Research Spotlight

The Quick Picture Game

Ashna Shome, a high school student at The Ellis School, is interested in understanding whether children aged 3-6 show any evidence of same-race preferences. The intent is not to study or analyze racism, but to observe children as they play a brief game, in order to understand whether children innately prefer faces of their own race. In the task, the children are shown a series of three images. These images flash very quickly [less than a second each] in succession. The first is a face, the second a Chinese character, and the third an abstract image. The researcher then asks whether the child likes or dislikes the final, abstract image. This process is repeated multiple times. Sample images are shown below. The image of a face varies in race during the multiple rounds of the game. The face is neutral in terms of gender, age, emotion, etc. The researchers expect that the children’s choice of liking or disliking the abstract image will be influenced by their reaction to the face and the Chinese character. Any differences in preference depend on the race of the face, since the character is a neutral stimulus. These data can be used to determine if children implicitly and unconsciously prefer faces of their own race. Because the reactions that are being measured are entirely implicit, the children are completely unaware that the focus of this project is race.

The Animal Names Game

Both sections of the Developmental Research Methods class are studying working memory capacity. Working memory refers to our ability to hold in mind information intended for immediate use, such as dialing a phone number someone just told you or remembering directions to a new place. Such information is likely to be forgotten relatively quickly, unless we make a special effort to retain it by rehearsal or some other strategy, and the amount of transient information one can hold in mind increases with development. For instance, a 2-year-old may not be able to remember a sequence of three random instructions (for example: touch your nose, clap 3 times, and shake your head), but a kindergartner should generally be able to do so.

In the Animal Names Game, students are investigating age-related increases in working memory capacity using the Word Span task. In this task, children are asked to repeat animal names. In the beginning, children are given an easy task of repeating a sequence of animal names consisting of just two words, for example FROG-SWAN. The number of words in the sequences is gradually increased, such that the longest possible sequence contained six words, for example SNAKE-FOX-CLAM-WOLF-BUG-HAWK. A coder recorded the maximum number of words a child repeated correctly. Each child plays this game twice. One time, children are asked to repeat sequences of animal names that are only one syllable long (like the examples above). The other time, children are asked to repeat sequences of animal names that consist of multisyllabic words (such as BUTTERFLY, ANTELOPE, or ELEPHANT). Based on the existing evidence that memory span for digits depends more on the amount of time required to say the number names than the number of digits, the class expects children of all ages to correctly repeat more animal names when they each have only one syllable than when they have multiple syllables. If this result is obtained, it will provide further evidence suggesting that our working memory capacity has temporal limits rather than item-based limits.