

You can't always get what you want: Young infants understand goals, even if unsuccessful

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We all have goals and desires, but unfortunately, they are not always achieved. For example, a fouled basketball player tries for a free throw shot, but misses. It may be obvious that he wanted to make the shot, but the outcome did not match that goal. As adults, we are able to tell the difference between people's internal goals and the behaviors they influence. When do we gain this ability? Are infants able to "see" the hidden reasons behind certain actions? That is, can an infant tell that the basketball player intended to make the free throw shot, even though he missed? Earlier research indicates that older infants (15- to 18-month olds) are able to separate goals and intentions from actions, but University of Michigan psychologists Amanda C. Brandone and Henry M. Wellman conducted a study to determine if younger infants also have this ability.

These experiments took advantage of the fact that after infants are repeatedly shown the same event, they eventually become bored and look longer at something that is new or puzzling. In this experiment, researchers measured how long 8-, 10- and 12-month old infants watched a video. The first part of the video repeatedly depicted a man reaching over a barrier (making an arcing movement with his arm) to pick up a ball. There were two versions of this scene - half of the infants saw the man successfully pick up the ball and the rest of the infants saw the man miss the ball. Once the infants were bored with the video (researchers could tell infants were bored when they started looking at

the video less and less), the researchers showed them a new scene. This new scene was similar to the first, except that the barrier was missing.

Infants were shown two scenes; one scene showed the same man performing a direct action and reaching straight for the ball. In the other scene, the man performed an indirect (unnecessary) action and grabbed the ball by making an arcing movement, just as he did when the barrier was present. If infants understood the first scene in terms of its goal (to successfully pick up the ball), then they should be puzzled by and look longer at something inconsistent with that goal (the unnecessary arcing motion). In contrast, if the infants had viewed the first scene just in terms of its actions (i.e. the arcing motion), then they should be interested in and look longer at the new action- the direct reaching motion.

The results, described in the January issue of *Psychological Science*, a journal of the Association for Psychological Science, were very interesting. All of the infants who had watched the scene depicting a successful reach ended up looking longer at the indirect reaching event. However, out of all the infants who had seen the failed attempt scene (the man missing the ball), only the 10- and 12-month old infants looked longer at the indirect reaching event.

These findings indicate that by 10 months of age, infants, just like adults, are able to understand goals and intentions, even when those goals are not obvious based on the resulting behavior (that is, if the goal is unsuccessful). Younger infants (8-month olds), however, still need outcome information (e.g. seeing the ball picked up successfully) to determine what the intentions were - they are not able to infer the original goal, if it is not met. In addition, this study further suggests that during development, we initially understand people's actions at a surface level, but over time we come to understand people's actions as guided by internal causes such as goals, emotions, and belief. Only by

understanding people's internal causes can we effectively navigate our rich, social world in order to "get what we want."

Source: Association for Psychological Science

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