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Young Children's Deference to a Consensus Varies by Culture and Judgment Setting

Kathleen H. Corriveau[a,*], Elizabeth Kim[b], Ge Song[c] and Paul L. Harris[b]

[a] Social Learning Laboratory, School of Education, Boston University, Two Silber Way, Boston, MA 02215, USA

[b] Graduate School of Education, Harvard University, Appian Way, Cambridge, MA 02138, USA

[c] Department of Clinical and Social Sciences in Psychology, University of Rochester, Meliora Hall, P.O. Box 270266, Rochester, NY 14627-0266, USA

* Corresponding author, e-mail: kcorriv@bu.edu

Abstract

Three- and 4-year-old Asian-American and Caucasian-American children were asked to judge which of a set of three lines was the longest, both independently and in the face of an inaccurate consensus among informants. Half of the children made their judgments privately; the other half made their judgments with the experimenter present. In the private setting, children were mostly resistant to the incorrect testimony from the consensus. By contrast, in the public setting, children were more deferential, less willing to explicitly judge the consensus members as incorrect, and more likely to misremember the consensus as having made accurate line judgments. Confirming earlier findings, deference to the consensus was greater among Asian-American children. First-generation Asian-American children were especially deferential in the public setting.

Keywords

Preschoolers, consensus, testimony, deference, culture

Introduction

When learning about the world, children can rely on perceptual observation, or turn to others for information. A wealth of research indicates that infants learn from perceptual observation – inferring various hidden properties – such as the permanence of a hidden object (Baillargeon, 2004) or an agent's goal (Woodward, 1998). Moreover, children often privilege perceptual information over the claims of others, denying an informant's false labels (Koenig and Echols, 2003), and refusing to reason from a false claim (Dias and Harris, 1990; Harris, 2000).

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Nevertheless, children also use other people as information sources (Gelman, 2009; Harris, 2012). Preschoolers prefer learning from a previously accurate over a previously inaccurate informant (e.g., Birch et al., 2008; Koenig and Harris, 2005) and extend trust in an accurate informant across similar learning situations (e.g., object labels to object functions, Koenig and Harris, 2005; objects' causal properties to object labels, Sobel and Corriveau, 2010). Children are also sensitive to the presence of a consensus. They prefer to learn from an informant who receives assent rather than dissent from others (Fusaro and Harris, 2008; Corriveau et al., 2009a). Thus, children use two broad but distinct strategies: a perceptually-based strategy, focusing on first-hand observation, and an informant-based strategy, focusing on previous accuracy or consensus membership.

Typically, children's conclusions based on perceptual observation are consistent with the claims made by informants. In the present study, we examine how children respond when their perception-based conclusions do not coincide with the claims made by informants. A classic example of this conflict is the Asch line-judgment paradigm, in which adults can base their judgments on their own (correct) perception or endorse an (incorrect) consensus (Asch, 1956; Walker and Andrade, 1996). We recently created an Asch-like paradigm for use with preschoolers (Corriveau and Harris, 2010). The procedure differed from the original Asch procedure in that the consensus was presented to children via video, as opposed to live informants. Nevertheless, in our setup, which was arguably lower-pressure, although most preschoolers made correct perceptually-based judgments, a sizeable minority (40%) deferred to the consensus. Interestingly, this deference was linked to children's appraisal of, and memory for, the consensus. After making line judgments, children were invited to say whether the adults (in the video) had been "good" or "not so good" at answering questions. As compared to children who never conformed, children who conformed on one or more trials were more likely to judge the adults to be "good" at answering questions. In addition, when children were asked to say which line the adult consensus had indicated, children who had sometimes conformed were likely to state (incorrectly) that the consensus had picked out the correct strip. Taken together, we suggested that conformist children were not simply conforming to social pressure by overtly agreeing with the consensus whilst concurrently believing the consensus to be wrong. Rather, children were showing 'respectful deference' by entertaining the possibility that the consensus might be right.

We found that the proportion of children who deferred varied by cultural group, which is consistent with earlier findings with adults (Bond and Smith,

1996). Whereas 30% of Caucasian-American preschoolers deferred to the consensus, about 60% of Asian-American preschoolers deferred. Given these early emerging cultural differences, we speculated that adults vary in how far they prompt children to talk about and affirm their own perceptions, beliefs and feelings rather than attend and defer to the judgments of others. Indeed, recent findings confirm that European-American mothers talk more to children about their mental states, including their beliefs and feelings, than do Chinese-American mothers (Doan and Wang, 2010). In turn, American preschoolers show an earlier sensitivity than their Chinese peers to the fact that individuals may diverge in their beliefs and opinions (Wellman et al., 2006; Wellman, 2012).

In this paper, we ask two related questions about early deference. First, we ask if the rate of deference depends on the type of setting in which a judgment is made. Both adults (Asch, 1956; Abrams et al., 1990; Postmes et al., 2001) and children (Haun and Tomasello, 2011) defer more to a consensus in a public as opposed to a private setting. In our study, half of the children made their judgments publicly (they were visible to the experimenter), whereas the remaining children made their judgments privately (they were not visible to the experimenter, who was behind an occluder). Given our earlier findings concerning the comparatively high rate of deference among Asian-American children, we predicted that Asian-American preschoolers would be especially deferential when making their judgments publicly but might, like Caucasian-American children, rarely defer when making their judgments privately.

Second, we ask if the differences in deference between Asian-American and Caucasian-American preschoolers are simply due to the minority status of Asian-American preschoolers, or vary across different groups of Asian-Americans depending on their length of residence in the United States (Bond and Smith, 1996). To answer this question, we presented the line length task to three groups of children: first-generation Asian-Americans preschoolers (children were the first generation born in the US), second-generation Asian-American preschoolers (parents were the first generation born in the US), and at least second-generation Caucasian-American preschoolers. If Asian-American preschoolers defer because of their minority status, we might expect both first- and second-generation Asian-American preschoolers to display similar rates of deference. Alternatively, if Asian-American children defer because of cultural differences in socialization practices, differences that are likely to be gradually attenuated following immigration, then first-generation Asian-American preschoolers should show the greatest rate of deference, followed by second-generation Asian-American preschoolers.

Method

Participants

Participants were 94 preschool children (*M*=4 years 3 months, range 3 years 0 months–5 years 5 months, 47 females). Although individual socioeconomic background information was not collected, the participating preschools served children from lower to upper-middle class families. Ethnicity information was collected via parental report. Thirty parents identified their child as Caucasian-American (*M*=4 years 5 months, SD=7 months), 41 as first-generation Asian-American (*M*=4 years 3 months, SD=9 months), and 23 as second-generation Asian-American (*M*=4 years 1 month, SD=9 months). A one-way ANOVA of cultural group (Caucasian, first generation, second generation) confirmed no age differences ($F(2,91)=2.14$, ns).

Procedure

Children were tested in two phases. First, in 8 pretest trials children viewed still frames of three lines and were asked to point to the "big line." Only children who identified the largest line on all trials were included. Five children (three second-generation Asian-Americans, two first-generation Asian-Americans) incorrectly judged some lines and were removed from further analysis.

Second, children received 8 test trials in which they watched a movie where three informants were asked to point to the "big line" but actually all pointed to one of the two smaller lines. Test trials were presented in two 4-trial blocks. In one block, the informants were 3 adult males (adult test trials). In the other block, the informants were 3 boys (peer test trials). Approximately half the children in each cultural group were tested in the public setting and the remainder in the private setting, as described in more detail below. Finally, children made explicit judgments regarding the accuracy of the informants and also reported which line they thought the informants had identified.

Pretest. Eight still frames of 3 lines were presented to the child on the screen of a laptop. Lines were made of black foamboard and were 2 cm wide and 0.5 cm thick. The largest (reference) lines were 45, 40, 35, 30, 25, 20, 15 and 10 cm. The two smaller lines in each triplet were 10% and 20% smaller than the reference. For example, the 30-cm reference triplet contained lines that were 27 cm and 24 cm. The location of the longest line (left, right, middle) varied systematically. Line triplets were presented in one of 4 pseudo-random orders.

To start, the experimenter said, "See these three lines? Can you show me the big one?" On each trial, children were invited to point to the line they thought was the largest. As noted, those children retained for analysis always correctly identified the longest line.

Test. Children received two blocks of test trials (4 adult test trials; 4 peer test trials, order counterbalanced across participants). Children were informed that they would watch a movie and then answer some questions. The experimenter pointed to a still frame saying, "Oh look – here are some men/boys. One man/boy has a blue/black shirt, and one has a grey/blue shirt and one has a red/white shirt. They are going to show us which line they think is big and then I'm going to ask what you think."

Each trial involved a film of 3 informants wearing different, solid-coloured shirts and the same lines as in the pretest trials. Trials began with a voice-over asking, "Show me the big one." All three informants simultaneously pointed to the same incorrect line. The particular line (medium or smallest line) varied across trials. Finally, the experimenter indicated a still frame of the 3 informants with their hands by their sides and said, "They pointed to this line. What line do you think is big?" (Line Judgment question). For half of the children (n=47), these Line Judgment questions were presented in a public setting where children were visible to the experimenter (Public setting). The remaining children were told, "I'm going to hide behind this screen and then I want you to point to the line that you think is big." (Private setting). In both settings, children's responses were videotaped. No child asked about the presence of the video camera or showed any interest in it. Thus, we believe children perceived the private setting as truly private.

Immediately following the eighth Line Judgment question, children were asked two remaining sets of questions. First, the experimenter pointed to one informant and asked, "Was the man/boy in the green shirt very good or not very good at saying which line was big?" (*Informant Evaluation* questions). The same question was posed for the other two informants. To prevent children's explicit evaluations of the informants affecting subsequent line judgments, children evaluated the informants only at the end of the second block of line judgments.

Next, children were asked two Memory Check questions. The experimenter pointed to the final triplet and asked, "Which line did the men/boys say was big? And which line did you say was big?" In each case, children answered by pointing.

Results

Line Judgments

Table 1 shows the number of children (collapsed across cultural group) who correctly indicated the longest line on 0–4 trials in the Public and Private setting for Peer and Adult consensus trials. Note that 6 children who made errors chose the third possible line not indicated by the consensus. The pattern of findings is similar when we exclude these children from analyses, and when we use consensus choices as the dependent variable. Here, we use correct choice as the dependent variable to allow for comparisons across these data and the data from Corriveau and Harris (2010). Inspection of Table 1 shows that although the pattern of responses was similar for peer and adult consensus trials, there was a marked effect of setting. Less than half of the children were correct on all 4 trials in the Public setting (Peer consensus: 38.3%, Adult Consensus: 38%), whereas more than half of the children were correct on all 4 trials in the Private setting (Peer consensus: 61.7%, Adult consensus: 62%). Nevertheless, the mean number of correct choices exceeded chance expectation (33%) in both the Public (M_{peer}=2.74, SD=1.35, $t(46)$=7.13, p<0.001; M_{adult}=2.82, SD=1.26, $t(46)$=8.18, p<0.001) and the Private setting (M_{peer}=3.42, SD=0.94, $t(46)$=15.12, p<0.001; M_{adult}=3.27, SD=1.24, $t(46)$=10.71, p<0.001).

Table 2 shows the number of children in the Public and Private setting who correctly indicated the longest line on 0–8 trials (collapsing across Peer and Adult consensus trials) by cultural group (Caucasian-American, second-generation Asian-American, first-generation Asian-American). Few children in any of the three groups were deferential in the private setting. By contrast,

Table 1

Number of children who correctly indicated the longest line on 0–4 trials in peer consensus trials and adult consensus trials in the public and private setting

	Number of trials where longest line was correctly indicated					*N*
	0	1	2	3	4	
Public judgments						
Peer consensus	5	5	5	14	18	47
Adult consensus	3	5	8	12	19	47
Private judgments						
Peer consensus	2	0	3	13	29	47
Adult consensus	4	1	4	7	31	47

Table 2.

Number of children who correctly indicated the longest line on 0–8 trials by cultural group (Caucasian-American, second-generation Asian-American, first-generation Asian-American) in the public and private setting

	Number of trials where longest line was indicated (out of 8)									*N*
	0	1	2	3	4	5	6	7	8	
Public judgments										
Caucasian	0	0	0	0	0	2	2	0	10	14
Second-generation Asian-American	0	1	0	0	2	0	2	1	5	11
First-generation Asian-American	2	2	2	1	1	4	5	5	0	22
Private judgments										
Caucasian	0	0	0	0	0	1	4	1	10	16
Second-generation Asian-American	0	0	0	3	0	0	0	2	7	12
First-generation Asian-American	1	0	0	0	1	2	3	2	10	19

deference was more frequent in the public setting especially among first-generation Asian-Americans who all deferred on at least one trial.

To check these conclusions, the proportion of times (with an arcsin transformation) children made correct (i.e., non-deferential) judgments was analysed with a 4-way ANOVA of Child Age (3-year-olds, 4-year-olds), Judgment Setting (Public, Private) and Cultural Group (Caucasian-American, first-generation Asian-American, second-generation Asian-American), as between subjects variables and Consensus Age (Peer Informants, Adult Informants) as a within-subjects variable. This analysis revealed a significant main effect of Child Age ($F(1, 82)=10.97$, $p<0.001$, $\eta^2=0.04$). Younger children were less likely to make correct judgments than older children ($M_{younger}=5.42$, $SD_{younger}=2.53$; $M_{older}=6.96$, $SD_{older}=1.62$). There were also main effects of Judgment Setting ($F(1, 82)=4.55$, $p=0.05$, $\eta^2=0.05$), and Cultural Group ($F(2, 82)=7.07$, $p<0.001$, $\eta^2=0.15$) and a nearly significant interaction between these two factors ($F(2, 82)=2.77$, $p=0.06$, $\eta^2=0.07$). No other main effects or interactions were significant.

Figure 1 illustrates the interaction by showing the proportion of children's correct judgments as a function of Cultural Group and Judgment Setting. Inspection of Figure 1 reveals that Caucasian-American and second-generation

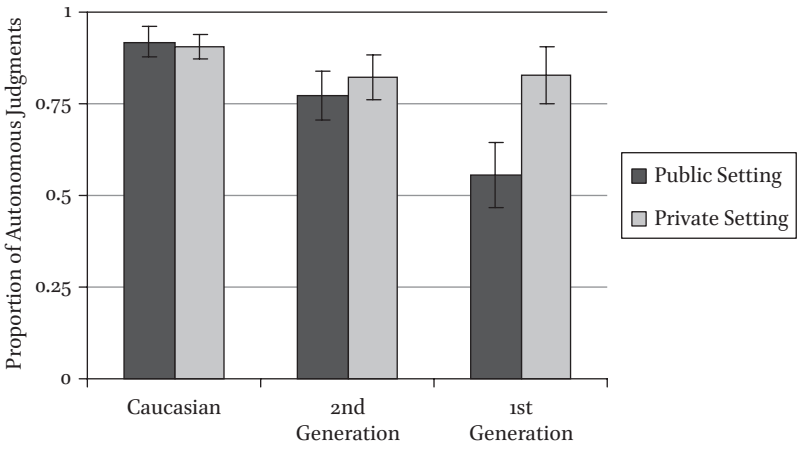

Figure 1. Proportion of perceptually correct line judgments by setting (public, private) and cultural group (Caucasian-American, second-generation American, first-generation American).

Asian-American children were less affected by Judgment Setting than first-generation Asian-American children. Tests of the simple effect of Judgment Setting for each Cultural Group confirmed that Caucasian-American were equally correct in both settings (M_{public}=7.35, SD_{public}=1.27; $M_{private}$=7.25, $SD_{private}$=1.06; $F(1, 88)$=0.02, ns) as were second-generation Asian-American children (M_{public}=6.18, SD_{public}=2.42; $M_{private}$=6.58, $SD_{private}$=2.19; $F(1, 88)$=0.23, ns). By contrast, first-generation Asian-American children made significantly fewer correct judgments in the Public as compared to the Private setting (M_{public}=4.45, SD_{public}=2.42; $M_{private}$=6.63, $SD_{private}$=2.06; $F(1, 88)$=12.34, $p<0.001$).

We also calculated the simple effect of Cultural Group for each setting. In the Private setting, children in all three groups displayed a similar proportion of correct judgments ($F(2, 88)$=1.09, ns). By contrast, there was a significant effect of Cultural Group in the Public setting ($F(2, 88)$=19.17, $p<0.001$). Post-hoc LSD tests indicated that Caucasian-American and second-generation Asian-American children made significantly more correct judgments than first-generation Asian-Americans (p values <0.05), but Caucasian-American and second-generation Asian-Americans did not differ from each other.

In the Public setting, the 33 children who made errors (20 3-year-olds, 13 4-year-olds) mostly chose the line indicated by the consensus. The mean number of consensus choices (M=3.31, SD=2.23) exceeded 50% chance expectation ($t(31)$=7.99, $p<0.001$). Similarly, in the Private setting, the 21 children who made

errors (12 3-year-olds, 9 4-year-olds) mostly chose the line indicated by the consensus. Again, the mean number of consensus choices (M=2.80, SD=1.79) exceeded 50% chance expectation ($t(19)$=6.97, p<0.001). Thus, when children erred, they typically did so by deferring to the consensus.

Evaluation of the Informants and Replies to Memory Check Questions

Children were scored for the number of informants (maximum=3) that they judged as "not very good" as opposed to "very good" at choosing the longest line. Recall that children only made this judgment after the second block of trials (concerning either the adult or peer consensus). When children were asked to evaluate informants in the Private setting, they performed above chance (50%) in saying that the informants were "not very good" (M=1.86, SD=1.28, $t(46)$=1.98, p<0.05). By contrast, when children were asked to evaluate the consensus in the Public setting, their judgments were not significantly different from 50% chance (M=1.62, SD=1.23, $t(46)$=0.64, ns). Consistent with this difference between the two settings, a 3-way ANOVA with Age Group (3-year-olds, 4-year-olds), Judgment Setting (Public, Private) and Cultural Group (Caucasian-American, first-generation Asian-American, second-generation Asian-American) as between-subjects variables confirmed a main effect of setting ($F(1, 82)$=3.32, p<0.05, η^2=0.03). No other main effects or interactions were significant.

To examine whether children's tendency to state that the informants were "not very good" was related to correct line judgments, we created two dichotomous variables: whether or not children were consistently autonomous in their line judgments, and whether or not children appropriately evaluated all three informants as "not very good." Children's evaluation of the informants was related to their line judgments across both settings (Public: $\chi^2(1, N=47)$=4.31, p<0.05; Private: $\chi^2(1, N=47)$=11.66, p<0.001). Thus, in both settings, the proportion of children evaluating all three informants as "not very good' was greater among children who were consistently correct.

Children were also scored for their ability to correctly remember the line that the informants had chosen, and the line that they themselves had selected (maximum=2). Children were only asked memory questions about the final set of informants (either adult or peer consensus). Children who judged the lines in the Public setting performed above 33% chance on the two memory questions (M=1.38, SD=0.76, $t(46)$=6.37, p<0.001). Similarly, children who judged the lines in the Private setting also performed above 33% chance (M=1.72, SD=0.58, $t(46)$=12.48, p<0.001). Nevertheless, children were more accurate in remembering the line judgments if they had made their judgments in the Private setting.

A 3-way ANOVA with Age (3-year-olds, 4-year-olds), Judgment Setting (Public, Private) and Cultural Group (Caucasian-American, first-generation Asian-American, second-generation Asian-American) as between-subjects variables confirmed the main effect of setting ($F(1, 82)=5.54$, $p<0.05$, $\eta^2=0.06$). No other main effects or interactions were significant.

Of the 30 children who misremembered information, 17 (57%) misremembered the informants' response, 4 (13%) misremembered their own response (i.e., claimed that they correctly chose the big line, when, in fact, they had deferred) and 9 (30%) misremembered both their response and the informant's response. A Sign test confirmed that children were more likely to misremember the informants' response than they were to misremember their own response ($p<0.01$).

To examine whether children's memory for line judgments was related to their line judgment accuracy, we created two dichotomous variables: whether or not children made memory errors and whether or not children were consistently correct in their line judgments. In both settings, the proportion of children making no memory errors was greater among children who were consistently correct (Public: $\chi^2(1, N=47)=4.58$, $p<0.05$; Private: $\chi^2(1, N=47)=11.69$, $p<0.001$).

In summary, judgment setting affected children's evaluation of the informants as well as their memory for the informants' responses. In the private setting, children were critical of the informants, systematically judging them to be "not very good" at answering the questions. In addition, children remembered their own correct judgments as well as the mistaken judgments of the informants. By contrast, when children had made their judgments publicly, they were less critical of the informants and more likely to misremember the informants' judgments as correct.

In both settings, children who were consistently correct in their line judgments (i.e., never deferred) were more likely to evaluate the informants negatively and less prone to memory errors.

Discussion

Corriveau and Harris (2010) found that preschoolers defer to a consensus in a modified Asch line-length task. They also found a difference between Caucasian preschoolers and Asian-American preschoolers in the relative rate of deference. Here, we replicate and extend these findings by exploring whether children's rate of deference to a consensus is affected by whether they make their judgment publicly or privately and by the length of time that their family has lived in the United States.

Overall, children often responded autonomously: they ignored the consensus and correctly identified the longest line. Nevertheless, children who made mistakes typically erred by choosing the line indicated by the consensus. Such mistakes were more frequent in the public setting, especially among first-generation Asian-American children. Note that the Caucasian-American findings in the public setting closely mirror those reported by Corriveau and Harris (2010). Thirty percent of Caucasian-American preschoolers deferred in Corriveau and Harris (2010), whereas 29% deferred in the current study. The rate of deferential responding (considered as a percentage of all responses) was slightly higher in Corriveau and Harris (2010) than in the current study (18% versus 10%).

The effect of judgment setting is consistent with earlier findings with adults (Asch, 1956; Abrams et al., 1990; Postmes et al., 2001) and with recent findings showing that preschool children make fewer autonomous judgments in the presence of a peer consensus than when making their judgments privately (Haun and Tomasello, 2011). Unlike the classic Asch setup, the consensus in the current study was presented to children via video (so that members of the consensus were never physically present). Nevertheless, children were influenced by whether the experimenter was present or absent when they reported their line judgment.

The setting also influenced children's appraisal of the informants. Children systematically evaluated the informants as "not very good" when they had made their line judgments privately. However they were more neutral in their evaluation of the informants when they had made their line judgments publicly. Moreover, children's evaluation of the informants was linked to their line judgments. As compared to children who sometimes deferred, children who were consistently correct (i.e., never deferred to the consensus) were more likely to appraise all three informants as "not very good" at line judgments.

Children's memory for the line judgments was also influenced by setting. When children had made their judgments privately, they generally remembered both the mistaken judgment of the consensus and the correct judgment that they themselves had made. By contrast, when children had made their judgments in public, they were prone to memory errors, especially concerning the line selected by the consensus. Moreover, as compared to children who sometimes deferred, children who were consistently correct made fewer memory errors. In sum, the private setting led children to be more autonomous, to regard the consensus critically, and to accurately remember both their own correct judgment and the mistaken judgment of the consensus. By contrast, the public setting led children to be more deferential, to regard the consensus less critically and to misremember the line judgments, especially those of the informants.

As noted earlier, the judgment setting also impacted variation among the three groups. In the private setting, all three groups made predominantly correct judgments, rarely deferring to the consensus. In the public setting, children were more or less deferential depending on their cultural group. Overall, Asian-American children were prone to defer more than Caucasian-American children but deference was especially frequent among first-generation Asian children. Indeed, 100% of first-generation Asian children deferred at least once; 55% of second-generation Asian children deferred at least once; but only 29% of Caucasian-American children ever deferred.

A plausible interpretation of these results is that children have two modes of responding: a perceptually driven and a socially driven mode. All children have at their disposal a perceptually driven mode which enables them to correctly identify the longest line. Alternatively, children can set aside their perceptual judgment and defer to the consensus (Corriveau and Harris, 2010). The pervasive impact of setting can be interpreted in light of this distinction. When making their judgment privately, children were almost always correct; they were critical of the consensus; and they remembered the inaccurate judgment made by the consensus. By implication, children used the perceptually driven mode in the private setting. This led them to make accurate judgments, and to remember and be critical of the inaccurate consensus judgments. Use of the perceptually driven mode in the private setting is also consistent with the failure to observe group differences. There is little reason to expect early socialization practices to impact children's autonomous perceptual discriminations.

In the public setting, first-generation Asian-American children were more likely to adopt the socially driven mode – to set aside their own perceptual judgment and to endorse the claim made by the consensus. Having treated the consensus claim as the 'correct' answer, children were less prone to criticize the consensus and more likely to misremember its claims as being correct. This pattern suggests that the classic interpretation of such responding – as simple conformity – does not exactly capture the stance that children take. If children were merely conforming to the consensus judgment, whilst fully aware of its inaccuracy, it is likely that they would remember its claims as incorrect, and evaluate it negatively. On the other hand, if children adopt a stance of respectful deference in which they entertain the possibility that the consensus is accurate, a relatively positive evaluation of the consensus, is to be expected together with a tendency to misremember the consensus as having made a correct line judgment. This analysis helps to make sense of the widespread deference shown by first-generation Asian American children.

Recent developmental findings further highlight ways in which setting aside one's own observation-based conclusions and remaining receptive to the

guidance of others can be a useful learning strategy. For example, Jaswal and Markman (2007) showed preschoolers hybrid entities that mostly resembled one creature (e.g., a fish) but had some features of another (e.g., a bird). Left to decide their own classifications, children mostly concluded that the hybrid was a fish but, if told by an adult that it was a bird, children deferred to this unexpected classification and drew inferences accordingly (e.g., that the creature lived in a nest not a lake). Similarly, when Corriveau et al. (2009b) showed preschoolers hybrid creatures and their mother provided an unexpected label for the hybrid whereas a stranger provided a label that was more consistent with its physical characteristics, almost all children (95%) deferred at least once to their mother's unexpected label. Children's deference was striking, given that their mother's label was less consistent with the available perceptual evidence than the stranger's.

Recent findings on 'over-imitation' show a parallel pattern. Left to their own devices, children will open a puzzle box directly and efficiently. Shown a more elaborate strategy, they conscientiously copy it, even if key elements are visibly inefficient or unnecessary (Lyons et al., 2007, 2011; Nielsen and Tomaselli, 2010). Strikingly, this type of over-imitation is absent in chimpanzees (Horner and Whiten, 2005). Although some researchers have proposed that children over-imitate because they believe the inefficient actions are causally relevant (e.g., Lyons et al., 2011), recent findings show that children's over-imitation has an important social component. When presented with two different informants, one who over-imitated and one who did not, children selectively choose the strategy used by the particular informant who remained present (Nielsen and Blank, 2011). Moreover, when asked why they included inefficient actions, young children often expressed doubt as to whether or not the actions were necessary, but nevertheless included them faithfully (Kenward et al., 2011). By implication, faithful imitation is a species-specific and adaptive form of cultural learning that renders children receptive to the teaching of others even if that teaching conflicts with their own intuitions. More generally, 'respectful deference' can be an important strategy for acquiring the sometimes opaque or arbitrary practices of one's cultural group. Consistent with this claim, preschoolers are especially prone to endorse the claims of a consensus rather than those of a lone dissenter (Corriveau et al., 2009; Chen et al., 2013). By implication, such respectful deference to a group consensus should not be reduced to problematic conformity.

Overall, these data confirm that preschool children are sometimes willing to set aside their own autonomous perceptual judgment and to defer to a consensus that has made a different judgment. Nevertheless, children vary in their rate of deference. In particular, first-generation Asian-Americans are especially

prone to defer to a consensus when reporting their judgment face-to-face with an adult. We argue that such responses should not be dismissed as simple conformity. Instead, they reflect a potentially powerful strategy for cultural learning, namely respectful deference toward the claims of the group even when those claims conflict with one's own private judgment.

References

Abrams, D., Wetherell, M., Cochrane, S., Hogg, M. A. and Turner, J. C. (1990). Knowing what to think by knowing who you are: self-categorization and the nature of norm formation, conformity and group polarization. *British Journal of Social Psychology* 29, 97-119.

Asch, S. E. (1956). Studies of independence and conformity. A minority of one against a unanimous majority. *Psychological Monographs* 70, 1-70.

Baillargeon, R. (2004). Infants' reasoning about hidden objects: Evidence for event general and event specific expectations. *Developmental Science* 7, 391-424.

Birch, S. A. J., Vauthier, S. A. and Bloom, P. (2008). Three- and 4-year-olds spontaneously use others' past performance to guide their learning. *Cognition* 107, 1018-1034.

Bond, R. and Smith, P. B. (1996). Culture and conformity: A meta-analysis of studies using Asch's (1952b, 1956) line judgment task. *Psychological Bulletin* 119, 111-137

Chen, E. E., Corriveau, K. H. and Harris, P. L. (2013). Children trust a consensus composed of outgroup members – but do not retain it. *Child Development* 84, 269-282.

Corriveau, K. H. and Harris, P. L. (2009). Preschoolers continue to trust a more accurate informant 1 week after exposure to accuracy information. *Developmental Science* 12, 188-193.

——. (2010). Preschoolers (sometimes) defer to the majority in making simple perceptual judgments. *Developmental Psychology* 46, 437-445.

——, Fusaro, M. and Harris, P. L. (2009a). Going with the flow: Preschoolers prefer non-dissenters as informants. *Psychological Science* 20, 372-377.

——, Harris, P. L., Meins, E., Fernyhough, C., Arnott, B., Elliott, L., Liddle, B., Hearn, A., Vittorini, L. and de Rosnay, M. (2009b). Young children's trust in their mother's claims: Longitudinal links with attachment security in infancy. *Child Development* 80, 750-761.

Dias, M. and Harris, P. L. (1990). The influence of the imagination on reasoning by young children. *British Journal of Developmental Psychology* 8, 305-318.

Doan, S. N. and Wang, Q. (2010). Maternal discussions of mental states and behaviors: Relations to emotion situation knowledge in European American and immigrant Chinese children. *Child Development 81*, 1490-1503.

Fusaro, M. and Harris, P. L. (2008). Children assess informant reliability using bystanders' nonverbal cues. *Developmental Science* 11, 771-777.

Gelman, S. A. (2009). Learning from others: Children's construction of concepts. *Annual Review of Psychology* 60, 115-140.

Gerard, A. B. (1994). *Parent–Child Relationship Inventory Manual.* Western Psychological Services, Los Angeles, CA.

Harris, P. L. (2000). *The Work of the Imagination*. Blackwell, Oxford.

——. (2007). Trust. *Developmental Science, 10*, 135-138.

——. (2012). *Trusting What You're Told: How Children Learn from Others*. Belknap Press/Harvard University Press, Cambridge, MA.

Haun, D. B. M. and Tomasello, M. (2011). Conformity to peer-pressure in preschool children. *Child Development*, 82, 1759-1767.

Horner, V. and Whiten, A. (2005). Causal knowledge and imitation/emulation switching in chimpanzees (*Pan troglodytes*) and children (*Homo sapiens*). *Animal Cognition* 8, 164-181.

Jaswal, V. K. and Markman, E. (2007). Looks aren't everything: 24-month-olds willingness to accept unexpected labels. *Journal of Cognition and Development* 8, 93-111.

Kenward, B., Karlsson, M. and Persson, J. (2011). Over-imitation is better explained by norm learning than by distorted causal learning. *Proceedings of the Royal Society B* 278, 1239-1246.

Koenig, M. A. and Echols, C. H. (2003). Infants' understanding of false labeling events: the referential roles of words and the speakers who use them. *Cognition* 87, 179-208.

—— and Harris, P. L. (2005). Preschoolers mistrust ignorant and inaccurate speakers. *Child Development* 76, 1261-1277.

Lyons, D. E., Damrosch, D. H., Lin, J. K., Simeone, D. M. and Keil, F. C. (2011). The scope and limits of overimitation in the transmission of artifact culture. *Philosophical Transactions of the Royal Society B* 366, 1158-1167.

Lyons, D. E., Young, A. G. and Keil, F. C. (2007). The hidden structure of overimitation. *Proceedings of the National Academy of Sciences of the United States of America* 104, 19751-19756.

Nielsen, M. and Blank, C. (2011). Imitation in young children: When who gets copied is more important than what gets copied. *Developmental Psychology* 47, 1050-1053.

—— and Tomaselli, K. (2010). Overimitation in Kalahari Bushman children and the origins of human cultural cognition. *Psychological Science* 21, 729-736.

Postmes, T., Spears, R., Sakhel, K. and de Groot, D. (2001). Social influence in computer-mediated communication: The effects of anonymity on group behavior. *Personality and Social Psychology Bulletin* 27, 1243-1254.

Sobel, D. M. and Corriveau, K. H. (2010). Children monitor individuals' expertise for word learning. *Child Development* 81, 669-679.

Walker, M. B. and Andrade, M. G. (1996). Conformity in the Asch task as a function of age. *The Journal of Social Psychology* 136, 367-372.

Wellman, H. M. (2012). Theory of mind: Better methods, clearer findings, more development. *European Journal of Developmental Psychology* 9, 313-330.

——, Fang, F., Liu, D., Zhu, L. and Liu, G. (2006). Scaling of theory-of-mind understandings in Chinese children. *Psychological Science* 17, 1075-1081.

Woodward, A. L. (1998). Infants selectively encode the goal object of an actor's reach. *Cognition* 69, 1-34.