereas children expect agents to possess positive attributes (e.g., Mezulis et al., 2004), their existing biases about ingroup and outgroup members affect how they evaluate information about novel individuals (Averhart & Bigler, 1997; Baron & Dunham, 2015; Dunham et al., 2011; Nesdale & Brown, 2004). Previous research has established that children show a positivity bias in selective social learning situations (Boseovski, 2012; Landrum, Mills, & Johnston, 2013; Lapan, Boseovski, & Blincoe, 2016), yet the role of intergroup biases in children's learning about agents remains unexplored in a similar context. The present study extends previous research by asking how children learn about novel ingroup and outgroup agents through testimony and whether and how children's existing biases (e.g., positivity bias, intergroup attitudes) change in the light of information from ingroup and outgroup informants.

Experiment 1 explored whether 6- and 7-year-old children's willingness to endorse positive and negative testimony about novel individuals would differ depending on the target individuals' group membership. The age group was determined based on previous research showing that negative biases toward outgroup individuals generally emerge at around 6 years of age (e.g., Aboud, 2003; Baron & Banaji, 2006; Baron & Dunham, 2015; Brewer, 1999; Buttelmann & Böhm, 2014; Kowalski & Lo, 2001; Martin, 1989; Rutland et al., 2007). We adapted a method that has been used previously to explore children's endorsement of positive and negative testimony about novel agents (Boseovski, 2012). Children were introduced to two informants and one target (all college-aged adults). The group membership of the targets was marked by the language they spoke (French or Turkish) (e.g., Buttelmann et al., 2013; Corriveau et al., 2013, Kinzler et al., 2011). Participating children in all experiments were monolingual Turkish speakers living in Turkey. No information about the informants' group membership was given. After being presented with contradictory evaluations of a target (being nice vs. being mean), children were asked to endorse one of these evaluations. Experiments 2 and 3 investigated children's tendency to endorse evaluations of ingroup and outgroup targets when these evaluations came from ingroup and outgroup informants. In these experiments, the group membership of both the informants and targets was revealed. Again, children were asked to endorse one of the two contrasting evaluations. In Experiments 1 and 2, children were presented with female targets and informants. Experiment 3 replicated Experiment 2 with male targets and informants in order to assess the generalizability of the findings.

Experiment 1

Experiment 1 investigated children's endorsement of information about the personality characteristics of novel individuals who differed in their group membership. Several studies—conducted mainly in Western cultures—have demonstrated a positivity bias in children (e.g., Benenson & Dweck, 1986; Boseovski, 2012; Boseovski & Lee, 2006; Boseovski et al., 2009; Heyman & Giles, 2004; Rholes & Ruble, 1986; Rutland et al., 2007). A few studies with children have demonstrated aspects of positivity bias in different cultures (Bempechat, Graham, & Jimenez, 1999; Heyman, Fu, & Lee, 2013; Yamauchi, 1989) and in minority groups (Grant & Mills, 2011); these suggest that a tendency to overlook negative information about individuals might be universal (Mezulis et al., 2004). Studies with adult populations, however, indicate that some cultural or socioeconomic factors might constrain this tendency (Mealy, Stephan, Mhaka-Mutepfa, & Alvarado-Sanchez, 2015). For instance, one's tendency to trust strangers is affected by factors such as the lack of social cohesion, perception of scarce resources (Mealy et al., 2015), unstable democracy (Inglehart, 1999), ethnic heterogeneity, and income inequality (Delhey & Newton, 2005). With limitations in participatory democracy (Kalaycıoğlu, 2001) and considerable levels of actual income inequality (Organization for Economic Cooperation and Development, 2018) and perceived income inequality (KONDA, 2014), Turkey is considered one of the countries where the interpersonal trust radius is limited to close relationships such as those defined by kinship (Realo, Allik, & Greenfield, 2008). Furthermore, Turkey ranks among the lowest countries in terms of interpersonal trust (i.e., a tendency to think that "most people can be trusted"; Delhey, Newton, & Welzel, 2011) (Inglehart, Basanez, Diez-Medrano, Halman, & Luijkx, 2004). Whereas the social ramifications of the aforementioned factors have been explored mainly with adult populations, it is nevertheless possible that these factors also have an influence on children's preferences and attitudes toward others by constraining their social environment. To our knowledge, until now, no study has examined children's positivity bias in Turkey. Therefore, before exploring children's endorsement of information coming from ingroup and outgroup informants, Experiment 1 first aimed to establish that, in line with previous research (e.g., Boseovski, 2012), children living in Turkey are likely to endorse positive testimony about novel individuals. A second goal of Experiment 1 was to explore whether children's tendency to accept positive testimony would differ according to the target individuals' group membership.

Method

Participants

Children were recruited from public schools and summer school programs offered by local municipalities in Istanbul, Turkey. All children included in the analysis were monolingual speakers of Turkish, but they were exposed to English at school (4 h per week, taught by a native speaker of Turkish). Children who were exposed to other languages in their home environment (i.e., if a language other than Turkish was spoken on a regular basis by someone interacting with the children) were excluded.

A total of 24 children (12 female; mean age = 6 years 9 months, range = 6 years 1 month to 7 years 8 months) participated in Experiment 1. Data from an additional 3 children were excluded because of an ambiguous answer on one of the test trials ($n = 1$), frequent exposure to another language at home ($n = 1$), or lack of information on language exposure ($n = 1$). Testing took place in schools. When the experiment was completed, children were given stickers as "thank you" gifts. Ethics approval was obtained from the institutional review board at Boğaziçi University.

Stimuli

Visual displays consisted of eight triads of photographs of 10 college-aged women presented on PowerPoint slides. The women were photographed wearing different colored T-shirts (red, green, or brown). Each photograph portrayed only the head and shoulders of the women; each image had the same plain beige background and was trimmed to 201 × 249 pixels. A group of adults ($n = 8$) rated these photographs on perceived age, friendliness, attractiveness, intelligence, and positivity. The photographs were found to be comparable on these dimensions. For each triad, photographs of two

women, one in a brown T-shirt and the other in a green T-shirt, were used as images of the informants. The photographs of the remaining eight women, all wearing red T-shirts, were used as targets.

Auditory stimuli consisted of voice clips of 10 college-aged women speaking either Turkish or French (5 Turkish and 5 French speakers). The voices had been recorded as the women read a script in their native language. The script consisted of Turkish and French translations of a slightly modified version of a short story that was used by Buttelmann et al. (2013), eight short neutral sentences (e.g., "Children play together in the park"), and positive and negative testimony regarding personality characteristics ("This is a nice person" and "This is a mean person"). The decibel levels were equalized. Low-pass filtered versions of these voice clips were evaluated by another group of adults ($n = 8$) for positivity, attractiveness, and friendliness. The Turkish and French recordings were found to be comparable on these dimensions. For Experiment 1, only the photographs of the targets were accompanied by voice recordings (eight short neutral sentences, four in Turkish and four in French). To match the voice clips and the photographs, a red square appeared around the corresponding photo to indicate that the voice belonged to the individual in that photo.

Design and procedure

At the beginning of the session, children were told that they would be introduced to novel individuals and that they would be asked some questions about them. They were then presented with the photos of two informants and were told that these individuals had previously shared their testimony about the individuals that they were about to meet. The experimenter would deliver the evaluations. Children were also informed that they would see a red square around the photo of the person speaking.

On each of the eight test trials, children were presented with the target's photograph on the screen and listened to her voice. Following this, the informants appeared side by side, below the target's photograph, and the experimenter pointed to each informant as she delivered the informant's testimony. The evaluations of the informants were delivered by the experimenter so as to prevent the informants' speech from revealing their group membership. A similar paradigm, where individuals' thoughts, behaviors, or statements are described by the experimenter instead of being expressed by the individuals themselves, has been used in previous research (e.g., Diesendruck & HaLevi, 2006; Heiphetz, Spelke, & Banaji, 2013; Soley & Spelke, 2016). The evaluations of the informants were always contradictory (i.e., one informant stated that the target was a mean person, whereas the other one stated that the target was a nice person). Following the testimony statements, the experimenter asked, "Which one of them [pointing at the informants] do you think is right about this individual [pointing at the target]? Whom should we believe?" Children were not explicitly asked whether they thought that the target person was nice or mean because pilot testing had revealed that the children were reluctant to declare that the target was mean.

Across eight trials, the informants remained the same and a new target was introduced in each trial. For half of the trials the targets spoke Turkish, and for the other half they spoke French (in ABAABBAB order, where for half of the participants A is Turkish and B is French, and for the other half, A is French and B is Turkish). Each informant gave four positive evaluations (two for the French-speaking targets and two for the Turkish-speaking targets) and four negative ones (two for the French-speaking targets and two for the Turkish-speaking targets).

The lateral positions of informants and photograph–language pairings were kept constant across trials but were counterbalanced across participants. Given that the target photographs were always presented in the same order, cross-matching the target photographs and languages resulted in counterbalancing the order of Turkish- and French-speaking targets across participants. In addition to the languages the targets spoke, the order of negative and positive evaluations and the order in which informants' evaluations were delivered were counterbalanced across trials.

Data analysis

The percentage of trials where the positive testimony was accepted was calculated separately for different experimental conditions. The averages of these percentages were compared with one another with a two-tailed, paired-samples t test in Experiment 1 and with repeated-measures

analyses of variance (ANOVAs) in Experiments 2 and 3. These averages were also compared against chance (i.e., 50%) using two-tailed one-sample *t* tests.

In addition, the numbers of participants who accepted the positive testimony on most of the trials (i.e., in at least five of eight trials), who accepted the negative testimony on most of the trials, and who accepted an equal number of negative and positive evaluations were compared using nonparametric Wilcoxon signed-rank tests. These values are provided in tables for the respective experiments.

Results and discussion

A preliminary analysis revealed no difference with regard to participant gender, so data were collapsed across gender.

Overall, participants endorsed positive testimony ($M = 75\%$, $SD = 27.1$, chance = 50%), $t(23) = 4.52$, $p < .001$, $d = 0.92$. A separate examination of the responses of ingroup and outgroup targets revealed that participants endorsed positive evaluations both for ingroup targets ($M = 84.38\%$, $SD = 27.4$), $t(23) = 6.15$, $p < .001$, $d = 1.25$, and for outgroup targets ($M = 65.6\%$, $SD = 35.2$), $t(23) = 2.17$, $p = .04$, $d = 0.44$. These tendencies were supported by the results of the nonparametric tests (see Table 1). However, participants endorsed positive evaluations more frequently for ingroup targets than for outgroup targets, $t(23) = 2.84$, $p = .009$, $d = 0.58$ (see Fig. 1). Children's tendency to endorse positive evaluations is in line with previous research suggesting that children at this age show a positivity bias and endorse positive information about others (e.g., Boseovski, 2012; Boseovski & Lee, 2006; Boseovski & Thurman, 2014; Mezulis et al., 2004). The finding that the positivity bias was higher for ingroup targets than for outgroup targets is also in line with previous research showing that children attribute more positive characteristics to ingroup members (e.g., Baron & Banaji, 2006; Doyle & Aboud, 1995) and that they discount negative information more readily when it is about ingroup members than when it is about outgroup members (e.g., Baron & Dunham, 2015; Nesdale & Brown, 2004).

Building on these findings, the next experiment asked whether and how the group membership of the informants would affect children's endorsement of positive and negative testimony about target individuals. Accordingly, the group membership of both the targets and informants was revealed. In this case, children might use a variety of different strategies for testimony endorsement, and these strategies might yield different results. We review four main possibilities here. The first possibility is that, regardless of the group membership of the informants, children will continue to endorse the positive evaluations and will accept these evaluations more frequently for ingroup targets than for outgroup targets. Thus, children's existing biases might persist (e.g., Baron & Dunham, 2015) regardless of the informants' group membership. A second possibility is that children might selectively endorse information coming from ingroup informants (e.g., Corriveau et al., 2013; Kinzler et al., 2011) and disregard the group membership of the targets. Alternatively, children's existing biases might interact with their selective learning strategies in different ways. For instance, as a third possibility, children might endorse positive evaluations more when they are about ingroup targets and might endorse negative evaluations more when they are about outgroup targets, particularly when these evaluations come from ingroup informants. Finally, another interesting possibility is that children might make affiliative inferences about individuals based on the language they speak (e.g., Liberman, Woodward, Sullivan, & Kinzler, 2016) and might trust the testimony of ingroup informants when their testimony is about the ingroup targets and might trust the testimony of outgroup informants when their testimony is about the outgroup targets. These alternative outcomes were probed in Experiment 2.

Experiment 2

Experiment 2 explored how children's biases about ingroup and outgroup targets would differ with the source of the testimony—ingroup or outgroup informants. The methodology used in Experiment 2 was similar to that used in Experiment 1, but the group membership of both the targets and informants was revealed.

Table 1
Numbers of participants (out of 24) according to endorsed testimony in Experiment 1.

	Overall	Ingroup targets	Outgroup targets
Mostly positive	17	20	14
At chance	4	2	5
Mostly negative	3	2	5
Wilcoxon signed-rank test results	$z = 3.29$, $p < .001$, $r = .47$	$z = 3.77$, $p < .001$, $r = .54$	$z = 1.94$, $p = .05$, $r = .28$

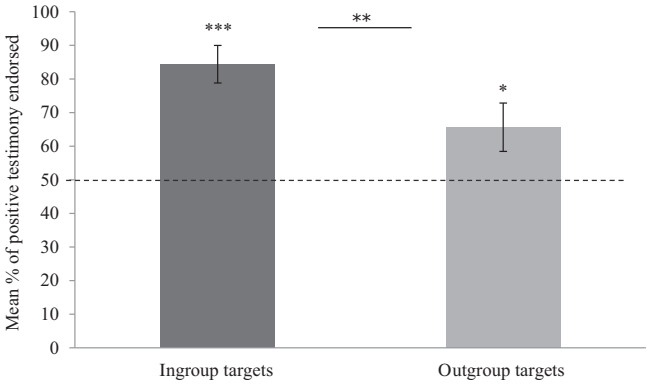

Fig. 1. Mean percentages of positive testimony endorsed for ingroup and outgroup targets in Experiment 1. Error bars represent standard errors. $^{***}p < .001$, $^{**}p < .01$, $^{*}p < .05$.

Method

Participants

A total of 48 Turkish-speaking monolingual children (24 female; mean age = 6 years 9 months, range = 6 years 1 month to 7 years 8 months) participated in Experiment 2. Children were recruited from the same population as for Experiment 1. In this experiment, in addition to the testimony type (positive vs. negative) and the group membership of the targets (Turkish speaking vs. French speaking), the group membership of the informants (Turkish speaking vs. French speaking) was also varied across trials, leading to two trials with each trial type instead of four, unlike in Experiment 1. To have a meaningful number of trials in each condition, we doubled the number of participants in this experiment. Data from an additional 8 children were excluded due to experimenter error ($n = 2$) and frequent exposure to another language at home ($n = 6$).

Design and procedure

The procedure was identical to that used in Experiment 1 except that, after the informants were introduced, each informant told a short story in either French or Turkish to establish the informant's group membership. As in Experiment 1, on each of the eight trials, children saw a photograph of a target and listened to her voice. Following this, photographs of the informants appeared—side by side—below the target's photograph. First, each informant's testimony was heard in the informant's respective language, and then the experimenter repeated the informants' testimony in Turkish, pointing to each informant as in Experiment 1, to ensure that participants were able to follow testimonies delivered in French as well as those delivered in Turkish.

As in Experiment 1, half of the targets spoke in French and the other half spoke in Turkish. Each informant gave four positive testimony statements (two for Turkish-speaking targets and two for French-speaking targets) and four negative testimony statements (two for Turkish-speaking and two for French-speaking targets). The order in which the informants' evaluations were delivered and the presentation order of the negative and positive testimonies were counterbalanced across trials. In addition, the pairings of languages with target photographs and informant photographs and the lateral positions of the informants were counterbalanced across children.

Results and discussion

A preliminary analysis revealed no difference with regard to participant gender, so data were collapsed across gender.

The percentages of trials where participants endorsed positive testimony were submitted to a 2 × 2 repeated-measures ANOVA with group membership of targets (ingroup vs. outgroup) and group membership of informants who gave positive testimony (ingroup vs. outgroup) as within-participants factors. The results indicated a main effect of group membership of targets, $F(1, 47) = 18.63$, $p < .001$. $\eta_p^2 = .28$, suggesting that the participants endorsed positive evaluations more frequently for ingroup targets ($M = 90.63\%$, $SD = 22.14$) than for outgroup targets ($M = 70.83\%$, $SD = 36.03$). The results also revealed a main effect of group membership of informants who gave positive testimony, $F(1, 47) = 8.74$, $p = .005$, $\eta_p^2 = .16$, suggesting that the participants were more likely to endorse positive evaluations when they were given by ingroup informants ($M = 84.9\%$, $SD = 27.26$) than when they were given by outgroup informants ($M = 76.56\%$, $SD = 34.76$). Finally, there was an interaction between these two variables, $F(1, 47) = 8.74$, $p = .005$, $\eta_p^2 = .16$. This interaction effect was further investigated using pairwise comparisons with Bonferroni corrections, which revealed that the participants were less likely to endorse positive testimony when outgroup informants' evaluations about outgroup targets were positive compared with the other three conditions ($ps \leq .01$). Participants' choices in the other three conditions did not differ ($ps \geq .10$) (see Fig. 2).

Participants' endorsement of positive testimony was also compared against chance separately for each condition. The acceptance of positive testimony was significantly above chance for all conditions. For ingroup targets, participants endorsed positive evaluations both when they were offered by ingroup informants ($M = 90.63\%$, $SD = 19.72$), $t(47) = 14.27$, $p < .001$, $d = 2.06$, and when they were offered by outgroup informants ($M = 90.63\%$, $SD = 24.53$), $t(47) = 11.47$, $p < .001$, $d = 1.66$. For outgroup targets, participants also endorsed positive evaluations both when they were offered by ingroup informants ($M = 79.17\%$, $SD = 32.34$), $t(47) = 6.25$, $p < .001$, $d = 0.90$, and when they were offered by outgroup informants ($M = 62.5\%$, $SD = 37.9$), $t(47) = 2.29$, $p = .027$, $d = 0.33$. These findings were also confirmed by the results of the nonparametric tests (see Table 2).

The results of Experiment 2 parallel those of Experiment 1; that is, children tended to endorse the positive testimony and did so more frequently for ingroup targets. In addition, for ingroup targets they endorsed the positive testimony of ingroup and outgroup informants to a similar degree, and children's positivity bias remained high regardless of the information they received from the informants. Children's endorsements of information about outgroup targets, however, differed depending on the informants' group membership. In this case, children selectively endorsed ingroup informants' evaluations; they were more likely to endorse negative evaluations when these evaluations came from ingroup informants. Similarly, when ingroup informants evaluated outgroup targets positively, children endorsed the positive testimony for outgroup targets to a similar degree as they had done for the ingroup targets.

These findings are largely in line with the third possible outcome discussed earlier, where we predicted that children's existing biases about the targets would interact with the group membership of the informants. However, contrary to our prediction that children would endorse positive statements more for ingroup targets and would endorse negative statements more for outgroup targets, especially when these statements came from ingroup informants, children's positivity bias about ingroup targets was unaffected by the group membership of the informants. However, their evaluations of outgroup targets were selectively modified by the testimony they received from ingroup informants.

These findings suggest that children's selective endorsement of ingroup informants' testimony is dependent on the group membership of the individual they are informed about. This may have significant implications for children's learning about ingroup and outgroup individuals. It is important to note that it is common practice to use female agents in social learning experiments (e.g. Corriveau & Harris, 2009b; Kinzler et al., 2011), as we did, but this might limit the generalizability of the results. Children and adults alike tend to have different perceptions of male and female individuals (Heilman, 2001) and to make attributions based on the gender of the target individuals (Ma & Woolley, 2013; Martin, 1989; Reis & Wright, 1982). Hence, it is possible that children's endorsement of information

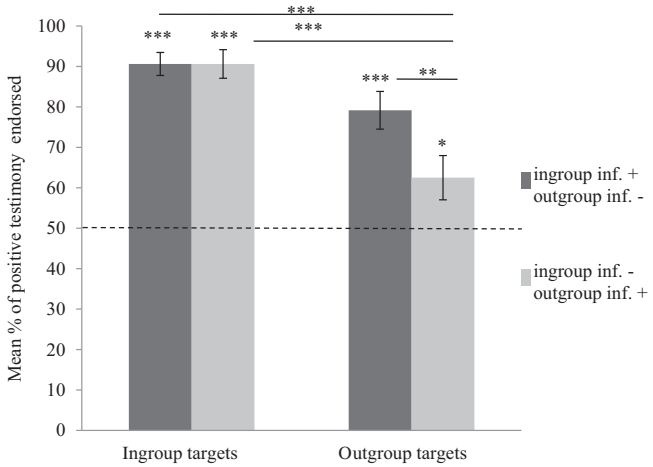

Fig. 2. Mean percentages of endorsed positive testimony based on targets' and informants' group membership in Experiment 2. Error bars represent standard errors. inf., informants. $^{***}p < .001$, $^{**}p < .01$, $^{*}p < .05$.

Table 2
Numbers of participants (out of 48) according to endorsed testimony in Experiment 2.

	All targets	Ingroup targets		Outgroup targets	
		Ingroup informant + Outgroup informant –	Ingroup informant – Outgroup informant +	Ingroup informant + Outgroup informant –	Ingroup informant – Outgroup informant +
Mostly positive	41	39	41	32	21
At chance	6	9	5	12	18
Mostly negative	1	–	2	4	9
Wilcoxon signed-rank test results	$z = 5.48$, $p < .001$, $r = .56$	$z = 6.25$, $p < .001$, $r = .64$	$z = 5.95$, $p < .001$, $r = .61$	$z = 4.67$, $p < .001$, $r = .48$	$z = 2.19$, $p = .028$, $r = .22$

regarding female and male targets will differ. To explore this possibility, the next experiment featured male agents.

Experiment 3

Method

Participants

A total of 36[1] Turkish-speaking monolingual children (20 female; mean age = 6 years 9 months, range = 6 years 2 months to 7 years 7 months) participated in Experiment 3. Data from an additional 7 children were excluded due to their having a general developmental disorder ($n = 1$) or because no information on exposure to other languages could be obtained ($n = 6$). Children were recruited from the same population as for the previous experiments.

[1] An a priori power analysis using G*Power 3.1 (Faul, Erdfelder, Buchner, & Lang, 2009) based on the effect size of the interaction between the two variables in Experiment 2 ($\eta_p^2 = .16$) indicated that a sample size of 33 would be sufficient to detect a significant effect in Experiment 3, with a power of .95 and an alpha of .05.

Design and procedure

Head-and-shoulder photos of students were chosen from a photo database (Sarıbay et al., 2018). All images were on a plain white background in a brightly lit room. Selected male photos were rated by a group of adults (n = 10) on perceived age, friendliness, attractiveness, intelligence, and positivity, and they were found to be comparable. The ratings of photos for male informants and targets were comparable to those of the female informants and targets. Depending on whether the photos were designated as targets or informants, red, brown, or green T-shirts were added to the photos using Adobe Photoshop CC. The photos of male individuals had the same dimensions as those of the female individuals used in the previous two experiments.

Auditory stimuli consisted of voice recordings of 10 male individuals, using the same materials described in Experiment 2. The decibel levels of the voice clips were equated. Low-pass filtered versions of the recordings were rated by the same adults who had rated the female voice recordings used in Experiment 2 in terms of positivity, attractiveness, and friendliness. The recordings were found to be comparable.

Results and discussion

A preliminary analysis revealed no difference with regard to participant gender, so data were collapsed across gender.

The percentages of trials where participants endorsed positive testimony were submitted to a 2 × 2 repeated-measures ANOVA with group membership of targets (ingroup vs. outgroup) and group membership of informants who gave positive testimony (ingroup vs. outgroup) as within-participants factors. The results indicated a main effect of group membership of targets, $F(1, 35) = 8.00$, $p = .008$, $\eta_p^2 = .19$, suggesting that participants endorsed positive evaluations more frequently for ingroup targets (M = 78.47%, SD = 30.05) than for outgroup targets (M = 61.81%, SD = 40.67). The results also revealed a main effect of group membership of informants who gave positive testimony, $F(1, 35) = 12.87$, $p = .001$, $\eta_p^2 = .27$, suggesting that participants were more likely to endorse positive evaluations when they were given by ingroup informants (M = 77.78%, SD = 32.38) than when they were given by outgroup informants (M = 62.5%, SD = 39.14). Finally, there was an interaction between these two variables, $F(1, 35) = 4.53$, $p = .04$, $\eta_p^2 = .12$. This interaction effect was further investigated using pairwise comparisons with Bonferroni corrections, which revealed that participants were less likely to endorse positive testimony when outgroup informants' evaluations of outgroup targets were positive compared with the other conditions ($ps \leq .05$). The other three conditions did not differ ($ps = .10$) (see Fig. 3).

Participants' endorsement of positive testimony was also compared against chance separately for each condition. For ingroup targets, participants endorsed positive evaluations both when they were offered by ingroup informants (M = 80.56%, SD = 29.95), $t(35) = 6.12$, $p < .001$, $d = 1.02$, and when they were offered by outgroup informants (M = 76.39%, SD = 30.44), $t(35) = 5.20$, $p < .001$, $d = 0.87$. However, for outgroup targets participants endorsed positive evaluations only when they were offered by ingroup informants (M = 75%, SD = 34.84), $t(35) = 4.31$, $p < .001$, $d = 0.72$, that is, not when they were offered by outgroup informants (M = 48.61%, SD = 42.23), $t(35) = -0.20$, $p = .85$, $d = -0.03$. The results of the nonparametric tests confirmed these findings (see Table 3).

Participants' endorsement of positive testimony was compared across Experiments 2 and 3 in order to see whether the gender of the targets and informants affected the participants' testimony acceptance tendencies. A mixed-design ANOVA with group membership of targets (ingroup vs. outgroup) and group membership of informants who gave positive testimony (ingroup vs. outgroup) as within-participants factors and experiment (Experiment 2 vs. Experiment 3) as the between-participants factor revealed a main effect of experiment, $F(1, 82) = 5.12$, $p = .026$, $\eta_p^2 = .06$. This effect was driven by participants' tendency to accept positive testimony more frequently in Experiment 2 (M = 80.73%, SD = 20.62) than in Experiment 3 (M = 70.14%, SD = 22.01). However, the experiment did not interact with the other two variables ($ps \geq .10$). The results revealed a main effect of group membership of targets, $F(1, 82) = 24.89$, $p < .001$, $\eta_p^2 = .23$, suggesting that participants endorsed positive evaluations more for ingroup targets (M = 85.42%, SD = 26.44) than for outgroup targets

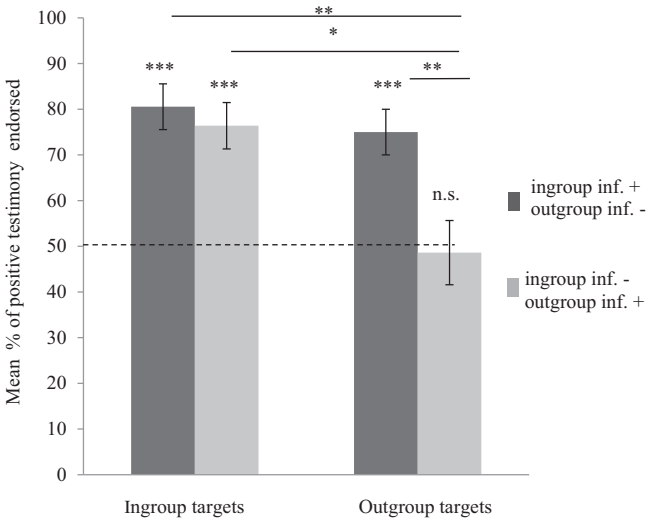

Fig. 3. Mean percentages of endorsed positive testimony based on targets' and informants' group identities in Experiment 3. Error bars represent standard errors. inf., informants. $^{***}p < .001$, $^{**}p < .01$, $^{*}p < .05$.

Table 3
Numbers of participants (out of 36) according to endorsed testimony in Experiment 3.

	All targets	Ingroup targets		Outgroup targets	
		Ingroup informant + Outgroup informant −	Ingroup informant − Outgroup informant +	Ingroup informant + Outgroup informant −	Ingroup informant − Outgroup informant +
Mostly positive	25	24	21	22	12
At chance	6	10	13	10	11
Mostly negative	5	2	2	4	13
Wilcoxon signed-rank test results	$z = 4.09$, $p < .001$, $r = .48$	$z = 4.32$, $p < .001$, $r = .51$	$z = 3.96$, $p < .001$, $r = .47$	$z = 3.53$, $p < .001$, $r = .42$	$z = -0.20$, $p = .8$, $r = .02$

($M = 66.96\%$, $SD = 38.24$). The results also revealed a main effect of group membership of informants who gave positive testimony, $F(1, 82) = 23.07$, $p < .001$, $\eta_p^2 = .22$, suggesting that participants endorsed positive evaluations more readily when they were given by ingroup informants ($M = 81.85\%$, $SD = 29.68$) than when they were given by outgroup informants ($M = 70.54\%$, $SD = 37.24$). Finally, there was an interaction between these two variables, $F(1, 82) = 12.21$, $p = .001$, $\eta_p^2 = .13$. This interaction effect was further investigated using pairwise comparisons with Bonferroni corrections, which revealed that the participants' endorsement of positive testimony was significantly lower when outgroup informants' evaluations of outgroup targets were positive compared with the other conditions ($ps \leq .001$). The other three conditions did not differ from one another ($ps > .20$).

As in the previous two experiments, in Experiment 3 children accepted positive testimony, particularly for ingroup targets. As in Experiment 2, for ingroup targets children accepted the positive testimony of ingroup and outgroup informants to a similar degree. Thus, the tendency to attribute positive characteristics to ingroup members seems to be resistant to negative evaluations even when they are given by ingroup informants. Children's endorsement of information regarding outgroup targets, however, differed depending on the informants' group membership, thereby paralleling the results of Experiment 2. For outgroup targets, children endorsed negative evaluations more readily when these were provided by ingroup informants. Indeed, when ingroup informants evaluated

outgroup targets negatively, children's endorsement of the positive testimony was no longer above chance. Importantly, when ingroup informants evaluated outgroup informants positively, children endorsed positive evaluations of outgroup targets to a similar degree as they had done for the ingroup targets.

Apart from these main findings, children also endorsed the positive testimony more readily for female targets (Experiment 2) than for male targets (Experiment 3). This can be explained by female individuals usually being associated with attributes such as being "kind, helpful, sympathetic, and concerned about others," whereas male individuals are expected to be more "aggressive, forceful, independent, and decisive" (Heilman, 2001, p. 658). In addition, for both children and adults, displays of anger are more widespread and more accepted for male individuals than for female individuals (Brechet, 2013). Thus, exposure to gender stereotypes might lead children to more readily attribute meanness to male individuals and/or niceness to female individuals.

General discussion

The present study explored children's selective learning about novel individuals' attributes. Specifically, we asked how children's existing biases about individuals would change in the light of information provided by ingroup and outgroup informants. The results of all three experiments show that children tend to endorse positive testimony and that they endorse positive testimony more for ingroup individuals than outgroup individuals. Crucially, the results of Experiments 2 and 3 show that children endorse ingroup informants' testimony selectively on the basis of the target's group membership. For novel ingroup individuals, children tend to endorse the positive testimony regardless of the informants' group membership. By contrast, for novel outgroup individuals, children rely on the informants' group membership when deciding whose testimony to endorse; they tend to endorse the testimony of ingroup informants.

Past research on trust in testimony suggests that children sometimes act credulously and endorse testimony from noncredible informants if there is no clear evidence that their testimony is wrong (Kim, Paulus, & Kalish, 2017). Furthermore, children endorse questionable testimony even on a subject that they are knowledgeable about (McDonald & Ma, 2016). Our results suggest, however, that in the case of testimony about novel ingroup individuals, children tend to endorse positive testimony that is in line with their initial biases regardless of whether the testimony comes from ingroup or outgroup informants. For outgroup individuals, however, children rely more on the informants' characteristics when deciding whose testimony to endorse. These findings suggest that children tend to trust informants, particularly when they are unsure of their own knowledge (Chan & Tardif, 2013; Jaswal, 2010).

These results can also be interpreted in line with the predictions of the extended contact hypothesis, which posits that knowledge of a friendship between an ingroup individual and an outgroup individual can increase positive attitudes toward outgroup individuals through different mechanisms such as changing the perception of group norms by implying positive attitudes of both parties toward each other and facilitating inclusion of others in one's self-concept (Wright, Aron, McLaughlin-Volpe, & Ropp, 1997). For instance, presenting children aged 5–11 years with stories featuring intergroup friendships reduces their prejudice against outgroup individuals (i.e., refugee children) (Cameron, Rutland, Brown, & Douch, 2006). Corroborating these findings, the results of the present study suggest that simply hearing positive testimony of a novel ingroup individual might be sufficient for children to form a positive impression about an outgroup individual.

Our study raises interesting questions for future research about the extent to which the newly formed impressions would be stable and how effective they would be when children interact with novel individuals they were informed about previously. One possibility is that once children are ensured about a positive characteristic of an outgroup individual by an ingroup informant, all other characteristics of that individual will also be assumed to be positive (e.g., Cain, Heyman, & Walker, 1997; Nisbett & Wilson, 1977). Furthermore, children might generalize these positive attributes to other outgroup individuals. Alternatively, although positive testimony from an ingroup member is sufficient to build a positivity bias, children might not set aside outgroup negativity altogether and may still avoid interacting with outgroup members. Similarly, although children tend to retain their posi-

tive attitude toward ingroup members even when they are negatively judged by an ingroup informant, the negative testimony might affect children's willingness to interact further with these individuals.

Both adults and children's peers have acted as informants in research on selective trust in children (Boseovski & Thurman, 2014; Boseovski, Marble, & Hughes, 2017; Corriveau & Harris, 2009a, 2009b; Koenig & Harris, 2005; Koenig, Clément, & Harris, 2004; VanderBorght & Jaswal, 2009). Even using puppets as informants seems to work well for examining children's selective learning strategies in experimental settings (e.g., Birch et al., 2008). The experiments in the present study featured college-aged actors as both targets and informants, but our findings are in line with previous research on children's attributions of positive and negative characteristics to ingroup and outgroup peers, puppets, or drawings of novel characters (e.g., Baron & Banaji, 2006; Baron & Dunham, 2015; Buttelmann & Böhm, 2014; Doyle & Aboud, 1995). Nevertheless, because children's social environments are largely composed of their peers, and because children's learning strategies may vary depending on the age of the novel agents they are learning about, it is important for future research to explore whether children's endorsement of information about novel agents would depend on the age of the target agents and the informants.

Our study highlights the role of another characteristic of the target individuals in guiding children's personality attributions—gender. It shows that children accepted positive evaluations less frequently for male targets (Experiment 3) than for female targets (Experiment 2). As discussed earlier, this effect may have been driven by the children's gender stereotypes, where physical aggression is more readily associated with male individuals (e.g., Giles & Heyman, 2005) and niceness is more readily associated with female individuals (e.g., Miller, Lurye, Zosuls, & Ruble, 2009). Such gender-stereotypical expectations may have implications with regard to the development of gender roles and gender-based discrimination (e.g., Teig & Susskind, 2008; Yee & Brown, 1994). This finding also points to the importance of having targets or protagonists of both genders instead of featuring only same-gender targets as participants (e.g., Lockhart, Chang, & Story, 2002) or only female targets (e.g., Rholes & Ruble, 1986) because this might allow researchers to develop a more comprehensive account of children's social attitudes, particularly for research that involves children's trait attributions.

It is also important to note that the children in our study were recruited from schools where the majority of students come from monolingual Turkish-speaking families and whose exposure to speakers of different languages was very limited. Children who live in multicultural environments or who attend multicultural schools might have different experiences with outgroup individuals and different firsthand observations about these individuals' behaviors or attributes (McGlothlin & Killen, 2010; Rutland et al., 2005). Similarly, the attitudes of bilingual children toward speakers of other languages might differ from those of monolingual children (Byers-Heinlein, Behrend, Said, Girgis, & Poulin-Dubois, 2017; but see Souza, Byers-Heinlein, & Poulin-Dubois, 2013). Accordingly, initial biases and the endorsement of information might vary in such samples.

One caveat worth discussing is related to the fact that the present study used language as the group membership marker. Although language has been used by several studies that investigated the effects of intergroup biases on children's social preferences and learning (e.g., Buttelmann et al., 2013; Corriveau et al., 2013; Kinzler et al., 2011), because participants in the present study were unable to understand the content of the speech of outgroup informants, their testimony was translated into Turkish by the experimenter. This may be seen as a contingency with the outgroup condition. However, if children relied on ingroup informants simply because they did not understand the outgroup informants' speech, this would have been observed across all trials. However, in both Experiments 2 and 3, when the targets were ingroup individuals, children accepted an equal amount of positive testimony from ingroup and outgroup informants. This suggests that even though children did not understand the outgroup informants themselves, they were able to follow the translation of their evaluations.

The relatively few studies that have explored children's learning about the social world through testimony provide important insights into how children acquire knowledge about novel individuals and might help us to better understand the mechanisms through which children's existing biases about social agents can be modified. Accordingly, the findings of such studies may also have important implications for developing programs to prevent conflict that can result from negative intergroup attitudes in multicultural settings. Our findings are encouraging because they indicate that children

growing up in a culture with low levels of interpersonal trust (Inglehart et al., 2004) nevertheless show a general tendency to attribute positive characteristics to novel individuals from different groups. Furthermore, even though children endorsed negative attributes more frequently for outgroup members, children's overall endorsement of positive attributes was above chance for both ingroup and outgroup members. In addition, an ingroup individual's positive testimony of an outgroup individual produced comparable levels of children's positive attributions to ingroup and outgroup members. These results suggest that when introducing an outgroup individual, having a fellow ingroup member give positive testimony about the outgroup individual might help children to overcome their potential negative biases against that outgroup individual. By the same token, our findings also imply that a negative statement about an outgroup individual might be similarly detrimental to building positive intergroup attitudes if that statement comes from an ingroup member. Hence, the attitudes of individuals from children's own social groups may play a particularly important role in possible intervention programs. Although the present study explored these possibilities for social groups defined by language, the findings may also apply to other types of social cues that could lead to stigmatization of individuals such as race (Baron & Banaji, 2006) and physical disability (Huckstadt & Shutts, 2014).

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References

Aboud, F. E. (1988). *Children and prejudice*. Cambridge, MA: Blackwell.
Aboud, F. E. (2003). The formation of in-group favoritism and out-group prejudice in young children: Are they distinct attitudes? *Developmental Psychology, 39*, 48–60.
Averhart, C. J., & Bigler, R. S. (1997). Shades of meaning: Skin tone, racial attitudes, and constructive memory in African American children. *Journal of Experimental Child Psychology, 67*, 363–388.
Baron, A. S., & Banaji, M. R. (2006). The development of implicit attitudes: Evidence of race evaluations from ages 6 and 10 and adulthood. *Psychological Science, 17*, 53–58.
Baron, A. S., & Dunham, Y. (2015). Representing "us" and "them": Building blocks of intergroup cognition. *Journal of Cognition and Development, 16*, 780–801.
Bempechat, J., Graham, S. E., & Jimenez, N. V. (1999). The socialization of achievement in poor and minority students: A comparative study. *Journal of Cross-Cultural Psychology, 30*, 139–158.
Benenson, J. F., & Dweck, C. S. (1986). The development of trait explanations and self-evaluations in the academic and social domains. *Child Development, 57*, 1179–1187.
Bigler, R. S., & Liben, L. S. (1993). A cognitive-developmental approach to racial stereotyping and reconstructive memory in Euro-American children. *Child Development, 64*, 1507–1518.
Birch, S., Vauthier, S., & Bloom, P. (2008). Three- and four-year-olds spontaneously use others' past performance to guide their learning. *Cognition, 107*, 1018–1034.
Boseovski, J. J. (2010). Evidence for "rose-colored glasses": An examination of the positivity bias in young children's personality judgments. *Child Development Perspectives, 4*, 212–218.
Boseovski, J. J. (2012). Trust in testimony about strangers: Young children prefer reliable informants who make positive attributions. *Journal of Experimental Child Psychology, 111*, 543–551.
Boseovski, J. J., & Lee, K. (2006). Children's use of frequency information for trait categorization and behavioral prediction. *Developmental Psychology, 42*, 500–513.
Boseovski, J. J., Marble, K. E., & Hughes, C. (2017). Role of expertise, consensus, and informational valence in children's performance judgments. *Social Development, 26*, 445–465.
Boseovski, J. J., Shallwani, S., & Lee, K. (2009). It's all good: Children's personality attributions after repeated success and failure in peer and computer interactions. *British Journal of Developmental Psychology, 27*, 783–797.
Boseovski, J. J., & Thurman, S. L. (2014). Evaluating and approaching a strange animal: Children's trust in informant testimony. *Child Development, 85*, 824–834.
Brechet, C. (2013). Children's gender stereotypes through drawings of emotional faces: Do boys draw angrier faces than girls? *Sex Roles, 68*, 378–389.
Brewer, M. B. (1999). The psychology of prejudice: In-group love and out-group hate? *Journal of Social Issues, 55*, 429–444.
Brooker, I., & Poulin-Dubois, D. (2013). Is a bird an apple? The effect of speaker labeling accuracy on infants' word learning, imitation, and helping behaviors. *Infancy, 18*, E46–E68.

Buttelmann, D., & Böhm, R. (2014). The ontogeny of the motivation that underlies in-group bias. *Psychological Science, 25*, 921–927.
Buttelmann, D., Zmyj, N., Daum, M., & Carpenter, M. (2013). Selective imitation of in-group over out-group members in 14-month-old infants. *Child Development, 84*, 422–428.
Byers-Heinlein, K., Behrend, D. A., Said, L. M., Girgis, H., & Poulin-Dubois, D. (2017). Monolingual and bilingual children's social preferences for monolingual and bilingual speakers. *Developmental Science, 20*, e12392.
Cain, K. M., Heyman, G. D., & Walker, M. E. (1997). Preschoolers' ability to make dispositional predictions within and across domain. *Social Development, 6*, 53–75.
Cameron, L., Rutland, A., Brown, R., & Douch, R. (2006). Changing children's intergroup attitudes toward refugees: Testing different models of extended contact. *Child Development, 77*, 1208–1219.
Chan, C. C., & Tardif, T. (2013). Knowing better: The role of prior knowledge and culture in trust in testimony. *Developmental Psychology, 49*, 591–601.
Corriveau, K. H., Fusaro, M., & Harris, P. L. (2009). Going with the flow: Preschoolers prefer nondissenters as informants. *Psychological Science, 20*, 372–377.
Corriveau, K., & Harris, P. L. (2009b). Preschoolers continue to trust a more accurate informant 1 week after exposure to accuracy information. *Developmental Science, 12*, 188–193.
Corriveau, K., & Harris, P. L. (2009a). Choosing your informant: Weighing familiarity and recent accuracy. *Developmental Science, 12*, 426–437.
Corriveau, K. H., Kinzler, K. D., & Harris, P. L. (2013). Accuracy trumps accent in children's endorsement of object labels. *Developmental Psychology, 49*, 470–479.
Corriveau, K. H., & Kurkul, K. E. (2014). "Why does rain fall?" Children prefer to learn from an informant who uses noncircular explanations. *Child Development, 85*, 1827–1835.
Delhey, J., & Newton, K. (2005). Predicting cross-national levels of social trust: Global pattern or Nordic exceptionalism? *European Sociological Review, 21*, 311–327.
Delhey, J., Newton, K., & Welzel, C. (2011). How general is trust in "most people"? Solving the radius of trust problem. *American Sociological Review, 76*, 786–807.
Diesendruck, G., & HaLevi, H. (2006). The role of language, appearance, and culture in children's social category-based induction. *Child Development, 77*, 539–553.
Doyle, A. B., & Aboud, F. E. (1995). A longitudinal study of White children's racial prejudice as a social cognitive development. *Merrill-Palmer Quarterly, 41*, 210–229.
Dunham, Y., Baron, A. S., & Carey, S. (2011). Consequences of "minimal" group affiliations in children. *Child Development, 82*, 793–811.
Faul, F., Erdfelder, E., Buchner, A., & Lang, A. G. (2009). Statistical power analyses using G*Power 3.1: Tests for correlation and regression analyses. *Behavior Research Methods, 41*, 1149–1160.
Giles, J. W., & Heyman, G. D. (2005). Young children's beliefs about the relationship between gender and aggressive behavior. *Child Development, 76*, 107–121.
Grant, M. G., & Mills, C. M. (2011). Children's explanations of the intentions underlying others' behaviour. *British Journal of Developmental Psychology, 29*, 504–523.
Heilman, M. E. (2001). Description and prescription: How gender stereotypes prevent women's ascent up the organizational ladder. *Journal of Social Issues, 57*, 657–674.
Heiphetz, L., Spelke, E. S., & Banaji, M. R. (2013). Patterns of implicit and explicit attitudes in children and adults: Tests in the domain of religion. *Journal of Experimental Psychology: General, 142*, 864–879.
Heyman, G. D., Fu, G., & Lee, K. (2013). Selective skepticism: American and Chinese children's reasoning about evaluative academic feedback. *Developmental Psychology, 49*, 543–553.
Heyman, G. D., & Gelman, S. A. (1998). Young children use motive information to make trait inferences. *Developmental Psychology, 34*, 310–321.
Heyman, G. D., & Giles, J. W. (2004). Valence effects in reasoning about evaluative traits. *Merrill-Palmer Quarterly, 50*, 86–109.
Huckstadt, L. K., & Shutts, K. (2014). How young children evaluate people with and without disabilities. *Journal of Social Issues, 70*, 99–114.
Inglehart, R. (1999). Trust, well-being and democracy. In M. Warren (Ed.), *Democracy and trust* (pp. 88–120). Cambridge, UK: Cambridge University Press.
Inglehart, R., Basanez, M., Diez-Medrano, J., Halman, L., & Luijkx, R. (Eds.). (2004). *Human beliefs and values: A cross-cultural sourcebook based on the 1999–2002 values surveys*. Mexico City: Siglo XXI Editores.
Jaswal, V. K. (2010). Believing what you're told: Young children's trust in unexpected testimony about the physical world. *Cognitive Psychology, 61*, 248–272.
Jaswal, V. K., & Malone, L. S. (2007). Turning believers into skeptics: 3-year-olds' sensitivity to cues to speaker credibility. *Journal of Cognition and Development, 8*, 263–283.
Jaswal, V. K., & Neely, L. A. (2006). Adults don't always know best: Preschoolers use past reliability over age when learning new words. *Psychological Science, 17*, 757–758.
Kalaycıoğlu, E. (2001). Turkish democracy: Patronage versus governance. *Turkish Studies, 2*(1), 54–70.
Kim, S., Paulus, M., & Kalish, C. (2017). Young children's reliance on information from inaccurate informants. *Cognitive Science, 41*, 601–621.
Kinzler, K. D., Corriveau, K. H., & Harris, P. L. (2011). Children's selective trust in native-accented speakers. *Developmental Science, 14*, 106–111.
Kinzler, K. D., Dupoux, E., & Spelke, E. S. (2007). The native language of social cognition. *Proceedings of the National Academy of Sciences of the United States of America, 104*, 12577–12580.
Koblinsky, S. G., Cruse, D. F., & Sugawara, A. I. (1978). Sex role stereotypes and children's memory for story content. *Child Development, 49*, 452–458.
Koenig, M. A. (2012). Beyond semantic accuracy: Preschoolers evaluate a speaker's reasons. *Child Development, 83*, 1051–1063.

Koenig, M. A., Clément, F., & Harris, P. L. (2004). Trust in testimony: Children's use of true and false statements. *Psychological Science, 15*, 694–698.
Koenig, M., & Harris, P. L. (2005). Preschoolers mistrust ignorant and inaccurate speakers. *Child Development, 76*, 1261–1277.
KONDA. (2014, October). Influence of corruption and perception of economic conditions on voter preferences. Retrieved February 6, 2018, from <http://konda.com.tr/wp-content/uploads/2017/03/1410_Barometer.pdf>.
Kowalski, K., & Lo, Y. F. (2001). The influence of perceptual features, ethnic labels, and sociocultural information on the development of ethnic/racial bias in young children. *Journal of Cross-Cultural Psychology, 32*, 444–455.
Kropp, J. J., & Halverson, C. F. (1983). Preschool children's preferences and recall for stereotyped versus nonstereotyped stories. *Sex Roles, 9*, 261–272.
Kushnir, T., Vredenburgh, C., & Schneider, L. A. (2013). "Who can help me fix this toy?" The distinction between causal knowledge and word knowledge guides preschoolers' selective requests for information. *Developmental Psychology, 49*, 446–453.
Landrum, A. R., Mills, C. M., & Johnston, A. M. (2013). When do children trust the expert? Benevolence information influences children's trust more than expertise. *Developmental Science, 16*, 622–638.
Lapan, C., Boseovski, J. J., & Blincoe, S. (2016). "Can I believe my eyes?" Three- to six-year-olds' willingness to accept contradictory trait labels. *Merrill-Palmer Quarterly, 62*, 22–47.
Liben, L. S., & Signorella, M. L. (1980). Gender-related schemata and constructive memory in children. *Child Development, 51*, 11–18.
Liberman, Z., Woodward, A. L., Sullivan, K. R., & Kinzler, K. D. (2016). Early emerging system for reasoning about the social nature of food. *Proceedings of the National Academy of Sciences of the United States of America, 113*, 9480–9485.
Lockhart, K. L., Chang, B., & Story, T. (2002). Young children's beliefs about the stability of traits: Protective optimism? *Child Development, 73*, 1408–1430.
Lucas, A. J., Lewis, C., Pala, F. C., Wong, K., & Berridge, D. (2013). Social-cognitive processes in preschoolers' selective trust: Three cultures compared. *Developmental Psychology, 49*, 579–590.
Ma, L., & Woolley, J. D. (2013). Young children's sensitivity to speaker gender when learning from others. *Journal of Cognition and Development, 14*, 100–119.
Martin, C. L. (1989). Children's use of gender-related information in making social judgments. *Developmental Psychology, 25*, 80–88.
McDonald, K. P., & Ma, L. (2016). Preschoolers' credulity toward misinformation from ingroup versus outgroup speakers. *Journal of Experimental Child Psychology, 148*, 87–100.
McGlothlin, H., & Killen, M. (2010). How social experience is related to children's intergroup attitudes. *European Journal of Social Psychology, 40*, 625–634.
Mealy, M., Stephan, W. G., Mhaka-Mutepfa, M., & Alvarado-Sanchez, L. (2015). Interpersonal trust in Ecuador, the United States, and Zimbabwe. *Cross-Cultural Research, 49*, 393–421.
Mezulis, A. H., Abramson, L. Y., Hyde, J. S., & Hankin, B. L. (2004). Is there a universal positivity bias in attributions? A meta-analytic review of individual, developmental, and cultural differences in the self-serving attributional bias. *Psychological Bulletin, 130*, 711–747.
Miller, C. F., Lurye, L. E., Zosuls, K. M., & Ruble, D. N. (2009). Accessibility of gender stereotype domains: Developmental and gender differences in children. *Sex Roles, 60*, 870–881.
Nesdale, D., & Brown, K. (2004). Children's attitudes towards an atypical member of an ethnic in-group. *International Journal of Behavioral Development, 28*, 328–335.
Nisbett, R. E., & Wilson, T. D. (1977). The halo effect: Evidence for unconscious alteration of judgments. *Journal of Personality and Social Psychology, 35*, 250–256.
Organization for Economic Cooperation and Development. (2018). Income inequality (indicator). Retrieved February 6, 2018, from <https://data.oecd.org/inequality/income-inequality.htm>.
Over, H., Eggleston, A., Bell, J., & Dunham, Y. (2018). Young children seek out biased information about social groups. *Developmental Science, 21*, e12580.
Poulin-Dubois, D., & Brosseau-Liard, P. (2016). The developmental origins of selective social learning. *Current Directions in Psychological Science, 25*, 60–64.
Realo, A., Allik, J., & Greenfield, B. (2008). Radius of trust: Social capital in relation to familism and institutional collectivism. *Journal of Cross-Cultural Psychology, 39*, 447–462.
Reis, H. T., & Wright, S. (1982). Knowledge of sex-role stereotypes in children aged 3 to 5. *Sex Roles, 8*, 1049–1056.
Rholes, W. S., & Ruble, D. N. (1984). Children's understanding of dispositional characteristics of others. *Child Development, 55*, 550–560.
Rholes, W. S., & Ruble, D. N. (1986). Children's impressions of other persons: The effects of temporal separation of behavioral information. *Child Development, 57*, 872–878.
Rutland, A., Brown, R. J., Cameron, L., Ahmavaara, A., Arnold, K., & Samson, J. (2007). Development of the positive–negative asymmetry effect: In-group exclusion norm as a mediator of children's evaluations on negative attributes. *European Journal of Social Psychology, 37*, 171–190.
Rutland, A., Cameron, L., Bennett, L., & Ferrell, J. (2005). Interracial contact and racial constancy: A multi-site study of racial intergroup bias in 3–5 year old Anglo-British children. *Journal of Applied Developmental Psychology, 26*, 699–713.
Sarıbay, S. A., Biten, F. A., Meral, O. E., Aldan, P., Třebický, V., & Kleisner, K. (2018). The Bogazici face database: Standardized photographs of Turkish faces with supporting materials. *PLoS One, 13*(2), e192018.
Soley, G., & Spelke, E. S. (2016). Shared cultural knowledge: Effects of music on young children's social preferences. *Cognition, 148*, 106–116.
Souza, A. L., Byers-Heinlein, K., & Poulin-Dubois, D. (2013). Bilingual and monolingual children prefer native-accented speakers. *Frontiers in Psychology, 4*. https://doi.org/10.3389/fpsyg.2013.00953.
Tajfel, H., & Turner, J. C. (2004). The social identity theory of intergroup behavior. In J. T. Jost & J. Sidanius (Eds.), *Political psychology (Key Readings in Social Psychology)* (pp. 276–293). New York: Psychology Press.

Teig, S., & Susskind, J. E. (2008). Truck driver or nurse? The impact of gender roles and occupational status on children's occupational preferences. *Sex Roles, 58*, 848–863.
VanderBorght, M., & Jaswal, V. K. (2009). Who knows best? Preschoolers sometimes prefer child informants over adult informants. *Infant and Child Development, 18*, 61–71.
Wright, S. C., Aron, A., McLaughlin-Volpe, T., & Ropp, S. A. (1997). The extended contact effect: Knowledge of cross-group friendships and prejudice. *Journal of Personality and Social Psychology, 73*, 73–90.
Yamauchi, H. (1989). Congruence of causal attributions for school performance given by children and mothers. *Psychological Reports, 64*, 359–363.
Yee, M., & Brown, R. (1994). The development of gender differentiation in young children. *British Journal of Social Psychology, 33*, 183–196.