VIEWPOINT

What Babies Can Do

~ PETER M. VISHTON, *Associate Professor of Psychology*

A broad range of evidence has shown that early exposure to stimulating activities promotes infant mental development. Exposure to music, complex visual stimuli and, most importantly, interaction with other people stimulate and support the growing brain. The ideal characteristics and timing of these activities remain a topic of research and debate, but the basic finding has been clear for several decades. Infants come into the world already seeing, hearing and making some sense of the world around them. Early enrichment activities are associated with better health, higher intelligence and success in school. Despite this, surveys of new parents have shown that fewer than half provide enrichment activities for their young children on a regular basis.

There are a variety of possible reasons for this. Being a parent is a challenging activity. Adapting to irregular sleep patterns, diapers, feeding schedules, trips to the pediatrician and just meeting the basic day-to-day needs of a newborn require a lot of time and energy. It is understandable that an exhausted new mother or father might not be looking for extra challenges over the course of the day.

Can you have a conversation with a 1-month-old?

A bigger reason for the lack of enrichment activities, however, may come from a lack of understanding of just how intelligent and aware most newborns are. Young infants sleep a lot — about 16 hours per day at first. Even when they are awake, babies are often sleepy, crying or eating. At first, an infant may only be relaxed and alert for about 20 minutes every few hours. Even then, the behavior of a newborn can seem disorganized and random. All of this can lead parents to focus on the baby's physical needs and to de-emphasize mental stimulation.

What is needed are activities that a parent can do that are stimulating to the infant and that are structured to enable the parent to observe the baby's reactions. The developmental science literature has much to offer in this regard. Most infant studies are conducted in carefully constructed and controlled environments. Many incorporate specialized equipment for recording eye movements, heart rate and even brain activity. Repeating a full-scale experiment may not be practical, but it is often possible to adapt part of a procedure for use at home.

For instance, parents can easily track the ongoing development of baby eye movements. If you shake an attractive, noise-making object — a keychain is ideal — about 12 inches in front of a newborn, she will typically look at it. If you then move it slowly to one side and then the other, her eyes will follow the target, but not right away. Newborns possess the ability to make abrupt, jerky eye movements called "saccades," but cannot engage in the "smooth tracking" eye movements that older children make in this situation. The newborn's eyes will follow the target but will lag behind it, making saccadic movements to catch up with it every few seconds.

If parents repeat this activity every few days, they will notice that the saccadic movements become smaller and faster during the first month of development. Around the age of 6 weeks, a remarkable shift occurs as the brain systems responsible for smooth tracking come online. One day, the baby will not be able to follow the target smoothly; the next day she will. This type of in-home developmental study is fun for both the baby and the parent. Watching the developmental shift occur is just plain exciting.

Another simple activity is "habituation." If parents show a newborn an attractive toy, they can use a stopwatch to time how long she looks at it before looking away. If they repeat this process several times in a row, the duration of looking will decrease until the child only glances at the toy briefly before looking away. Babies become bored with repeated exposure to the same object — just like adults. The fact that newborns exhibit this behavior tells us that they can see and that they can control their eye movements. Even more impressive, it indicates that newborns have a basic capacity for remembering and recognizing familiar objects.

If parents follow this habituation procedure by showing the baby a new object, they will often find that the infant's looking duration will increase again. If this happens consistently, it indicates that the baby can tell the difference between the two objects. With this developmental assessment tool, parents can start to ask their baby more complex questions. What types of differences can the baby see? What types of differences can't she see? Differences in color? Differences between the faces of two similar teddy bears?

Activities such as these can enable almost anyone to be an at-home developmental psychologist. The activities are stimulating for the baby and fun for parents. As parents come to realize just how acute the perceptual and motor capacities of their infants can be, engaging in more typical reading, singing and talking activities may also start to seem more reasonable. It's not at all crazy to have a conversation with a 1-month-old. She might not say much, but it's clear that she makes sense of and learns from what is said a long time before she starts talking.

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