

## Application to Developing Lives Parenting Simulation: Babies and Toddlers (page 71)

<b>Physical</b>	<b>Cognitive</b>	<b>Social and Emotional</b>
<ul style="list-style-type: none"><li>• Will you get your baby vaccinated?</li><li>• Will you breast-feed your baby? If so, for how long?</li><li>• What kind of foods will you feed your baby during the first year?</li><li>• How will you encourage motor development?</li><li>• How does your baby's height and weight compare to national norms?</li></ul>	<ul style="list-style-type: none"><li>• What kind of activities are you going to expose your baby to (music class, reading, educational videos)?</li><li>• What kind of activities will you do to promote language development?</li><li>• What is your child's Piagetian stage of cognitive development?</li></ul>	<ul style="list-style-type: none"><li>• How will you soothe your baby when he or she is crying?</li><li>• Can you identify your baby's temperament?</li><li>• Can you identify your baby's attachment style?</li><li>• What kind of discipline will you use with your child?</li></ul>

## Eating: The Basis of Living

From birth to 1 year of age, human infants triple their weight and grow taller by about 40%.

Although it can frustrate caregivers, picky eating during the second year of life (as long as a child eats a reasonable amount of food) can be normal ([page 78](#)). Between ages 1½ and 2, instead of sampling everything, children can revert to eating a few familiar foods ([page 78](#)).

Evolutionary psychologists believe that this behavior is adaptive. Sticking to foods they know reduces the risk of children poisoning themselves when they begin to walk.

## Nutritional Needs

A nation study of 3,000 randomly selected U.S. parents of 4 to 24-month-olds finds that their infants are being too much junk food and too little fruits and vegetables.

- Up to 1/3 were fed no vegetables and fruits
- Almost half of the 7-8 month-old babies were fed desserts, sweets, or sweetened drinks.
- At 15 months, French fries were the most common vegetables babies were eating.

Neglectful caregivers, poverty and caregivers who are not attentive to developmental changes in an infant's nutritional needs is associated with increased risk of obesity when the infant became an adolescent. Introducing vegetables between to infants 4 and 5 months of age reduced fusing eating behavior at age 4 compared to those who were introduced to vegetables after 6 months of age.

## **Breast Milk: Nature's First Food**

In 2016, surveys found about 81% of U.S. mothers breast fed their newborns, and 52% breast fed their 6-month-olds.

...In the developed world, exclusive breast-feeding is linked to widespread benefits

- appropriate weight gain and reduced risk of child and adult obesity,
- reduced risk of sudden infant death syndrome (SIDS),
- fewer gastrointestinal infections,
- fewer lower respiratory tract infections.
- from making toddlers more resistant to the flu,
- to accelerating myelin formation (white fatty substance around the axon of a neuron)
- to producing 1-year-olds who are less reactive to stress.
- women who nursed for longer had kindergarteners with fewer disruptive behaviors—such as aggression and tantrums—if these children were genetically at-risk ([page 78](#)).

In addition, a study of 500,000 Scottish children found that those who were breast fed exclusively at 6 to 8 weeks of age were less likely to have ever been hospitalized through early childhood than their formula-fed counterparts (page 84 of Santrock).

There are benefits to mothers who breast feed their infants including lower incidence of breast and ovarian cancer, a reduction of hospitalizations for cardiovascular problems and diabetes.

However, breast feeding does not seem to reduce the risk of allergies, cognitive development (although there is some evidence to suggest a small increase in children's intelligence) or cardiovascular functioning (page 84 of Santrock), or a positive effect on mother-infant relationship. Breast feeding is recommended for the positive effects on the mother's and infant's health, not on improving the mother and infant's relationship.

Breast feeding should not occur if the mother

- (1) is infected with AIDS or any other infectious disease that can be transmitted through her milk,
- (2) has active tuberculosis, or
- (3) is taking any drug that may not be safe for the infant.

Most women may find it impossible to follow the six-month recommendation for breast-feeding due to work demands and unpaid maternity leave ([page 78](#)) or physical pain to the mother ([page 79](#)). Socioeconomic status, economics and politics are indirectly related to development.

Because it is difficult to follow the six-month advice for variety of reasons, your author suggests that it is unfair to make mothers feel guilty for this (in Western cultures, we tend to focus of blame on the person and not circumstances). Rather than the person's milk delivery method, what's really important in the way a mother bonds with her child ([page 79](#)).

There appears to be few long-term physical and psychological differences between breast-fed and bottle-fed infants. The important consideration is the health of the mother and the infant.

As a cautionary note, the research on breast-fed infants is correlational, not experimental. There could be a third factor that increases health and breast feeding such as wealth, being older, better education, and more concerned about health compared to those who bottle feed.

## **Crying: The First Communication Signal**

It is a myth that inept parents produce colicky babies ([page 81](#)). Colic is a baby's frantic continual crying during the first three months of life; caused by an immature nervous system and shouldn't blame caregivers for this biological problem of early infant life ([page 81](#)).

Colic tends to be short-lived. There is only cause for concern when a baby cries excessively after this age ([page 81](#)). On difficulty with home remedies to reduce a colicky baby is that if your "treatment" coincided with the natural decline of continual crying, it is easy to think that the home remedy caused the reduction in crying, and thus allow the myth to continue.

Infant massage and safe close contact comfort generally has a calming effect of babies, children, adolescents and adults.



**Table 3.4: Infants' Basic States: Summary Tips for Caregivers (and Others)**

**Eating**

- Don't worry about continual newborn sucking and rooting. These are normal reflexes, and they disappear after the first months of life.
- As the baby becomes mobile, be alert to the child's tendency to put everything into the mouth and baby-proof the home (see the next section's discussion).
- Try to breast-feed, but if you need to work full-time or if nursing is too painful, don't berate yourself. The main benchmark of good motherhood is providing a child with loving care.
- Employers should make efforts to support nursing in the workplace. To really promote breast-feeding, *society* should offer mothers universal paid family leave!
- After the child is weaned, provide a balanced diet. But don't get frantic if a toddler limits her intake to a few "favorite foods" at around age 1½—this pickiness is normal and temporary.

**Crying**

- Appreciate that crying is crucial—it's the way babies communicate their needs—and realize that this behavior is at its peak during the first months of life. The frequency of crying declines and the reasons why a child is crying become clearer after early infancy.
- If a baby has colic, hang in there. This condition typically ends at month 4. Moreover, understand that colic has nothing to do with insensitive mothering.
- During the day, carry a young infant around in a "baby sling" as much as possible. In addition, employ infant massage to soothe the baby.

**Sleeping**

- Expect to be sleep-deprived for the first few months, until the typical infant learns to self-soothe; meanwhile, take regular naps. After that, expect periodic sleep problems and understand that children will give up their daytime nap at around age 2.
- After about 6 to 8 months of age, to promote self-soothing, don't pick up a sleeping infant at the first whimper. But the choice is really up to you—as the best way to promote sleep is to put a baby to bed with love.
- Co-sleeping is a personal decision; but the safest policy may be to room share, yet not routinely to have a baby sleep in a family bed.
- For sleep troubles occurring regularly into preschool, seek professional help.

## **Sleep and Cognitive Development**

Sleep is involved with the maturation of the brain, memory formation and learning. Better sleep for infants is associated with improved cognitive functions such as memory, language and executive function (attention, planning and problem solving).

Infants who had more sleep problems were more likely to have emotional regulation problems at 2 to 3 years of age and related to poor attention functioning in elementary school.

## **Sensory and Motor Development**

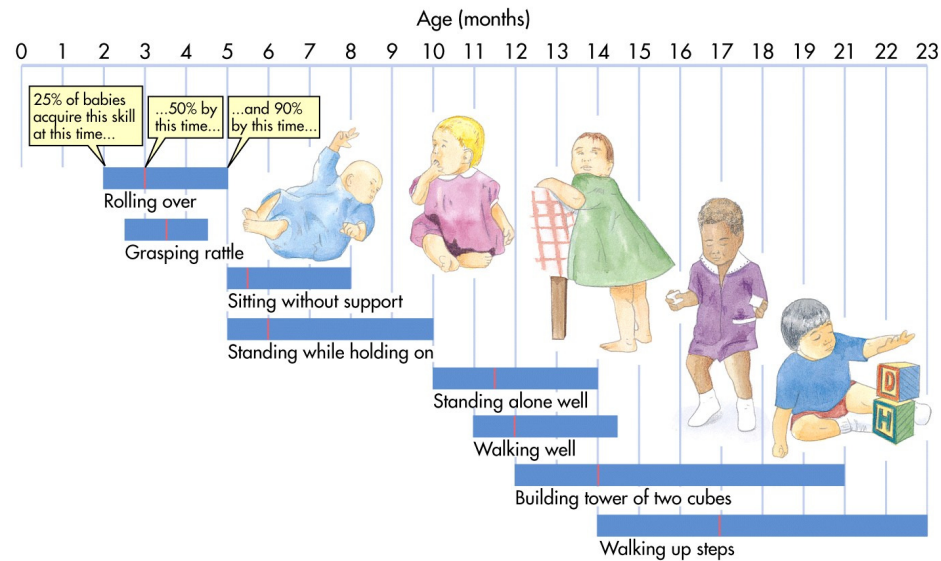
According to **dynamic systems theory**, perception and motor development co-develop together, rather than independent of one another.

In order to develop motor skills, infants must perceive something in the environment that motivates them to act, then use their perceptions to fine-tune their movements.

Motor development is not a passive response that develops in a vacuum on its own. The infant develops a motor skill in order to achieve a goal it perceives and wants to interact with in the environment.

Gross motor skills that involve large muscle activities (moving your arms and legs) develop before fine motor skills develop, which takes feedback from the environment.

## Gross Motor Development



There are broad gross motor skill develops that occur during the first two years. The exact timing of these milestones vary from infant and have lots of individual differences, and experiences may modify these developments.

Some factors are associated with the timing of these motor abilities at an earlier age such as being larger at birth (birth weight, birth length and circumference of the head) was the largest predictor. Smoking by the mother in the last trimester was associated with reaching the milestones later.

## **Fine Motor Development**

Fine motor skills involve finely tuned movements such as grasping a toy, using a spoon or buttoning a shirt. Fine motor skills are poor at birth.

Experience and practice reaching, grasping and manipulating objects (such as with a pincer grip to pick up small objects, and sometimes put them in their mouths) during an infant's first year helped with fine motor skill development.

## Sensory and Motor Development

What do newborns see?

To determine what newborns see, researchers use the preferential-looking paradigm. This is based on the principle that humans are attracted to novelty (they look at the novel longer) and then lose interest in it after habituation.

It is estimated that at birth, the ability to see distances is very poor—about 20/400, but improves rapidly due to a quickly developing visual cortex.



**Figure 9.5 Newborn Vision and Face Recognition**  
To a newborn, mother's face may appear as blurry as the photograph on the left. But a newborn can still recognize its mother's face and shows a preference for her face over other faces.

1 month-old



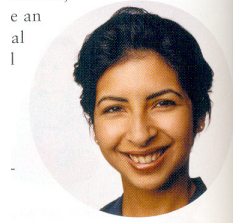
2 month-old



3 month-old



1-year old



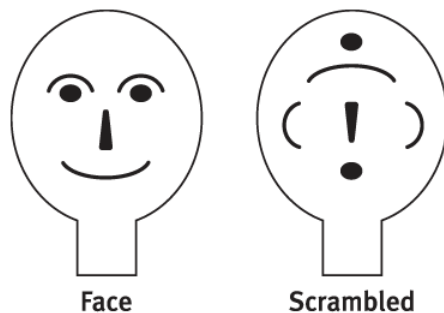
**FIGURE 5.6 VISUAL ACUITY IN INFANTS.**  
These photographs are a computer simulation of what a picture of a human face looks like to a 1-month-old, 2-month-old, 3-month-old, and 1-year old.

## Sensory and Motor Development: Focusing on Faces

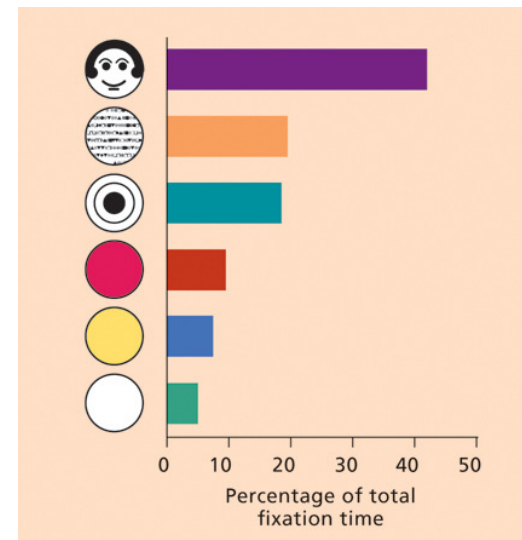
It appears from an evolutionary psychology perspective, we are biologically predisposed to look at faces.

### Infants

- spend more time looking at objects that resemble faces than those that do not (even though they have the same elements),
- prefer photos of their mother compared to that of a stranger, and
- spend more time looking at photos of attractive / symmetrical women than unattractive / asymmetrical women. Your author notes that our tendency to prefer people based on their looks seems biologically built in.



Belsky, *Experiencing the Lifespan*, 5e, © 2019  
Worth Publishers George  
Shellye/Masterfile





## Sensory Development: Preferences for Perceiving Faces

The roof console in my truck fell down yesterday and it was as shocked as I was.





## Sensory Development: Preferences for Perceiving Faces



**Seb H**  
@sebh1981

Bring me Solo and the Wookiee 😄



## Sensory and Motor Development: Focusing on Faces

At around 8 months of age, infants start to selectively look at fearful facial expressions over happy or angry faces. This fear bias would have a survival advantage to keep us from harm and thus a trait that becomes more prevalent through natural selection.

Around 9 months of age, infants become less sensitive to facial differences in other ethnic groups (also see outgroup homogeneity effect in Psy 203). This seems to be attributed to cortical pruning of neurons.

When viewing “foreign faces”, there is heightened activity in the amygdala, which regulates fear and anxiety. With a brain less sensitive to differences in facial expressions of different ethnicities, we may have over attribute many emotions by others as fear, when that may not be what is expressed.



## Cognition: Piaget's Sensorimotor

<b>Table 3.6: Piaget's Stages: Focus on Infancy</b>		
<b>Age (years)</b>	<b>Name of Stage</b>	<b>Description</b>
0-2	Sensorimotor	The baby manipulates objects to pin down the basics of physical reality. This stage ends with the development of language.
2-7	Preoperations	Children's perceptions are captured by their immediate appearances. "What they see is what is real." They believe, among other things, that inanimate objects are really alive and that if a liquid looks visually different (for example, if it is poured from a snort, wide glass into a tall, thin one), the amount actually becomes different.
7-12	Concrete Operations	Children have a realistic understanding of the world. Their thinking is on the same wavelength as that of adults. While they can reason conceptually about concrete objects, however, they cannot think abstractly in a scientific way.
12+	Formal Operations	Reasoning is at its pinnacle; hypothetical, scientific, flexible, fully adult. Children's full cognitive potential is reached.

## Sensorimotor Stage

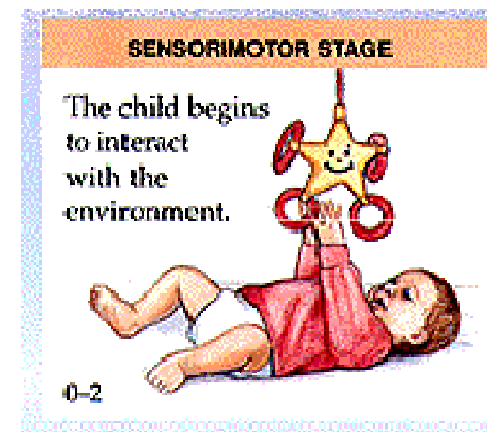
Definition: The state of development from about birth to 2 years where the infant explores the environment and acquires knowledge through sensing and manipulating objects.



Image source: Hockenbury and Hockenbury (2005)  
They tend not to think about the world. They interact with it.  
Image source: Lefton



Elie Bernager/Getty Images



## Sensorimotor

What kind of behaviors is typical of a child in the sensorimotor stage of cognitive development (approximate age range is birth to 2 years old)? (Rosie and Xena are in sensorimotor)

- During this stage, infants acquire information and experience about the world through direct manipulation of objects using their motor skills and sensory experiences.
  - For example, they learn about rattles by grasping, shaking, and sucking it.
- They explore the cause-and-effect relationship. They begin to notice that their behavior can affect their world such as knocking a pile of blocks makes them crash or pulling the dogs tail makes it run away.
- These activities (direct interaction and establishing cause and effect helps infants develop schemas or theories of how the world works.



- At the beginning of the sensorimotor stage, infants lack an understanding of object permanence. They don't understand that an object continues to exist even when it is not seen. "Out of sight, out of mind"

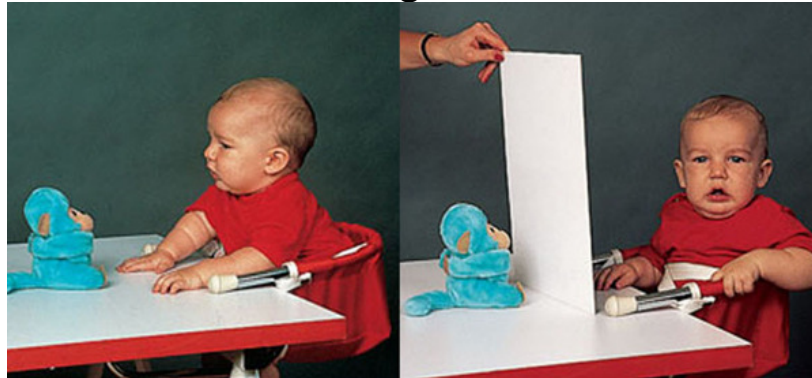


Image source: Carpenter and Huffman ( ), Visualizing Psychology

- At the end of sensorimotor stage, children start to develop a mental representation of the world around them.
- Children understand the concept of object permanence. They understand that an object continues to exist even when it can no longer be seen.



Image source: Myers, ( ), Psychology

## Sensorimotor

This infant does not grasp object permanence.

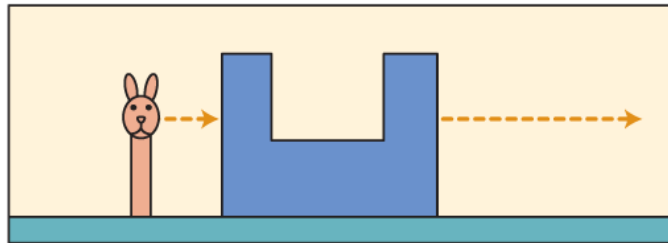


Doug Goodman/Science Source

## Critiques of Piaget

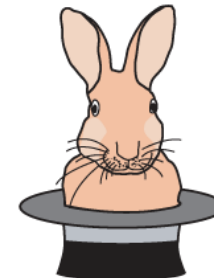
Infants have an understanding of reality at an earlier age than what Piaget discovered. Piaget relied on motor tasks (reaching for an object). Later researchers used the preferential looking paradigm and found that infants stared at surprising / impossible events compared to possible events such as the following at 5 months of age (the left) and 12 months (the right).

(A)



Impossible event

(B)



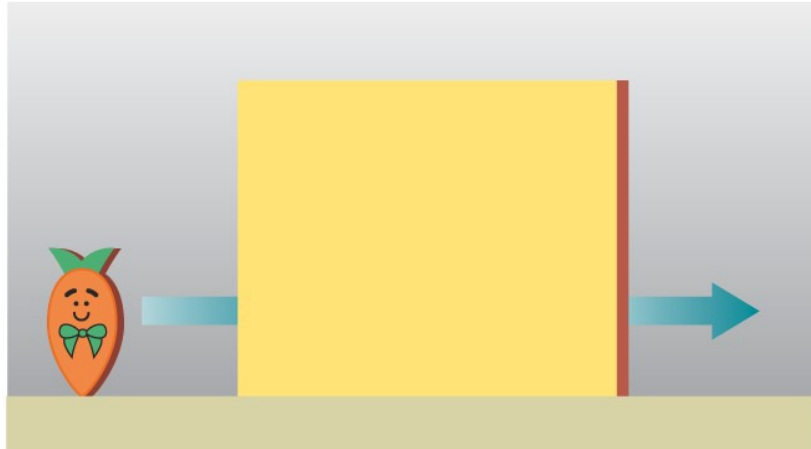
Impossible event

Belsky, *Experiencing the Lifespan*, 5e, © 2019 Worth Publishers



## Pretest Events

### Short Carrot Event

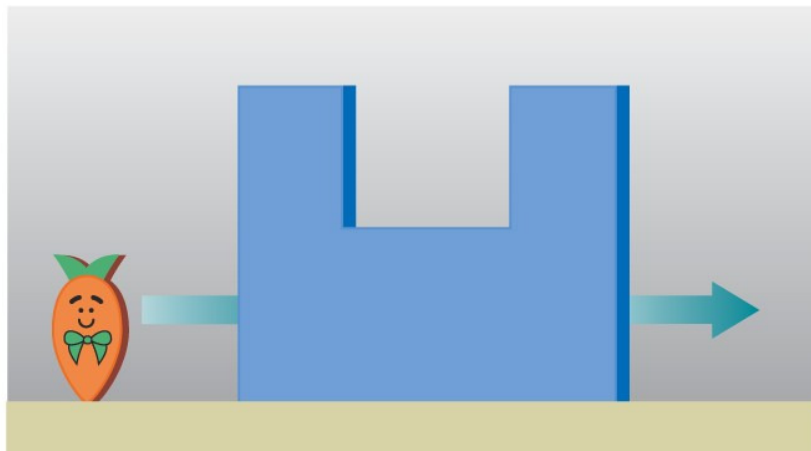


### Tall Carrot Event

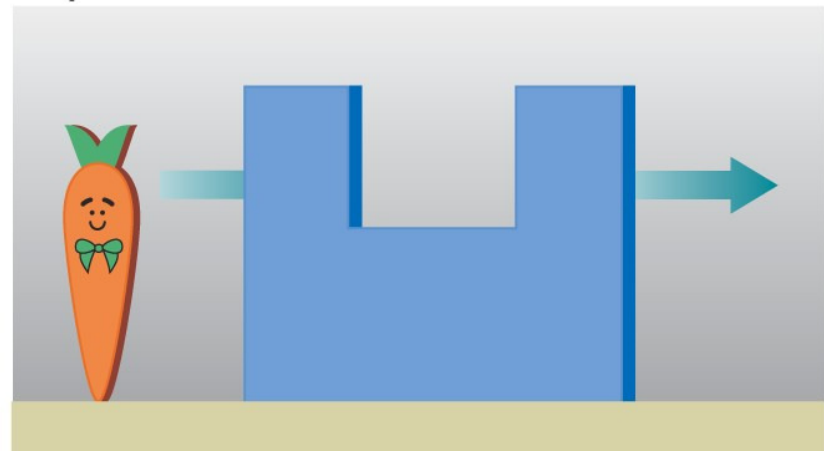


## Test Events

### Possible Event



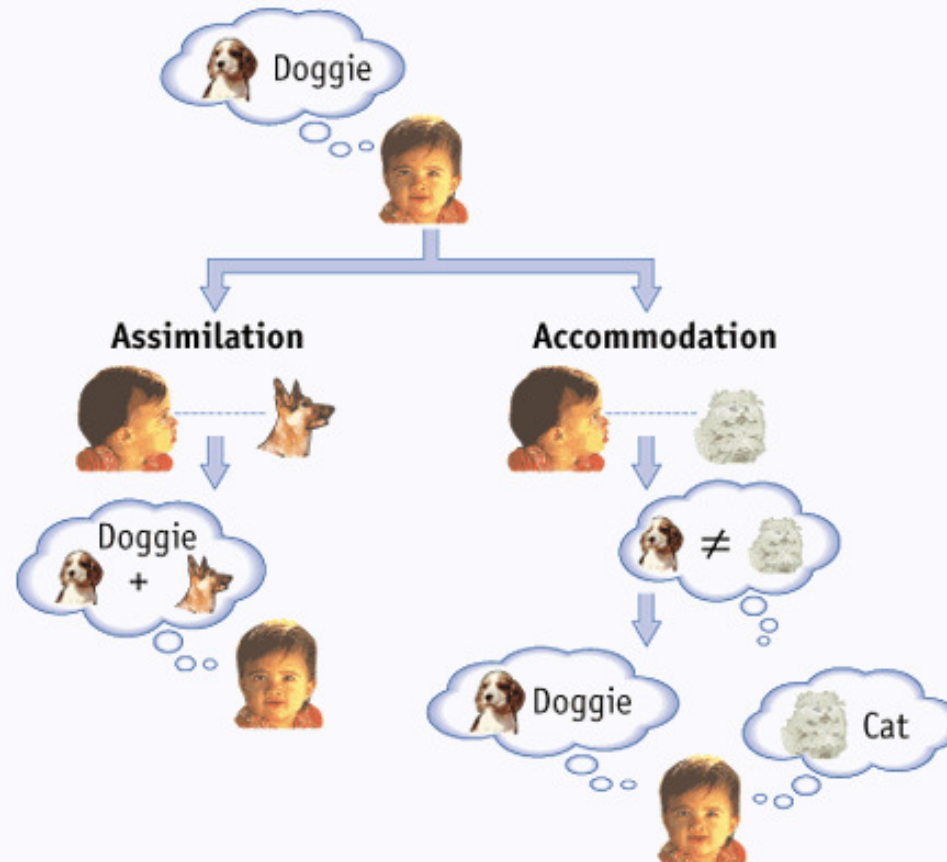
### Impossible Event



## **Sensorimotor**

Emerging object permanence can help explain why younger babies are laid back when you remove an interesting object, but then become possessive by their second year of life. The toddler tantrums do not signal a new awful personality trait called “the terrible twos.” They simply show that children are smarter and know that objects still exist when you take them away ([page 96](#)).

## Piaget's Sensorimotor Stage



Assimilation: Integrating new information into your existing structure or schema.

Accommodation: Changing your structure or schema for new information.

## Language development

Infants have the capacity to learn any language; however, this ability tends to disappear around 10-12 months old. Language acquisition occurs in a predictable sequence that occurs approximately at the following age ranges.

<b>Table 3.9: Language Milestones from Birth to Age 2*</b>	
Age	Language Characteristics
2-4 months	<i>Cooing:</i> First sounds growing out of reflexes <i>Example:</i> “oooh”
5-11 months	<i>Babbling:</i> Alternating vowel-consonant sounds <i>Examples:</i> “ba-ba-ba”, “da-da-da”
12 months	<i>Holophrases:</i> First one-word sentences <i>Examples:</i> “ja” (“I want juice”)
18 months to 2 years	<i>Telegraphic speech:</i> Two-word combinations, often accompanied by an explosion in vocabulary. <i>Example:</i> “me juice”
*babies vary a good deal in the ages at which they begin to combine words	

## **Language development**

The lack of babbling in infants was associated with a risk of having speech and language problems in the future.

Infants start using gesture, such as showing and pointing at about 8 to 12 months, such as waving bye-bye, nodding their head to say yes. Gestures such as pointing helps language development by talking about objects to which they are pointing to. The lack of pointing may indicate problems in the infant's communication system.

## Language development

Currently, developmental psychologists believe language develops from a social-interactionist perspective—language develops due to its social function—babies and adults have a mutual passion to communicate. (page 99)

Infants, toddlers and children benefit from opportunities to talk and be talked with.

If parents want to accelerate language development, it is best to talk with (not talk at) a child. Infants and young children cannot effectively learn language from television or videos, and toddlers who frequently watched television were at risk of delayed language development. When parents co-watched educational videos of infants who were 15 months to 24 months of age, and talked with their infant about the information being watched, benefited language development.

The use of infant direct speech tends to NOT occur on TV or videos designed to produce 8-month old “Einsteins”. Infant directed speech occurs when we communicate with babies one on one.

Language development is promoted by continually talking to babies in using infant-directed speech (IDS) that

- uses simple words,
- exaggerated tones,
- elongated vowels and
- has a higher pitch than we use in speaking to adults.

It is sometimes referred to as motherese. Although infant directed speech sounds ridiculous, infants perk up when they hear this conversational style, which promotes language development ([page 100 and 101](#)). Parents who use more infant-directed communication, tend to have babies who speak at an earlier age.

In addition, the following are effective ways parents can facilitate language development in children (Santrock, p. 111):

- Be an active conversational partner. Initiate conversation with the baby.
- Narrate your daily activities to the baby as you do them. For example talk about how you will put the baby in a high chair for lunch and ask what she would like to eat.
- Talk in a slowed-down pace and don't worry about how you sound to other adults when you talk to your baby. The slowed-down pace helps babies detect words in the new language they don't understand yet. When learning a new language, it helps when the pace of the new language is slowed down.
- Use parent-look and parent-gesture, and name what you are looking at. When you want your child to pay attention to something, look at it, and point to it, and name it. Look Albert, it is a bird (pointing to the bird).
- When you talk with infants and toddlers, be simple, concrete and repetitive. Use familiar words.
- Play games. use word games like peek-a-book and pat-a-cake to help infants learn words.
- Remember to listen. Parents often are tempted to supply words and thoughts for toddlers. Let toddlers express themselves. It takes time to think of the words and form the words.



- Expand and elaborate language abilities and horizons with infants and toddlers. Ask questions that encourage answers other than "yes" and "no". Actively repeat, expand and reframe what the infant says. For example, a toddler may say "Dada". You could follow with. "Where is Dada?", and then follow up with "Let's go find him."

**Memory:** Researchers find that babies as young as 9 months of age can “*remember*” events from the previous day. Infants will push a button if they saw an adult performing that act 24 hours earlier. In another study, most 10-month-olds imitated an action they saw one month earlier. There even have been cases where babies this age saw an action and then remembered it a *year* later.\*

**Forming categories:** By 7 to 9 months of age, babies are able to distinguish between animals and vehicles. They will feed an animal or put it to bed, but even if they watch an adult put a car to bed, they will not model her action. So the first classification babies make is between something that moves by itself or cannot move on its own. (Is it alive, like an animal, or inanimate?) Then, categorization abilities get more refined depending on familiarity. For example, 11-month-old infants can often distinguish between dogs and cats but not among dogs, rabbits, and fish.

**Understanding numbers:** By about 5 months of age, infants can make differentiations between different numbers—for instance, after seeing three dots on a screen, they will look preferentially at a subsequent screen showing four dots. Infants also have an implicit understanding of addition and subtraction. If they see someone add one doll to another, or take away a doll from a set, they look surprised when they see an image on a screen showing the incorrect number of dolls.

