

Infant-Directed Speech Drives Social Preferences in 5-Month-Old Infants

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Adults across cultures speak to infants in a specific infant-directed manner. We asked whether infants use this manner of speech (infant- or adult-directed) to guide their subsequent visual preferences for social partners. We found that 5-month-old infants encode an individual's use of infant-directed speech and adult-directed speech, and use this information to guide their subsequent visual preferences for individuals even after the speech behavior has ended. Use of infant-directed speech may act as an effective cue for infants to select appropriate social partners, allowing infants to focus their attention on individuals who will provide optimal care and opportunity for learning. This selectivity may play a crucial role in establishing the foundations of social cognition.

Keywords: infant-directed speech, motherese, social cognition, visual preferences

When an infant meets a new individual, the infant faces an important problem: He or she must quickly evaluate that person and decide how to react to the person as a social partner. Selectively attending to the best possible social partners could provide important benefits to the infant. For instance, paying attention to individuals who are likely to engage in intentional teaching could enhance learning, and selectively attending to members of one's own culture could promote learning of relevant cultural conventions rather than those of other groups. If multiple caregivers are present, selective engagement with the best social partner among the caregivers might also enhance safety by minimizing the amount of time spent in low-quality care.

Whereas older infants and toddlers may choose to physically approach or avoid specific individuals, infants who are not yet mobile can nevertheless take an active role in their social interactions by attending to certain individuals and ignoring others. Infants select among individuals on the basis of multiple physical and behavioral characteristics: Infants in the first 6 months of life prefer to look at attractive people, as well as people of the more familiar gender and race (Bar-Haim, Ziv, Lamy, & Hodes, 2006; Langlois et al., 1987; Quinn, Yahr, Kuhn, Slater, & Pascalis, 2002). Six-month-old infants also look longer at people who have previously spoken in a native language or accent; by 10 months, infants preferentially choose toys endorsed by these native speakers (Kinzler, Dupoux, & Spelke, 2007). In addition, infants as young as 6 months of age selectively reach for a character whom they have previously seen help another character, over a character who has hindered another character (Hamlin, Wynn, & Bloom, 2007). Thus, infants use race, gender, language, attractiveness, and

helping/hindering behavior to select among potential social partners.

The above cues, however, may not provide sufficient information for infants to select the social partners who will best promote their learning and safety. For example, although gender, language, and race cues are useful for selecting ingroup members (who may be more likely to care for the infant or teach relevant cultural conventions), these cues cannot help infants select among individuals within their ingroup. In addition, although helping and hindering behaviors are potentially accurate indicators of good and bad social partners within the ingroup, these informative behaviors are very rarely displayed to infants in relevant real-world contexts. Because adults are unlikely to perform an explicitly helpful behavior (and even less likely to harm) immediately upon meeting an infant, helping and hindering behaviors provide insufficient information for the infant's social selection task. If infants are to effectively select appropriate social partners, they cannot rely solely on the aforementioned cues; they must draw on additional sources of information.

An adult's style of interaction upon meeting an infant could serve as an accurate cue for selection of appropriate social partners. When speaking to infants, adults in virtually all cultures modify their speech to have a higher pitch, greater pitch variability, slower speed, and longer pauses (Fernald, 1992; Trainor, Clarke, Huntley, & Adams, 1997; Trehub & Nakata, 2001–2002). These infant-directed vocalizations are highly effective in engaging infants' attention; from the time of birth, infants prefer to listen to infant-directed speech (IDS) over adult-directed speech (ADS; e.g., Cooper & Aslin, 1990; Fernald, 1985; Masataka, 1999). The appeal of IDS is probably due to its high positive emotional content; many of the acoustic modifications that differentiate IDS from ADS are also indicative of uninhibited positive emotion (Banse & Scherer, 1996; Frick, 1985; Singh, Morgan, & Best, 2002; Trainor, Austin, & Desjardins, 2000). Prenatal experience with maternal vocalization is not necessary to engender the preference: Two-day-old hearing infants of deaf mothers exhibit robust IDS preferences despite presumably minimal experience with maternal vocalization (Masataka, 1999).

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IDS seems to serve as an informative signal of caregiver interest and ability in at least four ways. First, mothers diagnosed with untreated clinical depression do not produce typical IDS (Kaplan, Bachorowski, Smoski, & Zinser, 2001) and are also lower quality caregivers, showing a less responsive pattern of caregiving accompanied by long-term negative effects on child development (Hoffman & Drotar, 1991; O'Hara & Swain, 1996). Secondly, manner of speech provides an initial gauge of the adult's interest in infant interaction: When a person meeting an infant-parent pair uses IDS instead of ADS, it is likely that the person is addressing the infant rather than the adult (e.g., Fernald, 1992). A person who chooses to address an infant at first meeting is more likely to have a high level of interest in infant interaction and caregiving than someone who initially uses ADS, which typically indicates addressing the adult (e.g., Fernald, 1992). In addition, IDS enhances learning in a number of domains, such as word segmentation (Thiessen, Hill, & Saffran, 2005), word learning (Graf-Estes, 2008), and face-voice associative learning (Kaplan, Bachorowski, Smoski, & Hudenko, 2002; Kaplan, Jung, Ryther, & Zarlengo-Strouse, 1996). Finally, infants seem to treat IDS as a pedagogical cue, interpreting IDS as marking the beginning of a teaching episode and allowing for selective learning of relevant information (Csibra & Gergely, 2006; Gergely, Egedy, & Kiraly, 2007). Thus, all else equal, an adult who uses IDS is a better teacher and social partner for an infant than is an adult who uses ADS.

Do infants use the infant-appropriateness of speech to guide social preferences? In the first experiment we examined the effects of an adult's infant-directed versus adult-directed manner of speech on infants' subsequent visual preferences for this individual. We predicted that after hearing someone speak in an infant-directed manner, infants should prefer that person relative to a novel person, even when neither person is speaking. By contrast, after hearing someone speak in an adult-directed manner, infants should not exhibit this preference.

Experiment 1

In the first experiment, 5-month-old infants were familiarized to two videos: one of a woman speaking in an infant-directed manner and one of a different woman speaking in an adult-directed manner. After each video, infants received a visual preference test in which two static faces appeared, side by side, in silence: the familiar face of the person from the video the infant had just seen, and a novel face. We asked whether the manner of speech used by the person in the video would influence the infants' subsequent preference for the familiar face versus a novel face.

Method

Participants. We recruited infants from the Cambridge, Massachusetts community using birth lists obtained from area hospitals. The final sample consisted of 20 infants (10 girls) with an age range between 4 months, 5 days and 5 months, 30 days (mean age = 5 months, 6 days; $SD = 17.7$ days). Three additional infants were tested but not included in the final sample due to technical error (1), parental interference (1), and fussiness (1). According to parental report, all infants were born at full term and had no known hearing difficulties at time of testing.

Stimuli. Four videos were created, each 60 s in length. Each of two Caucasian adult women was video-recorded twice—once

while speaking in an adult-directed manner and once in an infant-directed manner. To elicit each manner of speaking during recording sessions, the speaker viewed a photo (affixed to the camera) of a middle-aged male or an infant, and they were instructed to speak as if interacting with the adult or infant. This video-recording approach ensured that the gaze of the speaker was consistently directed toward the camera and thus toward the subject. The speech was spontaneous, although the topics to discuss were preplanned (e.g., favorite toys, seasons, games). Past studies have had success using similar techniques to simulate IDS and ADS; adult listeners typically identify the simulated IDS as more infant appropriate, and infants tend to exhibit robust listening preferences for simulated IDS (Cooper & Aslin, 1990). In the current study, simulated IDS utterances contained higher mean fundamental frequency and greater pitch range than did simulated ADS utterances (IDS: $M = 273.0$ Hz, $SD = 75.15$ Hz; ADS: $M = 224.7$ Hz; $SD = 50.4$ Hz), mirroring the acoustic differences between natural IDS and ADS known to be most crucial for infants' preferences (Fernald & Kuhl, 1987). Semantic content, sentence length, number of sentences, and number of sentences that were questions (versus statements) were kept similar between the videos, while allowing for some linguistic variation in order to maintain a naturalistic flow of speech (mean words per sentence: IDS = 6.34, ADS = 7.05; number of questions/total number of sentences: IDS = 12/41, ADS = 12/39).

Four static images were created for use during the test phases. Each image featured one of four smiling Caucasian adult women, two of whom had also recorded familiarization videos (as described above; see Figure 1 for stimuli).

Apparatus. Infants were seated on a parent's lap in a double-walled, sound-treated anechoic chamber. Parents wore noise-canceling headphones (Sony MDR-NC6) playing classical music and were discouraged from speaking or intervening during the experiment. In front of the infant were three 17 in. computer monitors, with the center monitor at an approximate distance of 125 cm. The two side monitors were placed 76.2 cm from the center monitor (measuring from the center of the screens) on either side. Behind the central monitor were two Genelec 8020A speakers calibrated to output sound stimuli at an average of 65 dB. Infants' behavior was recorded and monitored online using a Sony DCR-HC32 infrared camera positioned directly above the central monitor. The room was dark except for light emitted by two 60-watt infrared light bulbs positioned in each of the room's corners, equidistant to the left and right monitors. The experiment was controlled by Habit X 1.0 software (Cohen, Atkinson, & Chaput, 2000–2002) on a PowerMac Dual 2 GHz PowerPC G5 computer.

Procedure and design. Each infant participated in both the IDS and ADS conditions (counterbalanced for order between infants), thus allowing for within-subject comparisons. Each condition consisted of a familiarization phase and a test phase (see Figure 1). During the familiarization phase, infants viewed a 60 s fixed-length video of a person speaking on the center monitor. The key manipulation was the manner of speech (IDS or ADS) used in the video. The test phase consisted of two 20 s trials. During each test trial, infants were presented with two silent, static images shown side by side on the right and left monitors: a static, smiling photo of the person they had seen during familiarization and a similar photo of a novel person they had not seen before. The faces

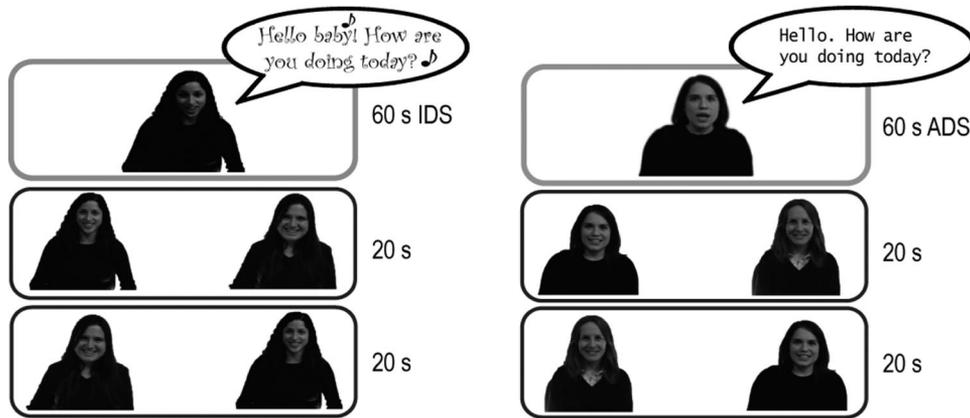


Figure 1. Procedure and displays. Each infant saw a 60-s video of a person speaking, using either infant-directed speech (IDS) or adult-directed speech (ADS). This familiarization was followed by two silent 20-s visual preference tests in which the person from the familiarization appeared side by side with a novel individual. The procedure was then repeated with two other individuals and with the opposite manner of speech during familiarization.

switched locations on the second trial during the test phase, so each face was always seen in both locations. It is important to note that each person appeared in only one condition per infant—that is, individual infants never saw the same individual use both IDS and ADS.

Prior to each familiarization or test trial, an animated video of a looming object was played on the center monitor in order to attract the infants’ attention. When the infant looked at the central monitor, the familiarization or test trial began and continued until completion. Infant looking times were coded offline, blind to condition, with frame-by-frame video coding. Half of the videos, randomly selected, were recoded by another individual to ensure interrater reliability (coders agreed on 94% of frames, coded from start of first familiarization to end of last test trial).

Each infant was familiarized with two of the four individuals, one of whom spoke in IDS and one in ADS; the remaining two individuals served as novel faces at test. The pairing of speakers with condition and with novel faces was counterbalanced across infants. Order of familiarization condition, person order, and first location of familiar face during test were also counterbalanced.

Results

We first asked whether manner of speech (IDS vs. ADS) affected looking time during the familiarization phase. A paired samples *t* test comparing total looking time for the IDS and ADS familiarization conditions revealed no significant difference, mean IDS familiarization looking time = 46.65 s, *SD* = 7.815 s; mean ADS familiarization looking time = 43.47 s, *SD* = 12.47 s; $t(19) = 1.43, p = .17$. Thus, infants attended for similarly long durations to both the IDS and ADS familiarization videos. Total looking time at test averaged 25.02 s (of the possible 40 s; *SD* = 7.23 s); there was no significant effect of condition (IDS or ADS) on total looking time at test ($p > .1$).

We then asked whether the familiar person’s manner of speech during familiarization (IDS or ADS) influenced infants’ subsequent preference for a static image of that person’s face when

paired with the face of a novel person. Visual preference scores were derived for each test session by dividing the amount of time spent looking at the familiar face by the total looking time to both faces. A preference score of over .50 indicated a preference for the familiar individual (see Figure 2). A repeated-measures analysis of variance (ANOVA) on preference scores, with manner of speech during prior familiarization (IDS or ADS) as the within-subject factor and order (IDS first or ADS first) as the between-subject factor, revealed a significant main effect of speech style, $F(1, 18) = 7.20, p = .015, \eta_p^2 = 0.29$. No other significant main effect or interaction was observed. In addition, we asked whether total looking time during familiarization predicted infants’ preferences, as would be expected by a simple extent-of-processing account. No significant correlation was found between total looking time during familiarization and preference score at test, $r(39) = .095, p = .56$.

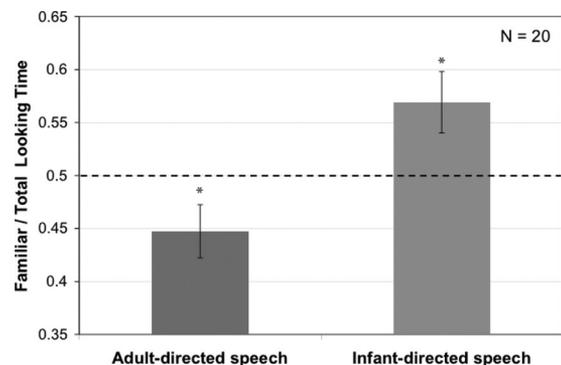


Figure 2. Infants’ visual preferences during the test phase of Experiment 1, as a function of the manner of speech the individual used during familiarization (infant-directed speech vs. adult-directed speech). Y-axis shows the ratio of time spent looking at the familiar person over the total looking time at either face.

Planned t tests comparing preferences in each condition with chance (.50) revealed that infants showed a significant familiarity preference in the IDS condition, preference score = 0.57, $t(19) = 2.38$, $p = .027$ and a significant novelty preference in the ADS condition, preference score = 0.45, $t(19) = 2.10$, $p = .049$; (see Figure 2). Thus, after seeing an individual speaking in IDS, infants subsequently preferred to look at a static image of that individual when it was paired with an image of a novel face. By contrast, when the familiar individual had previously used ADS, infants did not prefer the familiar face but instead looked longer at the novel individual.

Discussion

The present findings suggest that infants' visual preferences for familiar individuals are robustly influenced by their prior experiences with that individual's speaking style. After seeing someone speak in an ID manner, infants prefer this person to a novel person; however, after seeing someone speak in an AD manner, infants prefer the novel person. This suggests that IDS and ADS serve as powerful cues guiding infants' visual preferences for potential social partners.

Because exposure during familiarization was comparable for both conditions and because speakers were counterbalanced across IDS and ADS conditions, a simple preference for the most familiar stimulus or for a specific face cannot account for the present findings. However, it remains possible that infants' visual preferences were based solely on differences in the type of visual information present in videos of the same person speaking IDS versus ADS, such as facial expression or amount of movement. If this were the case, it would be inaccurate to attribute the effect to differences in manner of speech.

We therefore performed a second experiment to determine whether differences in visual information alone could have driven the pattern of preferences found in the first experiment. If the preferences observed in Experiment 1 arose from visual differences in the IDS and ADS videos, Experiment 2 should obtain the same pattern of preferences as did Experiment 1. By contrast, if the auditory features of IDS and ADS were essential for engendering the social preferences, findings obtained in Experiment 2 should show a different pattern from those obtained in Experiment 1.

Experiment 2

The second experiment examined the extent to which infants' preferences were driven by differences in visual information, without need for the auditory information in the speech signal. Infants viewed the same familiarization and test stimuli as in Experiment 1, without the accompanying auditory information.

Method

Stimuli, apparatus, and procedure. The stimuli, apparatus, design, and procedure were the same as those in Experiment 1, except that no sound accompanied the videos used during the familiarization phase. Interrater reliability was once again high (agreement on 92% of frames).

Participants. We recruited infants from the surrounding area using birth lists obtained from area hospitals. The final sample consisted of 20 5-month-old infants (10 girls), with an age range between 4 months, 3 days and 5 months 17 days (mean age = 5 months, 1 day; $SD = 15.2$ days). Seven additional infants were excluded for sleeping (1), fussiness (2), technical error (2), and equipment error (2). According to parental report, all infants were born at full term and had no hearing difficulties at time of testing.

Results

As in Experiment 1, we first performed a paired-samples t test on looking times during the familiarization phase of the IDS and ADS conditions, which yielded a difference approaching conventional levels of significance, mean IDS familiarization looking time = 43.33 s, $SD = 8.51$ s; mean ADS familiarization looking time = 37.73 s, $SD = 10.65$ s; $t(19) = 2.08$, $p = .052$. Thus, infants tended to look longer during familiarization to the silent IDS video than during familiarization to the silent ADS video.

Total looking time at test averaged 28.96 s (of the possible 40 s; $SD = 4.74$ s); there was no significant effect of condition (IDS or ADS) on total looking time at test ($p > .1$). We again calculated visual preference scores for each test-phase trial by dividing the amount of time spent looking to the familiar face by the total looking time. A repeated-measures ANOVA on preference scores, with speech style (IDS vs. ADS) as the within-subject factor and order (IDS first or ADS first) as the between-subject factor revealed no significant main effects or interactions, IDS versus ADS: $F(1, 18) = 2.87$, $p = .107$; see Figure 3. A marginally significant negative correlation was found between total looking time during familiarization and preference score at test such that longer looking time during familiarization predicted a greater novelty preference at test, $r(39) = -.29$, $p = .066$.

Two planned t tests were performed to compare preference scores in each condition to chance (.5). In contrast with the first experiment, infants showed no significant preference in the IDS condition, preference score = 0.51, $t(19) = 0.33$, $p = .745$. They did, however, show a significant familiarity preference in the adult-directed speech condition, preference score = .58, $t(19) =$

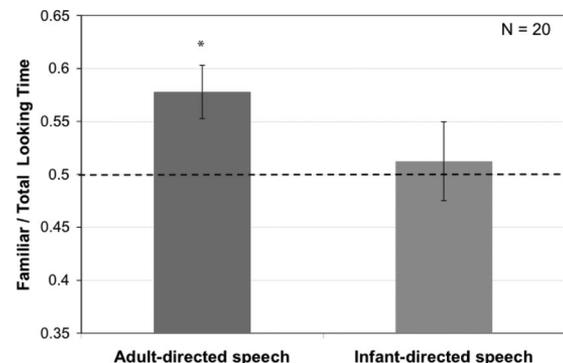


Figure 3. Visual preferences during the test phase of Experiment 2, after seeing but not hearing an individual speaking in an infant-directed or adult-directed manner, as a function of the manner of speech of the individual. Y-axis shows the ratio of time spent looking at the familiar person over the total looking time at either face.

3.10, $p < .01$; see Figure 3. Thus, infants preferred the familiar individual after viewing a silent video of that individual using ADS.

In addition, a two-way mixed ANOVA was performed, with experiment (1 or 2) as the between-subject factor and condition (IDS or ADS) as a within-subject factor. This analysis revealed a significant interaction between experiment and condition, $F(1, 38) = 9.52$, $p < .01$, showing that infants displayed a different pattern of visual preference as a function of experiment.

Discussion

When auditory information was removed from the familiarization stimulus, we obtained a strikingly divergent pattern of findings compared with when both visual and auditory information were presented. This divergence suggests that the auditory signal was a necessary component of the first experiment. Although it is possible that dynamic visual information may have contributed to subsequent preferences in Experiment 1, visual information alone was not sufficient to engender the response, as shown in Experiment 2.

In contrast to the first experiment, the preferences seen in the visual-only experiment can be parsimoniously explained via a simple extent-of-processing account based on levels of habituation. Both IDS and ADS conditions in Experiment 2 tended toward familiarity preferences, as might be generally expected because we did not habituate infants to the faces during familiarization. Infants tend to prefer the familiar stimulus if information is not fully processed and tend to prefer the novel after full habituation to a stimulus (Aslin, 2007). Because infants looked longer during familiarization to visual-IDS stimuli, they would have been closer to habituation (and a novelty preference) in this condition than in the visual-ADS condition. Thus, by an extent-of-processing account, we should expect a stronger familiarity preference after the visual-ADS condition than after the visual-IDS condition. Infants showed a significant preference for the familiar face in the visual-only-ADS but not in the visual-IDS condition, consistent with this prediction.

In addition, familiarity preference scores of individual infants in Experiment 2 were negatively correlated with total looking time during familiarization; infants' increasing amount of visual experience with a person predicted a stronger novelty preference. This again supports the role of simple extent-of-processing in Experiment 2.

The results of Experiment 1, however, show an additional factor driving preferences in addition to this basic information-processing factor. Since infants looked equally long during the two familiarization conditions in Experiment 1, an extent-of-processing account would predict that infants should show a similar pattern of preference in both IDS and ADS conditions. However, audiovisual exposure to an individual using IDS led to a robust preference for that individual, whereas audiovisual exposure to an individual using ADS led to the opposite preference pattern. This result is not easily accounted for by extent of processing.

In addition, in Experiment 1 we found no significant correlation between individual infants' total looking time during familiarization and preference scores at test. Thus, infants' preferences in the

first experiment seem to have been driven by factors other than simple extent of processing, such as social preference.

General Discussion

After hearing a person speak in an infant-directed manner, infants look longer at an image of that person than at an image of a novel person; by contrast, after hearing a person speak in an adult-directed manner, infants instead prefer the novel person. This effect is not driven by visual differences in the adult-directed versus infant-directed demonstrations but requires auditory information—the speech itself—to engender the preference. Infants' looking preferences for individual people are therefore influenced by the extent to which those individuals previously used a speaking style appropriate for interaction with infants.

Three primary functions have been proposed for IDS: attracting the infants' attention (Bachorowski & Owren, 2002; Fernald, 1985, 1992; Fernald & Kuhl, 1987), communicating emotion (Papousek, Papousek, & Symmes, 1991; Stern, Spieker, Barnett, & MacKain, 1983), and facilitating language learning (Kuhl, 2004; Kuhl et al., 1997; Fernald, 1991; Fernald, 1992). Our findings suggest another function of IDS: It may serve as a cue for selection of appropriate social partners by the infant. Five-month-old infants encode the manner of speaking used by an adult and use this information to decide which adult they should attend to after the behavior has ended. Since use of IDS demonstrates an adult's interest in and capacity for caregiving and teaching (as proposed earlier in this article), this preference may enhance infants' learning and safety by maximizing their attention to and social interactions with the best caregivers in their environment.

In much previous work, IDS has been viewed as a caregiving tool used by mothers to manipulate their infants' emotional and attentional states (e.g., Fernald, 1992; Papousek et al., 1991). This view casts the infant as passive in these social interactions, constantly manipulated by sensory input. Here we show that infants are not merely interested in IDS; infants are interested in *people* who use IDS. The infant thus takes an active role in these social interactions, encoding use of IDS or ADS and using this information in a top-down manner to generate preferences for people even after the speech stimulus is no longer available.

What Drives Visual Preferences for People Who Use IDS?

How do infants encode their encounters with novel adults in the present study? Infants might be using the observed behaviors of individuals to attribute dispositional states to each individual. For example, the infant could attribute positive emotion to one individual and negative or neutral emotion to the other ("This person is happy/friendly; this person is neutral/unfriendly"), leading to subsequent preferences. By 10 months, infants similarly use dispositional attributions to guide social preferences: They not only choose to play with a toy character that previously helped another over one that hindered another but, critically, expect that the character who was helped and hindered will prefer the helper over the hinderer (Hamlin et al., 2007; Kuhlmeier, Wynn, & Bloom, 2003). However, 6-month-old infants do not have such expectations about these third parties (Kuhlmeier et al., 2003). More recent work, however, has shown that even very young infants

seem to exhibit attribution of dispositional states when the task involves first-person preferences, such as those measured in the current study (Hamlin, Wynn, & Bloom, in press). This suggests that infants might indeed have attributed dispositional states in the current task, in a manner similar to adult behavior.

Alternatively, infants might complete this task in a less complex manner. IDS induces greater positive emotion in the infant than does ADS (Fernald, 1992; Werker & McLeod, 1989). Infants may simply associate the valence of their own emotions with a particular individual. This type of association would engender a preference for the positively valenced individual without requiring sophisticated social understanding.

These data are also consistent with the theory of pedagogy in which IDS serves as an ostensive cue that a teaching episode for the infant is about to occur (Csibra & Gergely, 2006). Infants may have preferred the infant-directed speaker because they were expecting a teaching episode. They likewise may have avoided the face of the adult-directed speaker because they determined that her vocalizations were not directed at them and thus would not include teaching of infant-appropriate information.

Further research could address these possibilities. In particular, if infants are using speech as a pedagogical cue and expecting a teaching episode to immediately follow, we might expect the preference to decay quickly over time and readily change with new information. If we instead find that the infants' preferences are robust and stable, this would support the notion that IDS does not simply signal a teaching episode but gives rise to associations with or judgments about individuals. This theory of pedagogy may thus serve as a useful framework for future studies.

Regardless of the mechanism driving the effect, a visual preference for certain individuals over others will undoubtedly have social consequences for the infant. A basic preference for some individuals over others will likely enhance the amount or quality of social interactions with the preferred individuals, simply because the infant prefers to visually engage with those individuals over others. Thus, regardless of whether the observed looking-time effect is driven by simple association or higher level social representations, the outcome for infant social cognition and behavior is the same: Infants increase their likelihood of spending time in the company of high-quality caregivers.

In summary, 5-month-old infants not only encode an individuals' use of IDS and ADS but use this information to guide their preferences for individuals even after the speech behavior has ended. Use of IDS may act as an effective cue for infants to select appropriate social partners, allowing infants to focus their attention on individuals who will provide optimal care and opportunity for interaction and learning. This selectivity may play a crucial role in establishing the foundations of social cognition.

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**Call for Papers: *Developmental Psychology*
Special Section on Deficit or Difference?: Interpreting
Diverse Developmental Paths**

Editors: Nameera Akhtar & Vikram Jaswal

Nameera Akhtar and Vikram Jaswal are editing a special section on interpreting differences between “typically developing” (i.e., mainstream) children and other populations. To what extent should the emphasis be on advocating remediation for children who are on a developmental trajectory that differs from the norm, in hopes of preventing cascading effects that could lead to, for example, educational inequities? To what extent should it be on embracing different developmental trajectories as equally valid contributions to the diversity of human experience? For this special section, the editors invite articles that reflect on the tensions and responsibilities inherent in interpreting comparisons of children of different (cultural, ethnic, linguistic, SES, neurological) backgrounds.

Interested contributors should submit a 1-page proposal to Nameera Akhtar (nakhtar@ucsc.edu) by Jan. 31, 2011. The editors will send out invitations for full manuscripts by Feb. 15, 2011. Complete manuscripts should be submitted by May 15, 2011, using the APA website: <http://www.apa.org/pubs/journals/dev/>. Manuscripts should be prepared in accordance with the APA guidelines, and will be subject to the regular peer review process. Inquiries, including questions about appropriate topics, may be sent electronically to either Nameera Akhtar or Vikram Jaswal (jaswal@Virginia.edu).