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Pointing Disrupts Preschoolers' Ability to Discriminate Between Knowledgeable and Ignorant Informants

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Abstract

By 4 years of age, children have been reinforced repeatedly for searching where they see someone point. In two studies, we asked whether this history of reinforcement could interfere with young children's ability to discriminate between a knowledgeable and an ignorant informant. Children watched as one informant hid a sticker while another turned around, and then both informants indicated where they thought the sticker was, either by pointing or by using a less practiced means of reference. Children failed to discriminate between the two informants when they pointed, but they chose the location indicated by the knowledgeable informant when the informants used a cue other than pointing. Pointing can disrupt as basic an understanding as the link between seeing and knowing.

Keywords

reference; seeing; knowing; pointing; social learning

As adults, we see it as obvious that someone who had visual access to an event would know more about it than someone who did not. For example, most would agree that someone who hid an object is likely to be a better informant about the object's location than someone who had not even been present at the time. The link between seeing and knowing is so fundamental that its developmental origins have been the subject of considerable study (Flavell, 1999).

There is compelling evidence that young children recognize that visual access can be a unique source of knowledge about an object or event (O'Neill, 1996; O'Neill, Astington, & Flavell, 1992; O'Neill & Topolovec, 2001; Pratt & Bryant, 1990; Robinson, Haigh, Pendle, 2008). In a study by O'Neill et al. (1992), for example, children watched as one puppet looked into an opaque tunnel at a toy, while another simply placed its hand on the tunnel. When asked to decide which puppet knew the color of the toy, even 3-year-olds were more likely to choose the puppet who had looked inside the tunnel rather than the one who had merely touched it.

Yet, there is also evidence from a very different paradigm that young children's grasp of the link between seeing and knowing is tenuous at best. In a study by Povinelli and deBlois

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(1992), children saw one experimenter hide a treat in one of several cups while a second experimenter was out of the room. Although children could see that the first experimenter was hiding the treat, they could not see the particular cup in which it was placed. When the second experimenter entered the room, both she and the first experimenter pointed simultaneously to different cups, and children were invited to search for the treat. Surprisingly, 3-year-olds were as likely to choose the cup indicated by the experimenter who had been outside the room as the one indicated by the experimenter who hid the treat.

In the two studies presented here, we investigated the possibility that young children's failure to demonstrate an appreciation of the link between seeing and knowing in the Povinelli and deBlois (1992) study was an artifact of their procedure, in which each experimenter pointed to indicate where she thought the sticker was hidden. Declarative pointing is a powerful communicative gesture with a history of veridical reference: People normally point to where things are, and refrain from pointing if they do not know. Seeing the two experimenters point in Povinelli and deBlois's study may have interfered with children's ability to act on their understanding that the experimenter who hid the object was likely to be a better informant than the one who was out of the room at the time. That is, it may have been a performance limitation rather than a competence one. If the experimenters had used a different, less practiced means of reference, we suggest, children may have been more likely to search the location indicated by the hider.

Our hypothesis is based on two pieces of evidence. First, children have difficulty producing non-veridical points themselves (Carlson, Moses, & Hix, 1998, Russell, Mauthner, Sharpe, & Tidswell, 1991; Sodian, 1991). In a study by Russell et al. (1991), for example, 3-year-olds played a game in which they were asked to deceive an experimenter by pointing to a location where a chocolate was *not* hidden. If they did so, they would win the chocolate for themselves. Despite this incentive, children tended to point to the actual location of the chocolate, and many continued doing so over the course of 20 trials.

A follow-up by Carlson et al. (1998, Study 1) showed that when 3-year-olds were instructed to deceive an experimenter by placing a picture of the hidden object on the empty location rather than pointing to it, they were more successful at being deceptive. Carlson et al. argued that children were unable to inhibit pointing to the object's actual location because they normally point (and are reinforced for pointing) to where things are. Pointing to an empty location therefore required them to inhibit a prepotent response – something that 3-year-olds have a well-documented difficulty doing (e.g., Diamond & Taylor, 1996; Gerstadt, Hong, & Diamond, 1994; Kochanska, Murray, Jacques, Koenig, & Vandegeest, 1996; Livesey & Morgan, 1991; Reed, Pien, & Rothbart, 1984; Zelazo, Carlson, & Kesk, 2008; Zelazo, Frye, & Rapue, 1996).

A second piece of evidence suggesting that children's difficulty on the Povinelli and deBlois (1992) task may be rooted in the fact that both informants pointed comes from a study by Couillard and Woodward (1999). In their study, an experimenter hid a sticker under one of two bowls and either pointed toward the empty bowl or placed a ball on it. Over the course of 10 trials, 3-year-olds were more successful in finding the sticker (i.e., searching the bowl opposite to the one the experimenter indicated) when the experimenter used a ball than when she pointed. Whereas Carlson et al.'s (1998) focus was on children's ability to deceive others using pointing versus some less practiced means of reference, Couillard and Woodward's (1999) focus was on children's ability to avoid being deceived when the informant used pointing versus some other, less practiced means of reference.

In the studies presented here, we asked whether children would be more successful at demonstrating an appreciation of the link between seeing and knowing in a task like the one

used by Povinelli and deBlois (1992) if the informants used a means of reference other than pointing. In Study 1, children saw one experimenter hide a sticker while a second experimenter was not looking. In one condition, the two experimenters subsequently pointed to different cups, and in the other condition, they subsequently placed pictures of themselves on different cups. (The experimenters used pictures of themselves as the less-practiced form of reference on the grounds that children would have little or no experience with someone placing a picture of themselves on a location to indicate where an object was.) Of interest was whether children would be more successful at finding the sticker in the Picture condition than in the Point one. Study 2 was similar, but the two conditions were closely matched in terms of the physical movements enacted by the two informants.

1. Study 1

1.1. Method

1.1.1. Participants—Participants were 29 three-year-olds (M age 3–5; SD = 3.53 months, range 3–0 to 3–11; 14 girls) and 28 four-year-olds (M age 4–5; SD = 2.83 months, range 4–0 to 4–11; 14 girls). The sample overall had a mean age of 3–11 (SD = 6.97 months; range 3–0 to 4–11; 28 girls). The percentage of children who fell between 3–6 and 4–6 was 58%. Two additional children participated, but their data were not included because they did not meet the training criterion (described below). Children were primarily white, and from middle-class or upper middle-class backgrounds.

1.1.2. Materials—Materials included a cardboard tray (48×9 cm) with four circular wells, each of which could be covered by a blue cup. Each of the wells had a diameter of 7.5 cm, and they were evenly distributed across the tray. A cardboard screen (60×21 cm) was used to obscure the tray and cups from the child's view. Additionally, several small stickers were used for hiding under the cups. Finally, in the Picture condition, a color photograph of each experimenter's face was used, each one mounted onto a poker chip that could be affixed to the front of a cup with Velcro.

1.1.3. Design—Children were randomly assigned to a Point condition or a Picture condition. In the Point condition were 15 three-year-olds (M age 3–4; SD = 3.35 months) and 13 four-year-olds (M age 4–6; SD = 2.59 months). In the Picture condition were 14 three-year-olds (M age 3–6; SD = 3.71 months) and 13 four-year-olds (M age 4–5; SD = 2.33 months). Gender was approximately balanced across condition and age. All children participated in warm-up, training, and test trials.

1.1.4. Procedure—Children were tested individually in a quiet room in a single session of about 15 minutes. Upon arrival, they were met by two experimenters, and once the children seemed comfortable, they were escorted to the testing room. Children sat at a small table across from both experimenters.

1.1.4.1. Point Condition: The session began with a series of warm-up trials, whose purpose was to familiarize children with the game of finding stickers under cups. One experimenter introduced the cardboard tray and placed a cup over each of the four wells. Next, in full view of the child, she lifted one of the cups, placed a sticker under it, and replaced the cup. She then slid the tray toward the child and invited the child to find the sticker. If children found the sticker in the first cup they searched, they were allowed to keep it; if not, she showed them where she had hidden it and put it aside. The warm-up trials continued, alternating between E1 and E2, until children successfully found the sticker on three consecutive trials. Children required, at most, four trials to meet this criterion. The experimenters always baited a cup that had not been baited on a previous warm-up trial.

Children then received training trials, which served to introduce them to the fact that an experimenter could hide a sticker behind the screen, outside children's view, and could point to indicate its location. First, one of the experimenters explained that she was going to hide another sticker but that children would not be able to see where she hid it. She placed the screen in front of the cups, which allowed children to see her face, but not the tray or the cups. She lifted each of the four cups in turn, placing the sticker under one of them and pretending to place it under the others. She then removed the screen, pointed to the cup where she had hidden the sticker, and said, "This is where the sticker is. Can you find the sticker?" If children located the sticker in the first cup they searched, they were allowed to keep it. If not, she showed them where she had hidden it and put the sticker away.

These training trials continued, alternating between E1 and E2 as hiders, until the child found the sticker on three successive trials. The experimenters always baited a cup that had not been baited on a previous warm-up trial. One child in the Point condition was excluded because even after five training trials, she failed to find the sticker on three consecutive trials.

Next, one of the experimenters introduced the test trials, explaining that one experimenter would hide a sticker while the other experimenter was not watching. To demonstrate, the other experimenter turned around in her chair to face the back wall, lowered her head, and covered her eyes with her hands. Then, both experimenters faced the child, and one experimenter announced that she would hide the first sticker. The other experimenter agreed, turned toward the back wall, lowered her head, covered her eyes, and said, "Wow! I can't see anything back here!" Children could see which experimenter was hiding the sticker and that the other experimenter was turned around, but the screen prevented them from seeing in which cup the hider actually placed the sticker. The hider lifted each of the four cups in turn, placing the sticker under one of them and pretending to place it under the others.

The hider for that trial announced that she had hidden the sticker, invited the other experimenter to turn back around, and removed the screen. Both experimenters simultaneously pointed to different cups as they slid the tray forward with their other hand. The hider pointed to the cup in which she had hidden the sticker while the other experimenter pointed to one of the empty cups. Both experimenters continued pointing with their index fingers touching their selected cup until children made a response. Because of the earlier training trials, children did not require any verbal prompting from the experimenters to select a cup. If children found the sticker in the first cup they searched, they were allowed to keep it. If not, the hider showed them where she had hidden it and put it away. The screen was replaced in front of the tray, and the next trial began. At the end of the session, children were given all stickers.

There were four test trials. E1 hid the sticker on trials 1 and 4 and turned around on trials 2 and 3; E2 hid the sticker on trials 2 and 3 and turned around on trials 1 and 4. We intentionally had both experimenters serve as the hider during the session so that locating the sticker on a given trial would require children to rely on the experimenters' visual access, not on how accurate or reliable one of them had been in the past. The location in which the sticker was hidden was pseudo-randomly determined in advance, such that the sticker was hidden in each of the four locations once over the course of the four trials. The empty cup to which the other experimenter pointed was also pseudo-randomly determined in advance, such that each of the four locations was pointed to once over the course of the trials.

1.1.4.2. Picture Condition: The Picture condition was very similar to the Point one. It began with the same warm-up trials, in which the experimenters hid stickers in plain view of the children and allowed them to search for them. Next, E1 and E2 each handed children a picture of her face (affixed to a poker chip), and said, “Look! This is a picture of me! It looks like me, doesn’t it?”

As in the Point condition, at least three training trials using the cardboard screen followed. One experimenter placed the cardboard screen in front of the tray, hid a sticker under one of the cups, and removed the screen. Instead of pointing to the cup in which she had hidden a sticker, however, she affixed her picture to the front of that cup (using Velcro), withdrew her hand, and said, “This is where the sticker is. Can you find the sticker?” If children found the sticker in the first cup they searched, they were allowed to keep it. Otherwise, she showed them where she had hidden the sticker and put it away. These training trials continued, alternating experimenters as the hiders, until the child found the sticker on three consecutive trials.

It should be noted that even though using a picture of the experimenter to mark the location of the sticker was, by design, a novel means of reference, children had little difficulty with this task: 22 of the 28 (78%) children in this condition met criterion on the first three training trials. The remaining six children failed the first training trial, but succeeded on the following three. Only one child’s data in the Picture condition were excluded because even after five training trials, she was unable to find the sticker on three consecutive trials.

Test trials proceeded as in the Point condition, except that instead of pointing simultaneously, the two experimenters simultaneously affixed their pictures to the front of the cups and placed their hands in their laps. As in the Point condition, both experimenters remained silent until children made a selection, and children were allowed to keep the sticker if they found it in the first cup they searched; otherwise, it was put away. At the end of the session, children were given all stickers.

1.2. Results and Discussion

As Figure 1 shows, 3- and 4-year-olds were more successful in locating the sticker when the two experimenters used pictures of themselves to mark particular locations than when they pointed to those locations. A two-way analysis of variance (age: 3-year-old/4-year-old $\times$ condition: Picture/Point) on the data in Figure 1 showed a significant effect of condition, $F(1, 56) = 4.42, p = .04, \eta_p^2 = .077$, but no effect of age, $F(1, 56) = .22, p = .64, \eta_p^2 = .004$, and no interaction, $F(1, 56) = .49, p = .48, \eta_p^2 = .009$. Although Povinelli and deBlois (1992) found that 4-year-olds were more successful on a similar task than 3-year-olds, we found no differences between the two ages, and so collapsed across age in subsequent analyses.

Across the four test trials, children in the Picture condition found, on average, 2.89 ($SD = 1.26$) stickers, more than would be expected by chance of two¹, $t(27) = 3.76, p = 0.001, d = 0.71$. Those in the Point condition found 2.24 ($SD = 1.02$) stickers, which is not different from what would be expected by chance, $t(28) = 1.27, p = 0.21, d = .33$. In short, when the hider and the experimenter who had been turned around during the hiding event pointed, children were about equally likely to search in either location, as found by Povinelli and

¹Although there were four cups available for children to choose from, the experimenters placed their pictures on or pointed to just two of them. Thus, we conservatively set chance to two reflecting the fact that we expected children to find the sticker by searching in one of the two indicated by the two adults on two of the four trials. Three children in Study 1 selected a cup that was not pointed to or marked on either 1 or 2 trials (for a total of 5 of 228 total trials). The pattern of results is the same when data from these children are excluded.

deBlois (1992). But when the two experimenters used a means of reference other than pointing, children were more likely to search in the location indicated by the hider.

The difference between the Picture and Point conditions is consistent with our predictions, but surprising nonetheless. The two conditions differed only in terms of the particular means of reference that the two experimenters used to indicate where the sticker was, and yet children in the Picture condition were more accurate than those in the Point condition. Our explanation for this difference is that the history of veridical reference associated with pointing interfered with children's ability to demonstrate their understanding that the hider would be a better informant than the experimenter who was turned around. Because the placement of a picture does not have the same lengthy history of veridical reference as does pointing, children in the Picture condition did not experience the same level of interference.

One might argue that, in addition to having a history of veridical reference that is difficult for young children to overlook, the experimenters in the Point condition were physically closer to their selected cups than experimenters in the Picture condition. In the Point condition, the experimenters' arms remained extended and their index fingers remained touching their respective cups until children made a choice. In contrast, in the Picture condition, the experimenters attached their pictures to their respective cups and then placed their hands in their laps. Perhaps physical proximity, rather than pointing per se, interfered with the ability of children in the Point condition to discriminate between the two informants.

In Study 2, we sought to replicate our findings from Study 1 using a procedure that more closely matched the two conditions in terms of the physical movements that the two experimenters made when indicating where the hidden sticker was.

2. Study 2

Study 2 included two conditions. In both, the two informants used pictures of themselves to indicate where they thought the sticker was, and in both, they kept their arms extended toward the cups. The difference was in the particular shape their hands took. In a Picture Holding condition, the informants held their pictures (using a pincer grip) in front of their selected cups. In a Picture+Point condition, they affixed their pictures to the front of their cup (using Velcro) and subsequently pointed to that cup. Our interest was in whether children would be more successful in searching the cup indicated by the knowledgeable informant in the Picture Holding condition (which did not involve any pointing) than in the Picture+Point one. In Study 2, we included only 4-year-olds given Study 1 found no difference in the performance of 3- and 4-year-olds.

2.1. Method

2.1.2. Participants—Participants were thirty-two 4-year-olds (M age 4–2; $SD = 2.48$ months; range 4–0 to 4–6; 16 girls). Two additional children participated, but their data are not included, one because she began searching for the sticker on test trials before the experimenters pointed, and the other because she asked to stop before completing the study. Children were primarily white, and from middle-class or upper-middle-class backgrounds. None had participated in Study 1.

2.1.3. Materials and Procedure—The same materials from Study 1 were used. The procedure was very similar, except children were randomly assigned to either a Picture Holding condition (M age 4–2; $SD = 2.42$ months) or a Picture+Point condition (M age 4–2; $SD = 2.6$ months), resulting in 16 children in each condition, balanced by gender. In the Picture Holding condition, the two experimenters held their pictures in front of their

respective cups with a pincer grip until children made a response. In the Picture+Point condition, they affixed their pictures to the front of their respective cups using Velcro, and then, in synchrony, pointed to those cups using the same pointing gesture (with arm and index finger extended) used in Study 1.

2.2. Results and Discussion

Across four trials, children in the Picture Holding condition found an average of 2.88 ($SD = 1.20$) stickers, more than would be expected by chance of two, $t(15) = 2.91, p = 0.01, d = 0.76$. Those in the Picture+Point condition found 2.19 ($SD = 1.11$) stickers, not different from what would be expected by chance, $t(15) < 1$. Children in the Picture Holding condition found marginally more stickers than those in the Picture+Point condition, $t(30) = 1.68, p = .10, d = 0.59$.

This finding helps to rule out the possibility that the difference between results from the Point and Picture conditions of Study 1 was due to the fact that experimenters in the Point condition were physically closer to the cups than those in the Picture condition. In Study 2, the experimenters in both the Picture Holding and Picture+Point conditions remained in physical contact with their respective cups until children made a selection. Those in the Picture+Point condition, who observed the two experimenters point, were as likely to search for the hidden sticker in either location; in contrast, those in the Picture Holding condition tended to search for the hidden sticker in the location they saw the hider indicate.

Although a point and a pincer grasp seem quite similar, the difference in topography between the two had an important influence on children's performance. This finding is consistent with research showing that even infants may interpret physically similar arm motions in different ways, depending on the configuration of the hand. For example, infants as young as 9 months apparently interpret a hand grasping at an object as goal-oriented, but they do not make the same inference when they see someone rest the back of their hand on an object (Woodward, 1999).

3. First Trial and Individual Analyses

Across the two studies, children in the conditions involving pointing were less likely to locate the hidden sticker than children in the non-pointing conditions, and the effect sizes were in the "medium" range-- $\eta_p^2 = .077$ for Study 1 (Levine & Hullett, 2002) and Cohen's $d = .59$ for Study 2 (Cohen, 1988). To provide converging evidence documenting the difference in how children respond to pointing vs. a non-pointing means of reference, we examined first trial and individual patterns.

On the first trial in Study 1, 21 of the 28 (75%) children in the Picture condition found the hidden sticker; in contrast, only 14 of the 29 (48%) children in the Point condition did so. On the first trial in Study 2, 13 of 16 (81%) children in the Picture Holding condition found the hidden sticker while just 10 of 16 (62%) in the Point+Picture condition did so.

In further analysis, we combined data from the conditions of Studies 1 and 2 that involved pointing and compared them with the combined data from the conditions that did not involve pointing. Our rationale for doing so was that the two studies were similar in design, materials, and execution. Both studies involved one condition where the two informants pointed (and in Study 2, additionally placed their picture) and one where they did not. A second, practical reason for combining the data in this way was that the sample size in Study 2 was too small to detect a difference using nonparametric analyses. Across the two studies, just 24 of 45 (53%) children in the conditions involving pointing were correct on the first

trial, compared with 34 of 44 (77%) children in the conditions that did not involve pointing, distributions that differ significantly by a Fisher's exact test, $p = .03$.²

Table 1 shows the number of children in each study and condition who responded correctly on 0, 1, 2, 3, or 4 of the four trials, as a function of whether the two informants pointed or used a non-pointing means of reference. As the table shows, more children in the conditions that did not involve pointing (Picture and Picture Holding) found the hidden sticker more frequently than children in the conditions that did involve pointing (Point and Point +Picture). As in the first trial analyses, we combined data from the conditions of Studies 1 and 2 that involved pointing and compared them with the combined data from the conditions that did not involve pointing. We found that the two distributions differed from each other, $\chi^2(4, N = 89) = 11.56, p = .02$.³

3. General Discussion

Children in these two studies were more successful at locating a hidden sticker when two informants (one who hid the sticker and one who was turned around at the time) used a means of reference other than pointing. Thus, an explanation for the difficulty that some children had in Povinelli and deBlois's (1992) study may be that pointing disrupted their ability to discriminate between a knowledgeable and ignorant informant rather than because they didn't understand the link between seeing and knowing.

Well before they arrived in the laboratory, the children in our studies (and in Povinelli and deBlois's [1992] study) had been reinforced repeatedly for searching where they saw someone point. We suggest that when children saw the two experimenters point, these years of reinforcement history interfered with their ability to demonstrate their understanding that the experimenter who had hidden the sticker would be a better informant about its location than the one who had turned around during the hiding event. When the experimenters used a means of reference without the same lengthy history of reinforcement, children did not face the same kind of interference and so were more easily able to recognize that the hider was the preferred informant.

Children's difficulty discriminating between the knowledgeable and ignorant informants in the conditions involving pointing in our studies and in Povinelli and deBlois' (1992) study could indicate that children actually attributed knowledge to the ignorant informant. That is, children may expect that someone would point in this situation only if s/he knew where the sticker was. Alternatively, children may simply expect to find an object where someone points without making any inferences about the knowledge state of the pointer. Another possibility is that pointing could disrupt children's memory for who had hidden the object in the first place, leading them to select equally between the knowledgeable and ignorant informant. In fact, the present studies do not allow us to pinpoint why children in the pointing conditions had difficulty, and so we leave this question for future work. The important point for our purposes is that children were more likely to favor the knowledgeable informant over the ignorant one when a cue other than pointing was used.

Our findings are consistent with those of Russell et al. (1991), who found that young children have difficulty pointing to where something is not. Unlike that work, however, the present studies focused on children's ability to ignore someone else's non-veridical points rather than their ability to point non-veridically themselves. Our results are also consistent

²When the studies are considered separately, the distributions from Study 1 are marginally different by Fisher's exact test, $p = .06$; the distributions from Study 2 are not different, $p = .43$.

³When considered separately, the distributions from Study 1 are marginally different, $\chi^2(4, N = 57) = 8.51, p = .08$; the distributions from Study 2 are not different, $\chi^2(4, N = 32) = 4.28, p = .23$.

with those of Couillard and Woodward (1999), who found that young children repeatedly searched in a location to which they saw a single deceptive experimenter point. Unlike that work, however, the present studies did not involve deception. Instead, one of the two pointers in the current work had the relevant knowledge while the other did not. In fact, one might have expected our task to be easier than the one used by Couillard and Woodward because children in our studies could have been successful simply by searching in the location where the informant who hid the sticker pointed. In the Couillard and Woodward study, children had to search in the location opposite to where the hider pointed.

Interestingly, the expectation that pointing will be veridical may be shared with enculturated chimpanzees (Tomasello, 2008) and some domesticated dogs (Dorey, Udell, & Wynne, 2009; Riedel, Schumann, Kaminski, Call, & Tomasello, 2008; Soproni, Miklosi, Topal, & Csanyi, 2001, 2002). In a study by Szetei et al. (2003, Study 2), for example, an experimenter hid a piece of meat in one of two containers. Dogs were given the chance to approach the containers, smell for the meat at both locations, then return to their starting point, at which point, they were released to search for the hidden meat. Not surprisingly, they almost always chose the container where they had just smelled the meat. If, however, the experimenter pointed to the empty container before the dog was released, a number of dogs searched in that container instead. Animals that share a cooperative, working relationship with humans and who usually benefit by searching where they see someone point may also develop a robust expectation about the veridicality of pointing.

In summary, preschoolers' expectations about the veridicality of pointing can disrupt as basic an understanding as the link between seeing and knowing. Researchers would be wise to keep in mind that using a social signal with years of reinforcement history, such as pointing, can have unintended consequences. It may mask children's actual knowledge or abilities.

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Figure 1. Mean number of trials in which children in Study 1 found the hidden sticker as a function of age and whether they were in the Point or the Picture condition. (Error bars show SEM.)

Table 1

Number of children in each study responding correctly on 0, 1, 2, 3, or 4 of the 4 trials, as a function of whether the two informants pointed or used a non-pointing means of reference. (Percentage in parentheses.)

		Number of Correct Responses				
		0	1	2	3	4
Study 1	Point	1 (3%)	5 (17%)	13 (45%)	6 (21%)	4 (14%)
	Picture	1 (4%)	4 (14%)	5 (18%)	5 (18%)	13 (46%)
Study 2	Point+Picture	0 (0%)	6 (38%)	3 (19%)	5 (30%)	2 (13%)
	Picture Holding	0 (0%)	3 (19%)	3 (19%)	3 (19%)	7 (43%)