# Locomotor Experience and Use of Social Information Are Posture Specific

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The authors examined the effects of locomotor experience on infants' perceptual judgments

posture, the same infants fell repeatedly into the same, impossibly large gaps (Adolph, 2000).

Likewise, longitudinal observations of infants descending slopes suggest

proficient crawler or walker. Thus, we normalized risk level to the limits of each infant's ability using a psychophysical procedure to estimate the steepest slope infants could crawl or walk down

*Sloping Walkway*

Infants encountered slopes of varying degrees on an adjustable walkway (see Figu

6° increments. Safe slopes were shallower and risky slopes were steeper than the borderline slope.

*Test trials.* In the test phase, infants encountered trials at 5 risk levels blocked into two social incentive conditions, with condition order counterbalanced across sex. Five slope increments were presented in 4 quasi-random orders for a total of 11 trials in each condition: 3 trials at the borderline increment, 2 trials on safe slopes 10° shallower than the borderline increment (labeled −10°), 2 trials on risky slopes 10° steeper than the borderline (labeled +10°), and 2 trials at 4° and 2 trials at 50° slopes. In addition, infants received a 4° baseline trial (always with mothers encouraging) at the end of each condition to maintain their interest and verify their motivation to descend. Thus, infants received 2 more encouraging than discouraging trials. Half of the children received the full battery of 24 trials; the others received slightly fewer, but all infants received at least one trial at each risk increment in each condition; overall the average number of test trials was 20.57 ($SD$ = 3.83). There were no differences in the number of infants who received fewer than 24 trials between locomotor groups, social incentive conditions, or risk levels. There was no correlation between trial number and latency at 4°,

Social incentives differentially affected perceptual judgments of crawlers and walkers, depending on risk. For crawlers, the most powerful effect of social incentives

derline (*M*s = .33 and .89,

Crawlers vocalized more than walkers at every risk level. An unexpected finding was that infants in both groups emitted more

In contrast, in Witherington et al.'s (2005) study, experienced crawlers showed higher crossing rates and shorter latencies on the deep side of the cliff compared with novice walkers, suggesting that experienced crawlers were actually less, not more, wary of the precipice. Several factors may explain the discrepancy between the current findings and those of Witherington and colleagues. One possible explanation for the differences between infants' behavior on slopes and the visual cliff is the perceptual information for the drop-off. In the current slope study, the drop-off was gradual and measured only 69.71 cm at 50°. In the gap studies, the drop-off was abrupt, but the height of the drop-off was only 76 cm. On the visual cliff, the apparent drop-off was abrupt and the distance to fall was 130 cm (Witherington et al., 2005). Possibly, novice walkers respond more judiciously to a larger vertical distance to the floor and/or visual information for a more abrupt drop-off. We are currently testing this possibility using the methods described here with an adjustable cliff.

A second potential explanation for the discrepant findings concerns differences in how infants' behaviors were scored. In the slope task, infants could generate a wide range of descent strategies, including sitting, backing down feet first, kneeling, and so forth. Because the focus was on whether infants could effectively judge slopes as safe or risky, these strategies were scored as refusals. In contrast in the visual cliff task, only a few infants could devise alternative ways of crossing such as scooting backward or holding the edge of the apparatus because the visual cliff was