

Question: Where do emotions come from?

Nature – individual differences from birth

- observe emotions in newborns
- emotions useful for survival

Nurture – parental interaction, social routines

- gender differences observed in early childhood
- infants looking for cues from parents (social referencing)
- individual differences based on developmental history, past experiences
- crying differentiation

Question: Where does fear of heights come from?

Nature – survival value

- depth perception problem (maturation)
- brain matures, amygdala
- throw baby in air
- want to climb, need to explore

Nurture – babies don't always display it

- depth perception problem (hasn't learned the cues)
- visual cliff
- parental interaction, parents keep them from high places
- what they are used to
- kittens
 - dark, left to walk around ← fear of heights
 - not allowed to walk, could see
 - ➔ relationship between self-locomotion and the dev. Of fear of heights.

The experience of falling makes them afraid of falling

Movement has more to do with fear (or emotions) than sight.

Hypothesis: Experience of self-locomotion is necessary for the development of fear of Heights

Correlational Designs:

Flat vs. mountainous – are babies who live in places where different heights are experienced more likely to show a fear of heights than babies who live in flat places?

Correlate falling experience with fear of heights – are babies who have had more experience falling more likely to show fear of heights?

Babies who can't move – for babies who are not able to move during the period their age-mates are typically self-locomoting, does onset of fear of heights correlate with when they start moving?

(actually, yes – Campos, Bertenthal, & Kermoian, 1990, Exp 3)

For babies developing normally, does onset of self-locomotion correlate with fear of heights?

(actually, yes -- Campos, Bertenthal, & Kermoian, 1990, Exp 1)

Babies before and after onset of crawling

- before onset of crawling
 - o show no fear
- after the onset of crawling
 - o show fear

SO, experience seems to matter -> nurture

BUT

Maybe too young to comprehend or experience fear, maybe a third variable is responsible for both the onset of self-locomotion and onset of fear of heights.

Experimental designs:

Give infants experience with visual cliff

- Walking
- Carried

Give infants experience with visual cliff

- Experience “success”
- Observing falling
- Do a post-test

Give younger infants the ability to self-locomote
(Campos, Bertenthal, & Kermoian, 1990, Exp 2)

Give wheeled Walkers to:

Pre-locomotor infants (*Pre-locomotor-walker*)

Locomotor infants (*Locomotor-walker*)

Compare to age-matched infants who did not get walker experience:

Pre-locomotor infants (*Pre-locomotor-NOwalker*)

Locomotor infants (*locomotor-NOwalker*)

Task: Infants were lowered to the visual cliff

Measurement: Their heart rates in response to being lowered to the visual cliff.

Results:

Experience	Heart rate BPM difference*
Pre-locomotor-walker	3
Locomotor-walker	8
Pre-locomotor-Nowalker (control)	-2.5
Locomotor-Nowalker (control)	3

*The numbers reported show the average difference between infants' heart rate before being lowered to the visual cliff and as they were being lowered to the visual cliff. Therefore, a positive number indicates a heart rate acceleration and a negative number indicates a heart rate deceleration.