Elephant self awareness

"Considered an indicator of self-awareness, mirror self-recognition (MSR) has long seemed limited to humans and apes. In both phylogeny and human ontogeny, MSR is thought to correlate with higher forms of empathy and altruistic behavior. Apart from humans and apes, dolphins and elephants are also known for such capacities. After the recent discovery of MSR in dolphins (Tursiops truncatus), elephants thus were the next logical candidate species. We exposed three Asian elephants (Elephas maximus) to a large mirror to investigate their responses. Animals that possess MSR typically progress through four stages of behavior when facing a mirror: (i) social responses, (ii) physical inspection (e.g., looking behind the mirror), (iii) repetitive mirror-testing behavior, and (iv) realization of seeing themselves. Visible marks and invisible sham-marks were applied to the elephants' heads to test whether they would pass the limbus "mark test" for MSR in which an individual spontaneously uses a mirror to touch an otherwise imperceptible mark on its own body. Here, we report a successful MSR elephant study and report striking parallels in the progression of responses to mirrors among apes, dolphins, and elephants. These parallels suggest convergent cognitive evolution most likely related to complex sociality and cooperation.

DIFFERENCES AMONG INFANTS

Characteristics That Make Infants Unique

Personality
- Sum total of enduring characteristics differentiating one individual from another
- From birth onward, infants begin to show unique, stable traits and behaviors that ultimately lead to their development as distinct, special individuals

Erikson: Psychosocial Development

Early experiences responsible for shaping key aspects of personalities
- **Stage 1: trust versus mistrust**
  - Trust = sense of hope and success
  - Mistrust = sense of harsh, unfriendly world
- **Stage 2: autonomy-versus-shame-and-doubt stage**
  - Autonomy = sense of independence
  - Shame and doubt = sense of self-doubt and unhappiness

Another View: Temperament and Stabilities in Infant Behavior

Temperament
- Refers to how children behave, as opposed to what they do or why they do it
- Displayed as differences in general disposition from birth, largely due initially to genetic factors
- Tends to be fairly stable well into adolescence
- Is not fixed and unchangeable and can be modified by childrearing practices

Dimensions of Temperament

- **Activity level**
- **Irritability**
Categorizing Temperament

Babies can be described according to one of several temperament profiles:
- Easy babies
- Difficult babies
- Slow-to-warm up babies
- Inconsistently categorized babies

Thomas and Chess, 1980

Family Life in 21st Century

- Number of single-parent families has increased dramatically in last two decades
- Average size of families is shrinking
- Despite overall decline, half million births to teenage women, the vast majority of whom are unmarried
- Close to 50 percent of children under age of 3 are cared for by other adults while their parents work, and more than half of mothers of infants work outside home
- One in three US children lives in low income households

From Research to Practice

How Does Infant Care Affect Later Development?

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Good news, bad news!

Good news (direct benefits):
- High-quality child care outside home produces only minor differences

Good news (indirect benefits):
- Children in lower income households and those whose mothers are single may benefit

Bad news:
- Infants less secure when in low-quality child care
- Children who spend long hours lower have ability to work independently
- Children who spend ten or more hours a week in group child care for a year or more have an increased probability of being disruptive in class

Becoming an Informed Consumer of Development

Choosing the Right Infant Care Provider

The American Psychological Association suggests that parents consider these questions in choosing a program:
- Are there enough providers?
- Are group sizes manageable?
- Has the center complied with all governmental regulations, and is it licensed?
- Do the people providing the care seem to like what they are doing?
- What do the caregivers do during the day?
- Are the children safe and clean?
- What training do the providers have in caring for children?
- Is the environment happy and cheerful?

Chapter 3: The Preschool Years

Module 3.1
Physical Development in the Preschool Years
PHYSICAL DEVELOPMENT IN THE PRESCHOOL YEARS

Looking Ahead
- What is the state of children's bodies and overall health during the preschool years?
- How do preschool children's brains and physical skills develop?

Physical Growth
Growing Body
- By age 2, 25 to 30 pounds and close to 36 inches tall
- By 6 years old, about 46 pounds and 46 inches tall

Individual Differences in Height and Weight
- Averages mask great individual differences in height and weight
- Gender differences
- National and global economic differences

Changes in Body Shape and Structure
- Bodies vary in height, weight, and shape
- Toddler fat burns off
- Internal physical changes occur

Nutrition: Eating the Right Foods
- Slower growth = less caloric requirements
- Children can maintain appropriate intake of food, if provided with nutritious meals
- Inappropriate encouragement to increase food intake beyond an appropriate level may cause obesity
Avoiding a Butter Battle

*Good nutrition without adversarial situations occur by:*
- Providing a variety of foods, low in fat and high in nutritional and iron content
- Allowing development of natural preferences
- Exposing children to a wide variety of foods

Health and Illness

- 7 to 10 colds and other minor respiratory illnesses in each of years from age three to five
  - Runny nose due to common cold is most frequent
- Majority of US preschoolers are reasonably healthy

Injury During the Preschool Years

- Accidents are greatest risk
- Danger of injuries
  - High levels of physical activity
  - Curiosity
  - Lack of judgment
- Individual differences
  - Gender
  - Cultural
  - Socioeconomic

Range of Preschool Dangers

- Falls
- Burns
- Drowning
- Suffocation
- Auto accidents
- Poisons

Silent Danger: Lead Poisoning

- Some 14 million children are at risk for lead poisoning (Centers for Disease Control)
- U.S. DHHS calls lead poisoning most hazardous health threat to children under the age of 6

Effects of Lead Poisoning

- High levels of lead are linked to higher levels of antisocial behavior in school age children
  - Aggression
  - Delinquency