Medical Xpress

Infants' avoidance of drop-off reflects specific motor ability, not fear

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Researchers have long studied infants' perceptions of safe and risky ground by observing their willingness to cross a visual cliff, a large drop-off covered with a solid glass surface. In crawling, infants grow more likely to avoid the apparent drop-off, leading researchers to conclude that they have a fear of heights. Now a new study has found that although infants learn to avoid the drop-off while crawling, this knowledge doesn't transfer to walking. This suggests that what infants learn is to perceive the limits of their ability to crawl or walk, not a generalized fear of heights. The findings have implications for infants' safety.

The study, by researchers at New York University, is published in the journal *Child Development*.

In the study, researchers tested about 50 children, including 12-month-old experienced crawlers, 12-month-old novice walkers, and 18-month-old experienced walkers. Caregivers encouraged the babies to descend a series of drop-offs that were safe or risky, relative to each of the infants' abilities. Instead of a visual cliff with a fixed height, researchers used an actual, adjustable cliff without safety glass with a maximum height of 90 cm; an experimenter rescued infants if they began to fall. On each trial, researchers recorded whether the infants tried to crawl or walk down the drop-off, avoided going at all, or used an alternative backing or scooting strategy.

Experienced crawlers tried to crawl down safe drop-offs within their

abilities and refused to crawl down drop-offs that were too large relative to their abilities, the study found. However, novice walkers attempted to walk down impossibly large drop-offs, even the 90-cm cliff. Experienced walkers didn't try to walk down risky drop-offs, but did go down using alternative strategies, indicating that they weren't afraid of the drop-off.

"These results suggest that the classic explanation for why infants come to avoid a drop-off—fear of heights—is incorrect," according to Karen E. Adolph, professor of psychology and neural science at New York University, one of the study's coauthors. "Our results have important theoretical implications for the field of child development, suggesting that some of the general knowledge that infants appear to gain early in life may in fact be highly specific and tightly linked to their emerging motor abilities."

Adolph noted that the findings also have practical implications for infant safety. When designing safety provisions for young infants, she suggested, special attention should be paid to newly emerging skills as these are the times when infants can't perceive the limits of their own abilities and don't seem to distinguish safe from risky ground.

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