# INFANCY & TODDLERHOOD

## OUTLINE FOR INFANCY & TODDLERHOOD

I. Theories of language development: behaviorist, nativist & interactionist)
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Language development is a major achievement during infancy and toddlerhood. During the second half of the first year, infants become better at distinguishing the sounds of their language and begin segmenting speech into words and phrases. They also start to understand some word meanings and usually say their first understandable word at about **12 months of age**. Between **1½ and 2 years**, toddlers begin combining two words. By **age 6**, children understand approximately **14,000 words**, speak in complex sentences, and can participate effectively in conversations (Berk, 2018).

Using language requires several abilities. A speaker must select appropriate words to express ideas, pronounce them correctly, combine them into sentences using grammatical rules, and follow the rules of conversation such as taking turns and responding appropriately to others (Berk, 2018).

Researchers have proposed different explanations for how children acquire language.

## Theories of Language Development

### THE NATIVIST PERSPECTIVE

The **nativist perspective**, proposed by linguist **Noam Chomsky**, argues that language development is largely biologically based.

- **Language Acquisition Device (LAD)**
  - ccording to Chomsky's theory, children are born with an innate system called the **language acquisition device (LAD)**, which contains a **universal grammar**—a set of rules common to all languages.

    - This system allows children to understand and produce language once they acquire enough vocabulary (Berk, 2018).
        - Several observations support the idea of an innate language ability. Newborns are highly sensitive to speech sounds, and children across cultures reach major language milestones in a similar sequence.
        - Evidence for a **sensitive period** for language learning also supports the nativist view. Studies of deaf individuals who learned **American Sign Language (ASL)** at different ages show that *those who acquired the language during childhood became more proficient* than those who learned it later in adolescence or adulthood (Berk, 2018).
- Despite this evidence, Chomsky's theory has been criticized. Key arguments are:
    1. Researchers have difficulty **defining universal grammar**; because the world's languages show great variation in grammatical structures.
    2. **Children often learn grammar gradually**; making errors and refining their understanding over time, suggesting that learning and experimentation play a role in language acquisition (Berk, 2018).
    3. Although language is typically processed in the **left hemisphere**, **other brain regions can take over language functions if early damage occurs.** This indicates that while the brain may be prepared for language, *development is also influenced by experience* (Berk, 2018).

## THE INTERACTIONIST PERSPECTIVE

The interactionist perspective emphasizes that language development results from the interaction between biological abilities and environmental experiences (Berk, 2018).

- **Information-processing perspective:**
    - One type of interactionist theory applies the information-processing perspective, which suggests that **children use general cognitive abilities** to *analyze patterns in the language they hear*.
        - These abilities allow infants to detect statistical regularities in speech and gradually learn how language works (Berk, 2018).
        - **BASICALLY:** Using thinking abilities to process language.
- **Combination with nativist perspective:**
    - Some theorists combine this view with the nativist perspective. They argue that although infants are skilled statistical learners, these abilities alone may not explain the acquisition of complex grammar.
        - Certain aspects of grammar may depend on **specialized brain structures** involved in language processing (Berk, 2018).
        - **BASICALLY:** Thinking abilities + specific brain structures <3
- **Social Interaction:**
    - According to the social-interactionist perspective, **children actively attempt to communicate,** which encourages caregivers to respond and provide meaningful language experiences.
        - Through these interactions, children learn both the structure of language and its social purposes (Berk, 2018).
        - **BASICALLY:** Language develops through social interaction.

Overall, most researchers agree that language development involves a combination of biological readiness, cognitive learning processes, and social experiences (Berk, 2018).

## THE BEHAVIORIST PERSPECTIVE

The behaviorist theory of language acquisition, developed principally by B.F. Skinner, holds that language develops entirely through environmental input rather than any innate biological endowment (Simply Psychology, 2026).

- In practice, an infant's early, unplanned vocalisations— cooing and babbling — are gradually shaped by caregivers into recognisable words through selective reinforcement.
- Adults reward approximations of real words and ignore meaningless sounds, progressively refining those words into grammatically structured speech.

The behaviorist model identifies several routes through which language is conditioned:

1. **Positive reinforcement**: Children learn that specific vocalisations produce desired outcomes: if a child says "water" and receives a drink, that vocalisation is reinforced by its consequence.
2. **Social reinforcement**: Parental responsiveness— praise, eye contact, touch— makes vocalisation itself rewarding, sustaining the child's motivation to communicate.
3. **Imitation and tacts**: Children emit echoic responses (imitations of adult speech) and tacts (verbal labels for objects and events). Accurate imitation and labelling attract parental approval, incrementally bringing the child's output closer to adult norms.

### Getting Ready to Talk

Before producing their first words, infants make important progress in understanding and producing the sounds of their language. They listen carefully to human speech and begin producing speechlike sounds (Berk, 2018).

- **Cooing**
  - At about **2 months of age,** infants begin producing vowel-like sounds called **cooing,** which often have a soft "oo" quality. As infants grow, consonants are gradually added.
- **Babbling**
  - Around **6 months, babbling** begins, in which infants repeatedly produce consonant-vowel combinations such as *"babababa"* or *"nananana."* These repetitive sounds help infants practice controlling their vocal organs (Berk, 2018).
    - Babbling appears in infants across cultures and even in deaf infants at roughly the same age. However, ***hearing human speech is necessary for babbling to develop fully.***
    - Infants with hearing impairments show delays in babbling and produce fewer sound variations.
      - *Deaf infants who are not exposed to sign language may eventually stop babbling altogether (Berk, 2018).*
    - Around **7 months**, they began producing sounds found in many languages.
    - By **8 to 10 months**, their babbling starts to ***reflect the rhythm and intonation*** **patterns of the language spoken in their environment.**
      - These patterns are often transferred into their first words (Berk, 2018).
- **Infants with hearing impairments**
  - Interestingly, deaf infants exposed to sign language also show a form of **manual babbling**;
    - Producing rhythmic hand movements **similar to the patterns used in sign languages.**
    - This suggests that infants are naturally sensitive to the rhythm and structure of language, whether spoken or signed (Berk, 2018).

## Becoming a Communicator

- Even before speaking, infants demonstrate early conversational abilities.
  - At **birth**, they can initiate interaction through **eye contact** and end it by looking away.
  - By **3 to 4 months**, infants begin to follow the direction of adults' gaze.
  - By **10 to 11 months**, they more accurately understand that another person's focus of attention may signal communication or a goal (Berk, 2018).
- **Joint attention**
  - where the child and caregiver focus on the same object or event. Caregivers often label the object during these interactions.
  - ***Joint attention strongly supports language development*** because infants who frequently experience it tend to *maintain attention longer, understand more words, use gestures and words earlier, and develop vocabulary more rapidly* (Berk, 2018).
  - Around **3 months**, caregiver-infant interactions begin to show **give-and-take patterns**.
    - Infants and caregivers imitate each other's sounds, including pitch and loudness. Caregivers often imitate infants' vocalizations, which encourages infants to continue producing sounds (Berk, 2018).
    - **BASICALLY (for remembering):** Infant and mother mutually imitate each other, *mother takes the lead!*
  - Between **4 and 6 months**, imitation expands into social games such as **pat-a-cake** and **peekaboo**.
    - Initially, the caregiver leads the activity, infant is still an amused observer.
  - By the end of the first year, around **13-18 months,** infants participate actively.
    - These playful interactions help infants learn the **turn-taking pattern** that is fundamental to conversation (Berk, 2018).
- **Preverbal Gestures**
  - By the end of the first year, infants also begin using **preverbal gestures** to communicate.
    - They use preverbal gestures to direct adults' attention.
      - *Example: pointing, showing*
      - **Gestures gradually recede as words become more dominant.**
    - Caregivers typically respond by labeling these gestures with words, which helps toddlers learn that language can be used to achieve goals and communicate ideas (Berk, 2018).

**The more caregivers and infants interact with objects** during play, **the earlier infants begin using these gestures.** Eventually, toddlers combine gestures with words—for example, pointing to a toy while saying "give." Over time, words gradually replace gestures as the main form of communication (Berk, 2018).

## First Words

- Children typically produce their **first recognizable word around 12 months of age**.
  - These early words usually refer to familiar people, objects, or important daily experiences.
    - Examples: names such as *"Mama" or "Dada,"* objects like "ball," or actions such as "eat" (Berk, 2018).
    - In their first 50 words, toddlers prefer naming objects that are **moving.**
  - **Early words are often used in flexible ways.**

- *A single word may represent an entire thought or sentence*, a form known as a **holophrase**. For example, a toddler might say "milk" to mean "I want milk." In this stage, gestures, tone of voice, and context help convey the child's intended meaning (Berk, 2018).

**Toddlers' early vocabularies** typically consist of words related to objects, people, and familiar routines. As vocabulary expands, children begin categorizing words and understanding relationships between them.

- **Vocabulary Spurt**
  - Around **18 to 24 months**, many toddlers experience a *rapid increase in vocabulary* known as the **vocabulary spurt**, during which they learn new words at a much faster rate (Berk, 2018).
  - a sudden shift from slow to rapid learning—more recent studies suggest that most children actually show a **steady and continuous increase** in word learning that continues throughout the preschool years (Ganger & Brent, 2004).
    - **Faster vocabulary growth = sooner production of 2-word utterances.**
    - Shortly **after this period, toddlers begin combining words into simple two-word sentences,** marking an important step toward more complex language development (Berk, 2018).

## The Two-Word Utterance Phase

**The Two-Word Utterance Phase:** Young toddlers add 2 to 3 words to their spoken vocabularies every week.

- Between **18 and 24 months**, this growth becomes especially noticeable, with toddlers learning about **one to two words per day**.
  - Toddlers build their vocabularies rapidly because, during the **second year of life, or by 2 years old**, they improve in several important skills:
    1. **Categorize experience**
    2. **Recall words**
    3. **Understand others' social cues to meaning** (eye gaze, pointing, and handling objects) (Golinkoff & Hirsh-Pasek; Liszkowski, Carpenter, & Tomasello, 2007).
- Once toddlers can produce around **200 to 250 words**, they begin combining words into **two-word utterances**, such as:
  - *"Mommy shoe"*
  - *"go car"*
  - *"more cookie"*
- This stage is known as **telegraphic speech** because, like a telegram, it focuses only on **important content words** and leaves out smaller connecting words such as *the, to,* and *can*.
  - Two-word speech usually follows **simple word formulas**, such as:
    - **more + X**
    - **eat + X**
      - where different words are inserted into the "X" position.
      - For example:
      - "more cookie"
      - "eat berries"

At this stage, toddlers **rarely make major grammatical mistakes**, such as saying *"chair my"* instead of *"my chair."*

Toddlers' word order often reflects the phrases they frequently hear from adults. This means they first rely on **concrete pieces of language** copied from their environment.

## Individual Cultural Differences

Children usually say their first word around their first birthday, but the age range can vary widely from **8 to 18 months** due to the combination of genetic and environmental factors.

**Girls are** generally **slightly ahead of boys in early vocabulary growth**. A common explanation is that girls tend to have **faster physical maturation**, which may lead to earlier development of the **left cerebral hemisphere**, the part of the brain strongly involved in language.

### Temperament

- Temperament is also related to language development.
- For example, **shy toddlers** may delay speaking until they understand many words first.
- Once they begin talking, their vocabulary often grows quickly, although they may still remain **slightly behind children of the same age**.

Language development is strongly influenced by the **quality and richness of caregiver-child conversations**.

- Important factors include frequent talking with the child, exposure to a wide vocabulary, regular naming of objects, and book reading. The words caregivers use most often are usually the words toddlers learn first.
- Children from **low-SES homes** often have **smaller vocabularies** compared to children from higher-SES families.
    - Explanation: By **18 to 24 months**, they may understand words more slowly and know about **30% fewer words**
    - A major reason is reduced opportunities for parent-child conversations and shared book reading
    - For example:
        - middle-SES child → about **1,000 hours** of reading from ages 1–5
        - low-SES child → about **25 hours**
        - Early vocabulary growth strongly predicts later literacy skills, school readiness, and academic success

### Styles of Early Language Learning

I. **Referential Style:**
- Most **common** style
- Children mostly use words that name objects
- These **children view language mainly as a tool for naming things**
- Vocabulary tends to grow faster in this style
    - Ex: ball, dog, mommy

II. **Expressive Style**
- They use more social phrases, pronouns, and emotional expressions
    - Ex: thank you, done, i want it
- These **children view language as a way to express feelings, wants, and social interaction**.

Language style may depend on both the child's personality and parental communication style.

- **Referential-style children** → more interested in exploring objects
  - ***object labeling*** supports referential style
- **Expressive-style children** → more sociable and socially interactive
  - ***verbal routines*** support expressive style

Language development style can vary across cultures, but parents should seek professional help if a toddler's language development is **significantly delayed** compared to developmental norms.

Warning signs include:

- very little or **no speech**
- **delayed babbling**
- inability to follow **simple directions**
- **difficulty expressing thoughts a**fter age 2

Possible causes may include:

- **hearing impairment**
- **language disorder**
- **delayed language development**

## Supporting Language Development

According to the **interactionist view**, children are naturally prepared to learn language, but a **rich social environment** helps strengthen and support this ability. Caregivers play a major role in language development through both **conscious teaching** and **unconscious communication styles**.

- **Infant-Directed Speech (IDS):**
  - Adults in many cultures naturally use **infant-directed speech (IDS)** when talking to babies.
  - This is a *special way of speaking* that includes:
    - **short sentences**
    - **high-pitched voice**
    - **exaggerated expression**
    - **clear pronunciation**
    - **distinct pauses**
    - **supportive gestures**
    - **repetition of new words in different contexts**

*Even deaf parents use a similar communication style through **sign language** when interacting with deaf infants.*

- ***IDS is EFFECTIVE BECAUSE:***
  - From birth, infants show a clear preference for IDS over normal adult speech.
  - **5 months old**: babies become more emotionally responsive to this way of speaking.
- **IDS supports early communication** because it builds on important interaction skills such as:
  - **joint attention** – focusing on the same object or event
  - **turn-taking** – taking turns in conversation

    - **responding to gestures** – understanding pointing and body language
- These interactions help improve both:
    - **language comprehension** (understanding words)
    - **language production** (speaking words)

Parents naturally adjust the **length and content** of their speech to match the child's level of understanding. This responsiveness helps toddlers actively participate in conversation. Frequent conversations between parents and toddlers strongly predict later language development, reading success, and academic performance in school. The richer and more responsive the interaction, the stronger the child's language growth.

- Research shows that **live interaction with a responsive adult** is much more effective for language learning than passive media exposure.
- Video can support language learning only when it allows **real-time social interaction**, such as video calls and Skype sessions. A responsive adult interacting through video can help toddlers learn new words, especially verbs.

## Video Deficit Effect

- Toddlers **generally struggle to learn language from TV** or recorded videos unless the program is specially designed for them.
- Young children **learn better when they see clear reciprocal interaction,** such as one person handing an object to another and receiving a response.
- ***Passive observation alone is usually not enough.***
- IDS and parent-child conversations create a **Zone of Proximal Development.** This means adults provide support that helps children achieve a higher level of language ability than they could on their own.
    - The *Zone of Proximal Development (ZPD) is a concept developed by psychologist* ***Lev Vygotsky.***
        - It refers to the **gap between what a learner can do independently** and **what they can accomplish with guidance or support** from a more knowledgeable other, such as a teacher, parent, or peer.
    - According to Vygotsky, cognitive development increases most effectively when learners engage in tasks or information that fall within their ZPD.
        - **If a task is below the ZPD,** the learner can already do it alone, so little new learning occurs.
        - **If a task is above the ZPD,** it is too difficult, and the learner may be unable to master it even with help.
        - **If a task is within the ZPD,** it is appropriately challenging and can be achieved with assistance.

This makes the ZPD the "sweet spot" for learning—tasks that are difficult enough to promote growth but not so hard that they lead to confusion or frustration.

- Adult behaviors that are **unresponsive**, **impatient**, and **dismissive** can negatively affect language development and lead to immature language skills.
- In contrast, **adult sensitivity and patience** strongly support not only *language development* but also *emotional and social growth.*

## SUMMARY TABLES

| AREA | WHAT DEVELOPS | KEY POINTS |
|---|---|---|
| **Cooing** | Vowel-like sounds | Begins ~2 months; soft "oo" sounds; consonants gradually added |
| **Babbling** | Consonant-vowel combinations | Begins ~6 months (e.g., "babababa"); universal across cultures; reflects language rhythm by 8–10 months; deaf infants show manual babbling if exposed to sign language |
| **Joint Attention** | Shared focus between infant and caregiver | Emerges 0–6 months; by 10–11 months, infant understands caregiver's attentional cues; supports vocabulary growth and gesture use |
| **Turn-Taking** | Give-and-take interaction patterns | Begins ~3 months; expands into games (pat-a-cake, peekaboo) by 4–6 months; infant participates actively by 13–18 months |
| **Preverbal Gestures** | Pointing, showing, reaching | Appears by end of first year; caregivers label gestures with words; gradually replaced by words as primary communication |
| **First Words** | Recognizable spoken words | ~12 months; refer to familiar people, objects, or actions (e.g., "Mama," "ball," "eat"); used as holophrases (one word = full thought) |
| **Word Comprehension** | Understanding word meanings | Develops faster than production; infants understand some words before they can say them |
| **Infant-Directed Speech (IDS)** | Caregiver communication style | Short sentences, high pitch, exaggerated expression, clear pronunciation, repetition; supports joint attention, turn-taking, and word learning; more effective than TV or recorded media |

| AGE | LANGUAGE DEVELOPMENT |
|---|---|
| **0–2 months** | Begins cooing (vowel-like sounds); initiates interaction through eye contact; turns toward voices |
| **3–4 months** | Begins following adults' gaze; engages in give-and-take sound imitation with caregiver; early joint attention established |
| **~6 months** | Babbling begins (e.g., "babababa"); universal across cultures; hearing necessary for full development; deaf infants show manual babbling if exposed to sign language |
| **7–8 months** | Babbling includes sounds from many languages; begins reflecting rhythm and intonation of home language |

| | |
|---|---|
| **8–10 months** | Babbling patterns more closely mirror home language; intonation patterns transferred into first words |
| **10–11 months** | More accurately understands that another person's gaze signals attention or a communicative goal; joint attention becomes precise |
| **~12 months** | Says first recognizable word; uses holophrases (one word = full sentence, e.g., "milk" = "I want milk"); begins using preverbal gestures (pointing, showing) to direct adult attention |
| **13–18 months** | Rapid vocabulary growth (1–3 new words/week); comprehension outpaces production; vocabulary errors appear (underextension and overextension); participates actively in social games and turn-taking |
| **18–24 months** | Begins two-word utterances / telegraphic speech (e.g., "Mommy shoe," "go car," "more cookie"); vocabulary spurt (~1–2 new words/day); word order mirrors adult speech; uses social cues (eye gaze, gestures) to learn words |

## REFERENCES

Berk, L. E. (2018). *Development through the lifespan* (7th ed.). Pearson Education, Inc.

Kail, R. V., & Cavanaugh, J. C. (2019). *Human development: A life-span view* (8th ed.). Cengage Learning.

Psychology, S. (2025, October 16). *Zone of proximal development*.

Simply Psychology. Simply Psychology – Zone of Proximal Development

Speech Therapy PD. (n.d.). *Language development*. Speech Therapy PD – Language Development

Simply Psychology. (2026, March 31). *Language acquisition theory in psychology*. Simply Psychology. Simply Psychology – Language Acquisition Theory

# EARLY CHILDHOOD

## OUTLINE FOR EARLY CHILDHOOD

I. **Vocabulary**
   - A. **Rapid Growth**
   - B. **Types of Words Acquired**
   - C. **Word-Learning Strategies**
   - D. **Theoretical Explanations**

II. **Grammar**
   - A. **Basic Rules**
   - B. **Overregularization**
   - C. **Complex Structures**
   - D. **Theoretical Debate**

III. **Conversation**
   - A. **Pragmatics**

IV. **Supporting Language in Early Childhood**

V. **Summary Tables**

As young children transition from the sensorimotor to the **preoperational stage of development**, they **recognize that sounds transmit symbols**. **Between ages 2 and 6**, children make momentous advances in language. Their remarkable achievements and mistakes reveal their active, **rule-oriented approach to mastering their native tongue** *(Berk, 2018)*.

# Vocabulary

## RAPID GROWTH

- At **age 2**, children may have around **250 spoken words**; by **age 6**, this grows to around **10, 000 words,** roughly **5 new words per day** (*Byrnes & Wasik, 2009*, as cited in *Berk, p. 250*).
  - This rapid acquisition is supported by **fast-mapping**, defined as ***connecting a new word to its underlying concept after only a brief encounter***.
    - ***For example:*** A teacher points to a cactus and says "cactus" once; the child remembers and uses the word shortly after. (*Berk, p. 250*)
  - This, however, does not imply that children immediately acquire adultlike meanings (Berk, p. 250).

## TYPES OF WORDS ACQUIRED

- *Children first fast-map:*
  1. **Object labels (nouns)** because they refer to easily perceivable concepts.
  2. Then they add **verbs (go, run, broke)**, which require understanding relationships between objects and actions.
  3. Then **modifiers (red, round, sad)**, first as general, such as big to small, then more specific, such as tall-short or wide-narrow (Stevenson & Pollitt, 1987, as cited in Berk, p. 250).

* Children learning Chinese, Japanese, and Korean *acquire verbs earlier* because those languages stress verbs over nouns (*Berk, p. 250*).

## WORD-LEARNING STRATEGIES

- **Mutual Exclusivity Bias**
  - The assumption that words refer to **entirely separate**, non-overlapping categories (*Markman, 1992*, as cited in *Berk, p. 250*).
    - ***For example:*** A child already knows "cup." When an adult says, "hand me the beaker," the child correctly assumes "beaker" refers to the unfamiliar object nearby, not the cup (*Markman, 1992*, as cited in *Berk, p. 250*).
- **Shape Bias**
  - Children learn nouns based on the **perceptual property of shape**, which helps accelerate vocabulary (Smith et al., 2002; Yoshida & Smith, 2003, as cited in Berk, p. 250).
    - ***For example:*** After learning "ball" for a round toy, the child also calls a round apple a "ball," using shape as the defining feature (*Smith et al., 2002*, as cited in *Berk, p. 250*).
- **Sentence Structure Cues**
  - Children deduce word meaning from how words are used grammatically in sentences (*Gleitman et al., 2005*; *Naigles & Swenson, 2007*, as cited in *Berk, p. 250*).
    - ***For example:*** An adult says, "This is a citron one" while showing a yellow car. The child concludes "citron" describes a property (color) of the car, not the car itself (*Imai & Haryu, 2004*, as cited in *Berk, p. 250*)
- **Social Cues**
  - Children use a speaker's gaze, gestures, and expressed intentions/desires to infer word meaning (Berk, p. 250-251).
    - ***For example:*** An adult looks excitedly at a new toy and says, "Look at the blicket!" The child infers "blicket" refers to the toy the adult is focused on, not other objects nearby (*Tomasello & Akhtar, 1995,* as cited in *Berk, p. 250*).
- **Coining New Words**
  - Children as young as 3 create words from ones they know.
    - ***For example:*** Saying plant man for gardener and crayoner for someone using crayons (Berk, p. 250).
- **Metaphors**
  - Children extend meaning through sensory comparisons: "Clouds are pillows," "Leaves are dancers." However, as children's vocabulary and general knowledge expand, they also begin using nonsensory comparisons, such as "Friends are like magnets" and "Time flies by" (*Keil, 1986*; *Özçaliskan, 2005*, as cited in *Berk, p. 250*).

## THEORETICAL EXPLANATIONS

- Some theorists argue that children are **innately biased** toward using certain word-learning principles (e.g., mutual exclusivity) (*Berk, p. 250*).
- Others argue that vocabulary is governed by the **same cognitive strategies** applied to non-linguistic information, which is a **coalition of cues** (perceptual → social → linguistic) that shift in importance with age (*Golinkoff & Hirsh-Pasek, 2006, 2008*, as cited in *Berk, p. 250-251*).

# Grammar

## BASIC RULES

- Between **ages 2 and 3**, children use simple subject-verb-object sentences with the words they already know (*Berk, p. 251*).
    - However, the initial use of grammatical rules is still a **piecemeal**, defined as limited to a few familiar verbs (*Berk, p. 251*).
- Not until **age 3½ to 4** can most children apply the subject-verb-object structure broadly to newly acquired verbs (*Chan et al., 2010*; *Tomasello, 2006*, as cited in *Berk, p. 251*).
- Children then **add grammatical markers** in a regular sequence: *-ing* (playing), *-s* plural (cats), prepositions (in, on), and verb tenses (is, are, were, has been, will) (*Brown, 1973*, as cited in *Berk, p. 251*).

## OVERREGULARIZATION

- When learning grammatical rules, children sometimes **overextend** them to exceptions, called **overregularization** (e.g., “My toy car breaked,” "We each got two foots”), which appears between **ages 2 and 3** (*Berk, p. 251*).

## COMPLEX STRUCTURES

- **Ages 2 and 3** - Uses formulaic questions, such as “Where’s X?” “Can I X?”
- **Ages 4 and 5** - Children form embedded sentences (“I think he will come”), tag questions (“Dad’s going to be home soon, isn’t he?”), and indirect objects (“He showed his friend the present”) (*Zukowski, 2013*, as cited in *Berk, p. 251*).
- **Passive sentences** are difficult early on; understood better by **age 4½** (*Dittmar et al., 2014*, as cited in *Berk, p. 251*); full mastery extends into middle childhood (Berk, p. 251).

## THEORETICAL DEBATE

- **Chomsky's nativist view** - Children have an **innate Language Acquisition Device (LAD)** with built-in grammatical categories.
- **Information-processing view** - Grammar emerges from general cognitive development, in which children detect patterns in language input and gradually form grammatical categories (*Howell & Becker, 2013; MacWhinney, 2015*; *Tomasello, 2011,* as cited in *Berk, p. 252*).

# CONVERSATION (Pragmatics)

## Pragmatics

- The practical, social side and use of language (*Berk, p. 252*).
- As early as age 2, children take turns and respond appropriately in face-to-face conversation (Berk, p. 252).
- By age 3, children can infer a speaker’s indirect intentions (e.g., understanding “We have no milk” as declining cereal) (Schulze, Grassmann, & Tomasello, 2013, as cited in Berk, p. 252).

- By age 4, children **adjust their speech** to fit the listener's age, sex, and social status (e.g., more commands with dominant roles; more polite speech with subordinate roles) (Anderson, 2000, as cited in Berk, p. 252).
- Conversations are less mature in demanding situations (e.g., phone calls) where visual/gestural cues are absent, though children improve significantly between ages 4 and 8 (Berk, p. 252).

## SUPPORTING LANGUAGE IN EARLY CHILDHOOD

- **Conversational give-and-take with adults** (at home or preschool) is consistently linked to language process (*Hart & Risley, 1995; Huttenlocher et al., 2010*, as cited in *Berk, p. 252*).
- Adults provide **explicit feedback** on clarity (e.g., "I can't tell which ball you want. Do you mean the large red one?") but avoid overcorrecting grammar (*Berk, p. 252*).
- *Two key indirect grammar-support strategies* (*Berk, p. 252*):
    - **Recasts** - Restructuring a child's inaccurate speech intro correct form.
    - **Expansions** - Elaborating on the child's speech to increase complexity.
        - ***Example***: Child says, "I gotted new red shoes" → Adult responds, "Yes, you got a pair of new red shoes."
- After such corrective input, 2-4 year-olds often shift to correct forms, with improvements lasting several months (*Saxton, Backley, & Gallaway, 2005*, as cited in *Berk, p. 252*).

**SUMMARY TABLES**

| AREA | WHAT DEVELOPS | KEY POINTS |
|---|---|---|
| **Vocabulary** | Word quantity & learning strategies | Grows from ~250 words (age 2) to ~10,000 words (age 6); ~5 new words/day via fast-mapping |
| **Word Types** | Nouns → Verbs → Modifiers | Object labels first, then action words, then descriptors (big→small→tall→short) |
| **Word-Learning** | Strategies for figuring out meaning | Uses shape, social cues, sentence structure, mutual exclusivity, metaphors, and invented words |
| **Grammar** | Sentence structure & rules | Subject–verb–object order by age 2–3; grammatical markers added in sequence |
| **Overregularization** | Overapplying grammar rules | Errors like "breaked" or "foots," a sign that a child is actively learning rules (ages 2–3) |
| **Complex Grammar** | Advanced structures | Embedded sentences, tag questions, indirect objects mastered by ages 4–5 |
| **Pragmatics** | Social use of language | Turn-taking by age 2; infers indirect meaning by age 3; adjusts speech to listener by age 4 |

| | | |
|---|---|---|
| **Adult Support** | How caregivers help | Conversational exchange, recasts, and expansions promote grammar and vocabulary growth |

| AGE | LANGUAGE DEVELOPMENT |
|---|---|
| **Age 2** | ~250-word vocabulary; uses simple 2–3 word sentences; takes turns in conversation; begins fast-mapping |
| **Age 2–3** | Begins using simple subject–verb–object sentences with familiar verbs only; adds grammatical markers (–ing, –s, prepositions); overregularization errors appear (e.g., "foots," "breaked") |
| **Age 3** | Can infer indirect intentions in conversation (e.g., understands implied refusals); coins new words; uses metaphors |
| **Age 3½–4** | Applies grammatical rules broadly to new verbs; begins to understand passive sentences |
| **Age 4** | Adjusts speech to listener's age, sex, and status; forms more complex questions; ~4,000–6,000 word vocabulary |
| **Age 4–5** | Uses embedded sentences, tag questions, and indirect objects; pragmatic skills well-developed |
| **Age 6** | ~10,000-word vocabulary; uses most grammatical constructions competently; strong conversational and social language skills |

**Trace the development of vocabulary, grammar, and conversational skills in early childhood:**

- Supported by **fast-mapping,** preschoolers' vocabularies increase dramatically. Initially, they rely heavily on the perceptual cue of object shape to expand their vocabulary. With age, they increasingly draw on social and linguistic cues.
- Between ages 2 and 3, children adopt the **basic word order of their language.** As preschoolers gradually master grammatical rules, they sometimes overextend them in a type of error called **overregularization**. By the end of early childhood, children have acquired complex grammatical forms.
- **Pragmatics** is the practical, social side of language. Two-year-olds are already skilled conversationalists in face-to-face interaction. By age 4, children adapt their speech to their listener's age, sex, and social status.

**Cite factors that support language learning in early childhood:**

- Conversational give-and-take with adults fosters language progress. Adults provide explicit feedback on the clarity of children's language and indirect feedback about grammar through **recasts** and **expansions**.

## LANGUAGE ACQUISITION IN CHILDREN

| | |
|---|---|
| ***Joint Attention*** | Parents label objects that interest their children, and youngsters rely on adults' behavior to interpret the words they hear, with young children considering an adults' credibility as a source.<br>• A youngster points to a banana, then a parent will say, "Banana. That's a banana" (Beuker et al., 2013, as cited in Kail & Cavanaugh, p. 145). |
| ***Constraints on Word Names*** | Young children follow several simple rules that constrain their interferences about a word's meaning.<br>• The child being shown a flower identified rules to decide that flower refers to the entire object, not its parts or the action of pointing to it (Kail & Cavanaugh, 2016). |
| ***Sentence Cues*** | Children hear unfamiliar words embedded in sentences with words they already know. The other words and the sentence structure can be helpful clues to a new word's meaning (Yuan & Fisher, 2009, as cited in Kail & Cavanaugh, p. 146).<br>• When a parent describes an event using familiar words but an unfamiliar verb, children often infer that the verb refers to the action performed by the subject of the sentence (Arunchalan et al., 2013, as cited in Kail & Cavanaugh, p. 146). |
| ***Cognitive Factors*** | The naming explosion coincides with a time of rapid cognitive growth, and children's increased cognitive skill helps them learn new words.<br>• Young children spontaneously pay attention to an object's shape, and they use this bias to learn new words. From this, children realize that paying attention to shape is an easy way to learn names (Gershkoff-Stowe & Smith, 2004, as cited in Kail & Cavanaugh, p. 147). |
| ***Developmental Change in Word Learning*** | By 24 months, most children are learning new words daily. This faster learning reflects children's greater use of language cues and a speaker's social cues.<br>• As they age, young children gradually move away from attentional cues to language and social cues (Kail & Cavanaugh, 2016). |
| ***Naming Errors*** | Two common mistakes when children map words onto meanings are: (1). |

| | |
|---|---|
| | *underextension* where they define words narrowly and (2). *overextension* where they define words broadly.<br><br>• Children follow a fast-mapping rule: "If you can't remember the name for an object, say the name of a related object" (Naigles & Gelman, 1995, as cited in Kail & Cavanaugh, p. 147). |

## INDIVIDUAL DIFFERENCES IN WORD LEARNING

- Children who have difficulty remembering speech sounds accurately find word learning particularly challenging. The child's language environment plays a crucial role, as they learn more words when their parents' speech is rich in words and is grammatically sophisticated (Huttenlocher et al., 2010; Rowe, 2012, as cited in Kail & Cavanaugh, p. 148) and when parents respond promptly and appropriately to their children's talk (Tamis-Lemonda & Bornstein, 2002, as cited in Kail & Cavanaugh, p. 148).
- *Bilingualism*. When children are exposed simultaneously to two (or more) languages from birth, they pass through the same milestones in each language as monolingual children, but somewhat more slowly (Kail & Cavanaugh, 2016).
- *Word Learning Styles*. Young children adopt a distinctive style of learning language as they grow (Bates, Bretherton, & Snyder, 1988; Nelson, 1973, as cited in Kail & Cavanaugh, p. 149).
    - **Referential Style:** Children's vocabulary mainly consist of words that name objects, persons, or actions. Language stands as primarily an intellectual tool for learning and talking about objects (Masur, 1995, as cited in Kail & Cavanaugh, p. 149).
    - **Expressive Style:** Children's vocabulary includes some names but more of social phrases that are used like a single word. Language stands as more of a social tool that enhances interaction with others.

## GRAMMATICAL DEVELOPMENT

- Young children follow a common set of rules to express different meanings. For instance "agent + action" or "possessor + possession" (Kail & Cavanaugh, 2016).
- Children move beyond two-word sentences, by linking two-word statements together. At age 3, longer sentences with 10 or more words soon follow (Kail & Cavanaugh, 2016
    - In constructing sentences, young children utilizes a **telegraphic speech** where only the necessary words to convey a message are spoken (eg. "He eating" instead of "He is eating")

| HOW DO CHILDREN ACQUIRE GRAMMAR? | |
|---|---|
| ***Behaviorist Answer*** | All aspects of language—sounds, words, grammar, and communication—are learned through **imitation and reinforcemen**t (Skinner, 1957; Moerk, 2000; Whitehurst & Vasta, 1975, as cited in Kail & Cavanaugh, p. 151). |

| | |
|---|---|
| ***Linguistic Answer*** | Children are **naturally born with mechanisms and neural circuits** that simplify the task of learning grammar (Slobin, 1985, as cited in Kail & Cavanaugh, p. 151). The grammar itself is not built into the nervous system, but processes that guide the learning of grammar are. |
| ***Cognitive Answer*** | Children learn grammar through powerful cognitive skills that enable **identification of regularities in their environment,** including speech they hear and sentence structure they encounter (Kail & Cavanaugh, 2016; Kidd, 2012, as cited in Kail & Cavanaugh, p. 152). |
| ***Social-Interaction Answer*** | An approach that draws from every view on grammar acquisition. Language learning takes place in the context of **interaction between children and adults** (Bloom & Tinker, 2001, as cited in Kail & Cavanaugh, p. 152). |

## GRAMMATICAL DEVELOPMENT

- By preschool years, young children have made their initial attempts to calibrate and modify their messages to match the listener and the context (Kail & Cavanaugh, 2016).
- 5-year-olds can provide helpful information but they often conceal that they had received help so that listeners would think they had completed the task on their own (Grosse, Scott-Phillips, & Tomasello, 2013, as cited in Kail & Cavanaugh, p. 154).
- At 4 years of age, while children can recognize that a message is vague or confusing, they would not ask the speakers to clarify their intent. Instead, they would create their own assumptions. Therefore, young children are prone to miscommunication (Nilsen & Graham, 2012; Beal & Belgrad, 1990, as cited in Kail & Cavanaugh, p. 154).
- Throughout the elementary school years, young children have mastered determining the consistency and clearness of a message (Ackerman, 1993, as cited in Kail & Cavanaugh, p. 154).

| MAJOR MILESTONES OF LANGUAGE DEVELOPMENT | |
|---|---|
| ***1-3 years*** | • Vocabulary expands rapidly (due to fast mapping)<br>• Two-word sentences emerge in telegraphic speech<br>• Turn-taking communication evident at age 2<br>• Complex sentences at age 3 |
| ***3-5 years*** | • Continuous expansion of vocabulary<br>• Presence of grammatical morphemes *(use of -ing as a verb or -s for plural forms)*<br>• Children adjust their speech to listeners<br>• As listeners, they tend to ignore problems in messages they receive |

## REFERENCES

Berk, L. E. (2018). Development through the lifespan (7th ed.). Pearson Education, Inc. Chapter 7, pp. 249-252

Kail, R. V., & Cavanaugh, J. C. (2016). Human development: A life-span view (7th ed.). Cengage Learning.

# MIDDLE CHILDHOOD

## OUTLINE FOR MIDDLE CHILDHOOD

I. Linguistic Expansion
   A. Vocabulary Surge and Semantic Depth
   B. Grammatical Refinement
II. Pragmatics and Social Communication
   A. Perspective Taking and Irony
   B. Narrative Evolution
III. Literacy and Bilingualism
   A. The Transition to Reading
   B. Cognitive Benefits of Dual Language Learning
IV. Developmental Milestones
   A. Early Middle Childhood (Ages 6–8)
   B. Late Middle Childhood (Ages 9–11)

During middle childhood, language evolves from a basic tool for expression into a sophisticated instrument for abstract thought and complex social interaction. Children experience a massive surge in vocabulary and a shift toward metalinguistic awareness, allowing them to think about language as a system. This period is defined by the ability to navigate subtle social cues, such as irony and sarcasm, and the transition into conventional literacy, which further fuels linguistic growth. As children master complex grammar and nuanced meanings, language becomes central to their academic success and social identity.

## Linguistic Expansion

### Vocabulary Surge and Semantic Depth

**Rapid Growth:** By approximately age 11 or the fifth grade, a child's vocabulary has expanded fourfold to nearly 40,000 words. This growth is facilitated by an impressive learning rate of about 20 new words every day.

**Analytical Word Learning:** Unlike the simple "fast-mapping" of younger children, school-age learners derive new meanings by analyzing the internal structure of complex words. They use their understanding of root words (e.g., "happy" or "decide") to rapidly grasp derived forms like "happiness" or "decision".

**Abstract Definitions:** Word definitions shift from concrete descriptions of physical appearance or function to abstract, categorical relationships. For instance, a younger child may define a knife by its use ("to cut carrots"), while an older child will categorize it as a "tool" or a "weapon".

**Nuance and Metaphor:** Between ages 8 and 10, children begin to appreciate that many words possess both physical and psychological meanings (e.g., "cool" or "sharp"). This enables them to comprehend subtle metaphors such as "spilling the beans" and enjoy humor based on puns and riddles.

## Grammatical Refinement

**Complex Structures:** Mastery of intricate grammar continues to improve. Children use the passive voice more frequently and extend it from short forms ("It broke") to complete statements ("The glass was broken by Mary").

**Analytical Approach:** There is an increased understanding of subtle distinctions, such as infinitive phrases (e.g., the difference between "John is eager to please" and "John is easy to please"). This growth is supported by an improved ability to analyze language rules rather than just applying them intuitively.

# Pragmatics and Social Communication

## Perspective Taking and Irony

**Recursive Thought:** Advances in the "theory of mind" allow children to engage in recursive thought and the ability to reason about what others are thinking simultaneously.

**Irony and Sarcasm:** Around age 8, children begin to grasp irony and sarcasm. Understanding these requires the child to process at least two perspectives at once: the literal remark and the speaker's underlying, often critical, intent (e.g., saying "Oh boy, my favorite!" about a disliked meal).

## Narrative Evolution

**Classic Form:** Storytelling moves beyond simple event descriptions toward a "classic" narrative structure. In this form, events build to a high point and reach a clear resolution.

**Evaluative Content:** By age 8 or 9, narratives include more evaluative comments that explain the motives of characters or the significance of events (e.g., "He was so proud!").

**Cultural Variations:** Narrative styles are deeply influenced by the child's environment. While some styles are "topic-focused" (linear), others, such as those used by many African-American children, are "topic-associating," blending similar experiences into a complex story designed to keep the listener engaged.

## Literacy and Bilingualism

### The Transition to Reading

**Reading to Learn:** Reading becomes the primary tool for further linguistic growth. Avid readers may be exposed to over 4 million words per year, whereas those who read rarely see as few as 50,000.

**Instructional Approaches:** Mastery of reading typically requires structured teaching, often through a balance of phonics (letter-sound relationships) and whole-language (meaning-based) approaches.

### Cognitive Benefits of Dual Language Learning

**Brain Plasticity:** Children fluent in two languages often develop denser synaptic connections in the left hemisphere and show higher activity in the prefrontal cortex during linguistic tasks.

**Executive Function:** Managing two active languages provides a "workout" for the brain, leading to superior performance on tests of inhibition, analytical reasoning, flexible shifting, and concept formation.

**Educational Environment:** Minority children show higher academic achievement in classrooms where both their native language and English are integrated into the curriculum, rather than through "English-only" instruction.

## Developmental Milestones

| | |
|---|---|
| ***Early Middle Childhood (Ages 6–8)*** | • **Vocabulary Growth:** Comprehension expands rapidly, eventually approaching 40,000 words.<br>• **Literacy Transition:** The child makes the critical shift from emergent literacy to conventional reading.<br>• **Semantic Style:** Word definitions remain primarily concrete, focusing on an object's appearance or function.<br>• **Social Usage:** Language awareness develops; the child begins to understand subtle, indirect meanings like irony and sarcasm. Narratives become increasingly organized, detailed, and expressive. |
| ***Late Middle Childhood (Ages 9–11)*** | • **Precision in Language:** Words are used more precisely; definitions emphasize synonyms and categorical relations.<br>• **Nuanced Meaning:** The child grasps multiple meanings of words, allowing for the comprehension of metaphors, puns, and riddles. |

| | |
|---|---|
| | • **Grammar Refinement:** Mastery of complex grammatical constructions, such as the passive voice, continues to improve.<br>• **Communication Mastery:** Narratives lengthen and become more coherent, incorporating evaluative commentary. The child becomes adept at modifying messages to meet a listener's specific needs in challenging situations. |

## REFERENCES

*Berk, L. E. (2018). Development through the lifespan (7th ed.). Pearson Education, Inc.*

*Libretexts. (2025, February 18). 7.5: Language in Middle Childhood. Social Sci LibreTexts.* https://socialsci.libretexts.org/Bookshelves/Human_Development/Lifespan_Development_(OpenStax)/07%3A_Physical_and_Cognitive_Development_in_Middle_Childhood_(Ages_7_to_12)/7.05%3A_Language_in_Middle_Childhood

*Jones, T., Belli, C., & Julyan, E. J. (n.d.). 10.4 Language Development in Middle Childhood. Thriving Development: A Review of Prenatal Through Adolescent Growth.* https://openoregon.pressbooks.pub/devpre2ad/chapter/10-4-language-development-in-middle-childhood/

# ADOLESCENCE

## OUTLINE FOR ADOLESCENCE

I. Adolescence and Social Interaction
II. Grammar, Vocabulary, Syntax, Semantics, and Pragmatics Development
    A. Grammar Dev.
    B. Vocabulary Dev.
    C. Syntax Dev.
    D. Semantics Dev.
    E. Pragmatics Dev.
III. Passive Voice Development
IV. Stylistic Variation Development
V. Grammatical Metaphor Development
VI. Expansion of Language Skills
    A. Narrative/Discourse
VII. Verbal Fluency
VIII. Naming Ability
IX. Embodiment Theory in Language Development
X. Metalinguistic Awareness

## Adolescence and Social Interaction

The onset of puberty changes the nature of peer group relations–from feigned indifference and even hostility towards the opposite sex to tentative overtures of interest. Outside of school the adolescent **must participate in unfamiliar situations** involving interaction with strangers such as independent shopping, arranging outings, attending club meetings, and participating in work experience. All of these unfamiliar experiences require the adolescent to learn new interaction patterns through the development of corresponding interpersonal grammatical resources in areas such as modality, mood, vocatives, person, key and attitudinal lexis (Derewianka, 1995).

## Grammar, Vocabulary, Syntax, Semantics, and Pragmatics Development

### Grammar Development

During adolescence, **syntax becomes more complex** as individuals gain a stronger understanding of sentence structure and grammatical rules. Their vocabulary continues to develop and expand throughout adolescence. Alongside this, their **increasing metacognitive awareness** leads to greater use of mental state or metacognitive verbs such as believe, realize, and remember.

### Vocabulary Development

Language development is not the most profound as in previous periods, but there are still noticeable developments in areas such as grammar, syntax, and vocabulary. As the **social aspects** of their lives become

increasingly important, the social language skills such as conversation, debate, and persuasion become important in social interactions with peers, family members, and any other social exchanges.

**Syntax becomes increasingly complex** as adolescents are more aware of the rules and structure of sentences. The increase in systematic, abstract thinking allows adolescents to comprehend the sorts of higher-order abstract logic inherent in puns, proverbs, metaphors, and analogies. Their increased cognitive abilities allow them to appreciate the ways in which **language can be used to convey multiple messages**, such as satire, metaphor, and sarcasm. Adolescents' vocabulary continues to expand as well during this period. Their expanding metacognition means the use or **increase in the use of metacognitive verbs** such as believe, realize, remember (Jones et al., 2023).

## Syntax Development

Developing teens demonstrate a remarkable ability to express themselves in ways that are **complex yet clear, precise, and efficient.** They are also likely to use sentences that are longer and contain a greater number of subordinate clauses than when they are engaging in typical conversations (Brooks & Kempe, 2014).

| Syntax Development Through Adolescent Periods | |
|---|---|
| ***By 13 years*** | • Can follow complex spoken instructions containing a **large amount of information, new vocabulary, and complex grammar.**<br>• Understands factual information but may struggle to understand information that requires inferring (SLT for Kids, n.d.). |
| ***14-18 years*** | • Understand **long and complicated instructions** with many different directions.<br>• Use the language they have been given by their communication partner to solve complex problems during a conversation.<br>• Will **ask for clarifications** when they don't understand their communication partner (SLT for Kids, n.d.). |

## Semantics Development

| Semantics Development Through Adolescent Periods | |
|---|---|
| ***By 13 years*** | • Have an understanding of **common simple sayings** in context.<br>• Developing an understanding of ***exaggerated* sarcasm** (SLT for Kids, n.d.). |
| ***14-18 years*** | • Enable them to **understand double meanings** and **subject words.**<br>• Understand **figurative language, make predictions** based on information not given to them and **understand sarcasm** (SLT for Kids, n.d.). |

## Pragmatics Development

Social interactions during adolescence become increasingly important. Successful social interactions rely heavily on **pragmatic competence**, the appropriate use of language in different social contexts, which is a skill that is still developing in adolescence. Pragmatic competence **starts developing very early,** and is likely to continue throughout adolescence (Asaridou et al., 2019).

| Pragmatics Development Through Adolescent Periods | |
|---|---|
| ***By 13 years*** | • Acknowledge and have u**nderstanding of another's point of view** even if it is **conflicting or different** to their own (SLT for Kids, n.d.). |
| ***By 14 years*** | • Talk in **longer sentences;** usually 7-12 words or more.<br>• Use **joining words** such as 'meanwhile', 'however', 'except' in explaining complicated ideas.<br>• Be able to use **sarcasm** and know when others are being sarcastic to them.<br>• Be able to change topics well in conversations.<br>• Use more **subtle and witty humour.**<br>• Show some understanding of **idioms**.<br>• Know that they talk differently to friends than to teachers.<br>• Understand and **use slang terms with friends**. They keep up with rapidly changing 'street talk'. |
| ***14-18 years*** | • Use their language to **persuade and negotiate** with others.<br>• **Keep up** with rapidly changing talk.<br>• **Switch their language styles** to suit the environment, situation and communicative partner (SLT for Kids, n.d.). |

*Given that children and young people develop at different rates, these are the average age ranges of milestones observed.

## Passive Voice Development

The passive voice was one structure which was **considered not to develop fully until adolescence** (Hayhurst, 1967; Turner and Rommetveit, 1967; Bever, 1961; Scholnick and Adams, 1973; Baldie, 1976). Although children as young as 2 years old have been observed to produce well-formed passives spontaneously, various studies propose that it is not until **as late as 13 years** that their skills in **producing and interpreting the passive voice** are the equal of adults.

Examples (from Montana State University, n.d.)

- *A meal is being cooked by me.*
- *Her dog will be walked.*
- *The sweater was worn by them.*

- *The kite was flown by John.*

## Stylistic Variation Development

Stylistic variation occurs along yet another parameter: **how we use language differently depending on the situation we are in**: in formal situations we use a much more formal kind of language than in informal situations. One and the same speaker will produce different language use depending on the situation. Much of the research in this area looks at **how stylistic variation is related to social class.** Romaine (1984) has demonstrated that even school-age children are aware of social class differences in language use, and in adolescence they become more sophisticated in identifying such features and sometimes in switching between different registers for different purposes.

Labov (1970) claimed that **adolescence was the period when children developed stylistic variation**, which could not be clearly identified at the age of ten, but which was fairly **well-established by 15 years old.**

## Grammatical Metaphor Development

One of the more significant interpersonal resources to develop in adolescence is that of grammatical metaphor. It is an **interpersonal metaphor** which allows for the slippage, ambiguity, and subtlety of argument which characterise (much) adult discourse. Matthiessen (1992) contends that, in relation to mood options, grammatical metaphor extends the speaker's repertoire by multiplying the variety of dialogic roles. Halliday (1990b) sees grammatical metaphor as the secret code which students must break if they are to succeed in secondary school since the technical language of all school subjects make extensive use of this metaphorical potential of the grammar. The effect of grammatical metaphor is to construe the world in **highly abstract and technical ways.**

## Expansion of Language Skills

Since those early days, researchers from around the world have continued to study later language development with intensity, reporting that substantial changes occur not only in syntax and vocabulary but also in the areas of figurative language, verbal reasoning, and pragmatics**—the social use of language** (Brooks & Kempe, 2014).

- **Narrative/Discourse**
  By 14-18, the narrative of a person can:
  - involve many long and complex ideas
  - Be interesting and engaging (SLT for Kids, n.d.)
- **Verbal Fluency**
  Verbal fluency increases from ages 6-15, but **most significant changes** were seen **after ages 12-13.**
- **Naming Ability**
  *Naming Test* performance improves until reaching adult levels at 16-17. However, 16 to 17-year-old subjects **name fewer items spontaneously** and **require more functional cues to arrive at the correct answer** than do adults aged 18 to 29 years, suggesting not only that the vocabulary required to successfully complete the naming test has been acquired by age 16 to 17 but also that maturation of strategic retrieval functions may still be lacking (Rosselli et al., 2014).

## Embodiment Theory in Language Development

Unlike adults, children aged 10 to 12 did not generally show motor priming when processing action verbs. An effect only appeared when the verbs were used metaphorically in abstract sentences, and even then, it differed by gender. **Girls processed the sentences faster** if they had previously performed the related movement, while **boys showed the opposite pattern,** becoming slower after performing a movement (Schaller et al., 2016).

**Embodiment theory** suggests that **motor priming** usually helps people **understand action-related language more quickly** because it activates the same sensorimotor brain areas involved in performing actions (Engelen et al., 2011). Studies have found that even young children can activate motor areas of the brain when hearing action verbs, and by **ages 7-8,** they can **form mental simulations** and use **sensorimotor knowledge to help process language** (Gabbard, 2009).

## Metalinguistic Awareness

During schooling, students constantly expand their language abilities, especially as learning new subjects usually involves learning new ways of using language. This type of language, known as **academic language (AL),** includes specific vocabulary, sentence structures, and discourse styles that help communicate complex and abstract ideas clearly and precisely (Biber & Conrad, 2009). Being able to understand and use academic language is closely connected to success in school, as it is widely used in textbooks and classroom discussions.

**Developing proficiency in academic language is a complex process.** This involves developing metalinguistic awareness, or the ability to recognize the purpose and function of language in specific situations. While younger children already show some awareness that language varies depending on the audience, adolescence brings more **complex social environments.** As a result, adolescents face greater challenges in understanding how particular language forms align with different contexts and communication demands.

## REFERENCES

*11-14 years - Speech and Language UK: Changing young lives*. (2024, November 12). Speech and Language UK: Changing Young Lives. https://speechandlanguage.org.uk/help-for-families/ages-and-stages/11-14-years/

Active and Passive voice. (n.d.). *Montana State University*. https://www.montana.edu/writingcenter/writing_resources/active-and-passive-voice.html

Asaridou, Salomi & Demir-Lira, Ece & Uddén, Julia & Goldin-Meadow, Susan & Small, Steven. (2019). Pragmatic Language Processing in the Adolescent Brain. https://doi.org/10.1101/871343

Brooks, P., & Kempe, V. (2014). *Encyclopedia of Language Development*. https://doi.org/10.4135/9781483346441

Derewianka, B. (1995). Language development in the transition from childhood to adolescence: the role of grammatical metaphor. *Academia*. https://www.academia.edu/68330519/Language_development_in_the_transition_from_childhood_to_adolescence_the_role_of_grammatical_metaphor?auto=download

Engelen, J. A. A., Bouwmeester, S., de Bruin, A. B. H., & Zwaan, R. A. (2011). Perceptual simulation in developing language comprehension. Journal of Experimental Child Psychology, 110(4), 659–675. https://doi.org/10.1016/j.jecp.2011.06.009

Gabbard, C. (2009). Studying action representation in children via motor imagery. Brain and Cognition, 71(3), 234–239. https://doi.org/10.1016/j.bandc.2009.08.011

Jones, T., Belli, C., & Julyan, E. J. (2023). Thriving Development: A Review of Prenatal through Adolescent Growth. In openoregon.pressbooks.pub. Open Oregon Educational Resources. https://openoregon.pressbooks.pub/devpre2ad/

Nippold, M. A. (2000). Language development during the adolescent years: Aspects of pragmatics, syntax, and semantics. *Topics in Language Disorders, 20*(2), 15–28. https://doi.org/10.1097/00011363-200020020-00004

Rosselli, M., Ardila, A., Matute, E., & Vélez-Uribe, I. (2014b). Language Development across the Life Span: A Neuropsychological/Neuroimaging Perspective. *Neuroscience Journal*, *2014*, 1–21. https://doi.org/10.1155/2014/585237

Schaller, F., Weiss, S., & Müller, H. M. (2016). "Pushing the Button While Pushing the Argument": Motor Priming of Abstract Action Language. Cognitive Science, 41(5), 1328–1349. https://doi.org/10.1111/cogs.12433

Social and stylistic variation. (n.d.). http://eta.bibl.u-szeged.hu/2313/3/6%20Social%20variation.pdf

*Teenager 13-18 years | Ages and stages developmental milestones | SLT for Kids | Speech & Language Therapy, across Manchester & the North West*. (n.d.). https://sltforkids.co.uk/ages-and-stages-developmental-milestones/teenager-13-18-years/

# EARLY ADULTHOOD

## OUTLINE FOR EARLY ADULTHOOD

I. **Grammatical Development**
II. **Influence**
III. **Concept of Crystallized Intelligence**

Early Adulthood refers to the period of adulthood, from **ages 18 to 40**, wherein people explore self-identity, build relationships, finish formal education, and find employment. According to the International Encyclopedia of the Social & Behavioral Sciences (2001), this stage is characterized by significant life events like graduation or starting a family.

## GRAMMATICAL DEVELOPMENT

In terms of language, according to EBSCO (n.d.), one's ability will continue to develop throughout early adulthood, and this will usually only begin to decline when a person reaches late adulthood.

- In a study by Nippold et. al. (2017), language indeed continues to develop. In this study, the young adults were found to have a higher level of linguistic competence in narrative and critical-thinking tasks as they were shown to elicit a much more complex use of syntax.
- According to Nippold (2024), defining abstract nouns in a more precise and informative manner tends to improve when a person reaches late adolescence or early adulthood, which is closely tied to abstract thinking. Using figurative language begins developing earlier, but it becomes more refined during this stage.

## INFLUENCE

According to EBSCO (n.d.), there is a **greater mastery in complex and abstract language** influenced by education and the environment. This **enhances the vocabulary** and **improves communication skills** in early adulthood.

- Language acquisition and/or outcomes depend on earlier development. This would mean that language difficulties from childhood can be carried over to adulthood leading to difficulty in reading, writing, and poor communication skills (Trinh et al., 2026).

## CONCEPT OF CRYSTALLIZED INTELLIGENCE

Language becomes more advanced and continuous, which reflects the person's experiences and environment. Furthermore, the book explains about the concept of crystallized intelligence, where knowledge is **gained from experience** and **education in a particular culture**. This knowledge contributes to vocabulary, communication comprehension, and use of information (Kali & Cavanaugh, 2016).

## CONCEPT OF CRYSTALLIZED INTELLIGENCE

- Word cognition development continues until about **age 25** (Trinh et al., 2026).

## REFERENCES

Kail, R. V., & Cavanaugh, J. C. (2016). Human development: A life-span view (7th ed.). Cengage Learning.

Language and language development | Language and Linguistics | Research Starters | EBSCO Research. (n.d.). EBSCO. https://www.ebsco.com/research-starters/language-and-linguistics/language-and-language-development

Trinh, M., Tomblin, J. B., Oleson, J., & Hendrickson, K. (2026). Real-Time spoken word recognition in adults with and without developmental language Disorder: The role of Early Language Skills. Journal of Speech Language and Hearing Research, 69(3), 1073–1090. https://doi.org/10.1044/2025_jslhr-25-00464

# MIDDLE ADULTHOOD

**OUTLINE FOR MIDDLE ADULTHOOD**

IV. Language Development
  A. Related Patterns in Mid. Adulthood
  B. Crystallized Intelligence and Vocabulary Growth
  C. Metalinguistic Awareness in Adulthood
  D. Gender Differences in Communication
  E. Language & Multilingualism
  F. Listening and Comprehension Strategies
  G. Unique Aspects of Language in Mid. Adulthood
  H. Individual differences
V. Fluid and Crystallized Language Abilities
VI. Peak Pragmatic Competence & Social Interaction
VII. Neurocognitive Compensation

## Language Development in Mid. Adulthood

The language development during this stage becomes **more stable and refined** rather than rapidly changing. Unlike earlier stages, there is less focus on learning basic language skills and more on using language in more in depth or meaningful ways. This is where language becomes more accumulated in terms of their knowledge, in daily interactions and especially their communication.

During this stage, their language abilities such as vocabulary, grammar, and comprehension **remain strong.** In many cases, adults **become better at organizing their thoughts** in their daily experiences such as peer and family communication, work, and social interaction (Harada, 2013). Communication becomes more **efficient**, particularly in roles acquiring decision making, teaching, or even leadership.

The processing speed and word retrieval abilities of individuals show small declines yet their vocabulary and pragmatic competence and life experience knowledge help them achieve better results. **Middle-aged people become better communicators who can express complex ideas through clear language and maintain important social and work relationships.**

### Related Patterns in Mid. Adulthood

Middle adulthood does not have a straight milestone like childhood, there are **gradual stages** during this stage.

| Related Patterns | |
|---|---|
| ***Early Middle Adulthood (40 – 50 years old)*** | Language skills are at a high level. Their vocabulary, comprehension, and verbal reasoning are strong in professional communication. They are confident in expressing ideas, explaining concepts and participating in discussions. |

| | |
|---|---|
| ***Mid Middle Adulthood (50 – 60 years old)*** | Language remains stable, but slight changes in processing speed may begin. Adults may take a little longer to recall specific words, although their overall understanding and vocabulary remains strong. Communication is still effective and often improved by experience. |
| ***Late Middle Adulthood (60 – 65 years old)*** | Minor changes such as increased tip of the tongue experiences may become more noticeable. However, comprehension, vocabulary, and ability to communicate meaningfully are still well organized. Many adults rely more on context and experiences to support communication. |

## Pragmatics and Social Communication

Pragmatics, and the social use of language, becomes **more advanced in middle adulthood.** Individuals are more skilled in adjusting how they speak defending on their experience, audience, and purpose.

- They can shift between formal and informal language easily.
- They understand **tone, indirect meaning, and implied messages.**
- They are more effective in conversations involving advice, negotiation, and conflict resolution.

These strong communication skills are influenced by life experiences and continuous social interaction (Burke & Shafto, 2018).

Although language skills remain strong, some minor changes may begin to appear during middle adulthood.

- Slight slowing in processing speed
- Occasional **tip of the tongue** experiences
    - The term describes the situation where someone cannot remember a word which they already know. Aging leads to **reduced neural connections that link word meanings** with their **corresponding sounds.** The word remains in memory but its retrieval process now requires more time to reach the desired result (Burke & Shafto, 2008).
- More pauses when organizing complex thoughts

However, these changes are usually mild and do not significantly affect overall communication. Studies show that while speed may decline slightly, vocabulary and comprehension are well preserved (Salthouse, 2010)

## Metalinguistic Awareness

In middle adulthood, individuals become better at thinking about language itself, not just the use of it. This is called Metalinguistic awareness. An example of this is noticing grammar errors easily, or how an adult can notice a sentence sounding wrong. It helps them communicate more clearly, especially in professional situations (LibreText, n.d.).

## Gender Differences

Men and women may show slight differences in communication styles during middle adulthood. For example, **women are more expressive** and focused on emotional connection, while on the other hand, **men** only **focus more on**

**problem solving** and direct communication. However these are only general patterns and can vary depending on the individual themselves (American Psychological Association, n.d.).

## Language & Multilingualism

Adults who know more than one language usually have an advantage when it comes to communicating. They can switch between languages depending on the situation , which shows flexibility. Below are some advantages they can get from having to learn a lot of languages:

- Better ability to switch between tasks or ideas
- Greater sensitivity to meaning and context
- Improve communication with wide range of people

Being bilingual can also help keep the brain active and support language skill as they age (American Psychological Association, n.d.).

**Cognitive Reserve:** This is when the **brain can handle changes better** because of higher education, mentally stimulating activities, and lifelong learning. This is why some people show **little to no decline in communication skills** (Alzheimer's Association).

## Listening and Comprehension Strategies

Adults tend to be better at paying attention, understanding tone, and responding in conversations. They also use strategies like asking questions, or even repeating information to make sure they understand.

- Asking clarifications when something is unclear
- Summarizing others
- Paying attention, even in tone and nonverbal cues

## Unique Aspects of Language in Middle Adulthood

- **Workplace Communication:** Language becomes more formal, structured, and goal oriented, especially in leadership and professional roles.
- **Parenting and Guidance:** Adults often use language to teach, guide, and support younger individuals, which strengthens their ability to explain and ideas.
- **Experience Based Communication:** Conversations are often based on personal experiences, making communication more meaningful and detailed.
- **Emotional Maturity:** Adults are generally better at managing emotions during conversation and handling sensitive topics calmly.
- **Stability of Skills:** Unlike earlier stages, this period focuses more on maintaining and applying language rather than developing new basic skills.

## Individual Differences

Adults who remain mentally and socially active tend to maintain stronger language abilities over time (Harada, 2013). Language development in middle adulthood can vary depending on **education, occupation, cognitive activity,** and **health.** Risks of language ability decline can be from social isolation, limited cognitive activity, and for those who have health conditions that affect brain function.

Research by Verhaeghen (2003) and Salthouse (2010) shows that people who remain active in both mental and social activities will experience better language skill retention throughout their lives.

## Fluid and Crystallized Language Abilities

Raymond Cattell created two categories to separate **fluid intelligence** from **crystal intelligence**, a theory explaining how people develop language skills during middle adulthood. **Crystal Intelligence** consists of vocabulary, general knowledge and language comprehension yet maintains its stability or reaches its peak during middle adulthood. The ability remains stable because it is built upon all the knowledge and life experiences people have gathered throughout their existence.

The gradual decline of fluid abilities starts with age and includes two functions: **processing speed and word retrieval** for quick understanding. The cognitive development of adults during middle adulthood leads to better vocabulary skills and advanced language comprehension abilities yet their word retrieval processes take more time.

## Peak Pragmatic Competence & Social Interaction

**Pragmatics**, or the social use of language, typically reaches its **peak during middle adulthood.** Individuals become more skilled at adjusting their communication based on context, audience, and purpose. They demonstrate a greater ability in persuasion and negotiation, better understanding of tone and implied messages, and improved conflict resolution and interpersonal communication. These abilities are particularly important in professional, leadership, and family roles, where effective communication is essential.

Social relationships **establish essential conditions** for people to acquire their required language skills during their middle adulthood period. Regular interaction through work, family life, and community involvement helps people keep their language skills active while they develop better language abilities.

The Selective Optimization with Compensation (SOC) theory by Paul Baltes explains that individuals adapt to aging by optimizing their strengths and compensating for weaknesses.

## Neurocognitive Compensation

Middle-aged adults who experience reduced processing speed can still maintain their communication abilities through their **neurocognitive compensation mechanism**. According to Reuter-Lorenz, adults develop understanding through context clues, relying on prior knowledge and experience, and taking more time to organize responses.

This compensatory system enables people to **sustain their communication skills** during periods of cognitive decline.

## REFERENCES

American Psychological Association. (n.d.). *Gender and communication*. https://www.apa.org

Alzheimer's Association. (n.d.). *Cognitive reserve*. https://www.alz.org/alzheimers-dementia/what-is-dementia/related_conditions/cognitive-reserve

American Institute of Stress. (n.d.). *Effects of stress*. https://www.stress.org

Bosco, F. M., et al. (2022).Pragmatic abilities in healthy ageing. *BMC Geriatrics*. https://bmcgeriatr.biomedcentral.com/articles/10.1186/s12877-022-03304-z

Burke, D. M., & Shafto, M. A. (2008). Language and aging. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2585688/

Diaz, M. T., & Hernandez, A. E. (2022).The multifaceted nature of language across adulthood. *Brain and Language, 230*, 105125. https://doi.org/10.1016/j.bandl.2022.105125

Harada, C. N., Natelson Love, M. C., & Triebel, K. L. (2013). Normal cognitive aging. *Clinics in Geriatric Medicine, 29*(4), 737–752. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4015335/

Kavé, G. (2024).Vocabulary changes in adulthood: Main findings and methodological considerations. *International Journal of Language & Communication Disorders, 59*(1), 58–67. https://onlinelibrary.wiley.com/doi/10.1111/1460-6984.12820

LibreTexts. (n.d.). *Communication and cognition in adulthood*. https://socialsci.libretexts.or

National Institute on Aging. (n.d.). *Cognitive health and aging*. https://www.nia.nih.gov/health/cognitive-health-and-older-adults

Salthouse, T. A. (2010). Selective review of cognitive aging. *Journal of the International Neuropsychological Society, 16*(5), 754–760. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2922692/

Verhaeghen, P. (2003). Aging and vocabulary score: A meta-analysis. *Psychology and Aging, 18*(2), 332–339. https://pubmed.ncbi.nlm.nih.gov/12825780/

# LATE ADULTHOOD

## OUTLINE FOR LATE ADULTHOOD

I. Language Production and the Mental Lexicon
   A. Phonological and Semantic Processing
   B. Conversational Shifts and Word Retrieval
II. Comprehension and Narrative Excellence
   A. Integrative Reading and Listening Strategies
   B. The Power of Storytelling and Life Experience
III. Cognitive Plasticity and Dual Language Learning
   A. Benefits of Acquiring New Languages in Later Life
   B. Bilingualism as a Cognitive Reserve
IV. Social Dynamics and Communication Barriers
   A. The Impact of Elderspeak and Stereotypes
   B. Pragmatic Adjustments and Social Confidence
V. Integrated Developmental Milestones
   A. Young-Old (Ages 65–80 Years)
   B. Old-Old (Ages 80+ Years)

Late adulthood, which typically begins at age 65, is a dynamic stage of development where language serves as a vital bridge between cognitive changes and continued social engagement. While biological aging introduces specific challenges in word retrieval and processing speed, older adults often maintain robust semantic knowledge and excel in complex narrative expression. This period is characterized by a shift toward compensatory strategies, where individuals use their vast life experience and contextual clues to navigate communication. Furthermore, the aging brain retains remarkable plasticity, allowing for the acquisition of new languages which can strengthen executive functions and build a "cognitive reserve" against neurodegenerative decline. Effective communication in late life is therefore a balance of surmounting physical declines through seasoned expertise and the maintenance of a supportive social environment.

## Language Production and the Mental Lexicon

### Phonological and Semantic Processing

**System Disparity:** In late adulthood, a notable distinction emerges between semantic knowledge, which remains strong, and the phonological system, which becomes less efficient.

**Transmission Deficit Model:** This efficiency decline is often explained by the weakening of neural connections between the meanings of words and their actual sounds, leading to incomplete activation during speech.

**Orthographic Challenges:** Similar difficulties are observed in written language, particularly in spelling irregular words, as direct retrieval pathways for these forms weaken over time.

### Conversational Shifts and Word Retrieval

**Word-Finding Failures:** One of the most frequent cognitive changes involves the "tip-of-the-tongue" state, where an individual is certain they know a word but cannot immediately produce it.

**Speech Characteristics:** Everyday conversation may become slower and contain more frequent pauses as individuals require additional time to search their memories for specific terms.

**Clarity and Planning:** Speech often incorporates more pronouns and unclear references than at younger ages, and statements may become less grammatically complex as planning what to say becomes more taxing.

## Comprehension and Narrative Excellence

### Integrative Reading and Listening Strategies

**Adjusting for Speed:** Language comprehension typically remains stable if conversational partners speak at a moderate pace and older readers are given enough time to process text.

**Cognitive Compensation:** To account for declines in working memory and processing speed, older adults often focus on the overall message and story organization rather than focusing on every new vocabulary word.

**Contextual Prediction:** In difficult listening conditions, older individuals use their knowledge of context and semantics to predict and understand meaningful words within a sentence.

### The Power of Storytelling

**Narrative Competence:** Older adults frequently excel at storytelling, drawing on their extensive life history to create episodes that are elaborate and hierarchically organized.

**Evaluative Content:** These narratives often include rich details about a character's motives and summarize the contemporary significance of the events described.

**Listener Preference:** Because of their depth and structural organization, stories told by older adults are often preferred by listeners over those told by younger people.

## Cognitive Plasticity and Dual Language Learning

### Benefits of Acquiring New Languages

**Sustained Plasticity:** Despite a general slowing of cognitive processes, the brain retains the capacity to learn new languages well into late life.

**Phonological Vulnerability:** While vocabulary can be acquired, older learners may find it particularly difficult to master new pronunciation or phonological patterns in a second language.

**Therapeutic Value:** Language learning acts as a therapeutic tool that can improve attention, memory, and executive functioning, potentially staving off clinical symptoms of dementia.

### Bilingualism as a Cognitive Reserve

**Protective Effects:** The continued use of multiple languages supports "cognitive reserve," which helps the brain tolerate injury or age-related deterioration before functional disability occurs.

**Variability:** The extent to which language skills are maintained is highly individual and influenced by factors such as educational background and lifelong cognitive engagement.

## Social Dynamics and Communication Barriers

### The Impact of Elderspeak and Stereotypes

**Elderspeak:** Negative stereotypes of aging sometimes lead others to use "elderspeak," a patronizing style characterized by simplified vocabulary and an exaggerated, high-pitched tone.

**Negative Outcomes:** This distorted communication style actually impairs the older person's comprehension and can lead to social withdrawal or aggressive outbursts.

### Pragmatic Adjustments and Social Confidence

**Off-Target Verbosity:** Some individuals may experience shifts in communication where they go off-topic during interactions, which may be linked to changes in social interpretation or cognitive inhibition.

**Confidence and Avoidance:** Frequent word-finding difficulties can lower an individual's confidence, sometimes causing them to avoid social interactions altogether to escape frustration.

**Preserved Pragmatics:** Despite production difficulties, the ability to use language in socially appropriate ways remains largely unaffected by the aging process.

## Developmental Milestones

| | |
|---|---|
| ***Young-Old (Ages 65–80 Years)*** | • **Production:** Retrieving words from long-term memory and planning conversational structures becomes more challenging.<br>• **Comprehension:** Understanding of spoken and written language is largely sustained through the use of external aids and internal strategies.<br>• **Narrative:** Narrative competence and the ability to convey meaningful life lessons are maintained or improved.<br>• **Prospective Memory:** Remembering future planned actions relies more heavily on external reminders. |
| ***Old-Old (Ages 80+ Years)*** | • **Fluid Intelligence:** Continued declines in processing speed and fluid intelligence further impact the efficiency of language retrieval.<br>• **Crystallized Knowledge:** semantic knowledge and vocabulary (crystallized intelligence) show only modest declines, remaining a relative strength.<br>• **Communication Environment:** Dependence on adult children and social networks for communication support increases. |

## REFERENCES

*Burke, D. M., & Shafto, M. A. (2008). Aging and language production. Current Directions in Psychological Science, 13(1), 21–24.* https://pmc.ncbi.nlm.nih.gov/articles/PMC2293308/

*Eguz, E. (2019). Learning a second language in late adulthood: Benefits and challenges. Educational Gerontology, 45(12), 701–707.*https://www.researchgate.net/publication/337113140_Learning_a_second_language_in_late_adulthood_benefits_and_challenges

*Lumen Learning. (n.d.). Cognitive function in late adulthood.* https://courses.lumenlearning.com/wm-lifespandevelopment/chapter/cognitive-function-in-late-adulthood/

*Nilsson, J., Berggren, R., Garzón, B., Lebedev, A. V., & Lövdén, M. (2021). Second language learning in older adults: Effects on brain structure and predictors of learning success. Frontiers in Aging Neuroscience, 13, 666851.* https://www.researchgate.net/publication/279869940_Language_in_Adulthood

## LATE LIFE

### OUTLINE FOR LATE LIFE

**I. Language Production Losses**
- **A. Word Retrieval**
- **B. Speech Planning**
- **C. Working Memory**

**II. Language Production: Unaffected**

**III. Elderspeak**

**IV. Comprehension**

**V. Psychomotor Speed**

**VI. Language Learning**

## Language Processing

# Language Learning

## Two aspects of language production show age-related losses:

- **Retrieving** words from **long-term memory**.
  - In conversation, individuals sometimes had trouble finding the right words to convey their thoughts.
  - Their speech also ***contained more pronouns and other unclear references than it did at younger ages***.
  - They also **spoke more slowly** and paused more often, partly because they needed time to search their memories for certain words (Berk, 2018).
- **Planning what to say and how to say it** in everyday conversation.
  - As a result, **individuals displayed slightly more hesitations, false starts, word repetitions, and sentence fragments** as they aged. Their statements were also less grammatically complex and less well-organized than before (Berk, 2018).

Since ***less information can be held at once*** due to memory loss, older adults have difficulty coordinating the multiple tasks required to produce complex, coherent speech. **Certain aspects of language production, such as content, grammar, and pragmatics are unaffected by aging (Berk, 2018).**

- Aging adults often excel in narrative competence.
    - When telling a story, they **draw on their extensive life experience,** constructing elaborate, hierarchically organized episodes with rich information about a main character's goals, actions, and motivations with summarizing references to the story's contemporary significance.
    - As a result, listeners ***tend to prefer older adults' stories to those of young people*** (Berk, 2018).

## Elderspeak

When conversational partners detect an older person's slowed speech and shorter, fragmented sentences, negative stereotypes of aging often lead them to engage in **elderspeak** (a form of communication resembling infant-directed speech, consisting of a limited vocabulary, simplified expressions, and high-pitched, exaggerated expression).

- This distorted way of speaking **impairs a**ging adults' comprehension and conversational engagement.
- Furthermore, *older people readily detect the patronizing undertone of elderspeak.* **Even those who are cognitively impaired react by withdrawing or expressing anger (**Berk, 2018).

Language learning in late-life can be a therapeutic approach in building up cognitive function in late life in order to stave off clinical symptoms of dementia and memory loss.

## Psychomotor

- **Aging adults experience reduced psychomotor speed,** in which case ***aging affects or slows down the individual's ability to make a decision or specific response at a certain speed***, or in **short their reaction time.**
    - This is seen in how aging **adults can take longer time in choosing a response** especially in complex situations or information.
    - This effect **can be reduced through *practice of quick responses*,** or with prior knowledge and expertise. (Kail, 2020)
- **Even in healthy aging, deficiencies in language production** such as difficulty finding the right words, pauses, and slips of the tongue ***were more frequent.*** while language comprehension had better preservation than production. (Rossi & Diaz, 2016)
- Word recognition is an important aspect of language processing in which case hearing and perception decrease throughout aging, leading to age-related decline in cognitive processes.
    - **Poor word recognition impacts the sentence recognition,** thus affecting other aspects of language processing through reduced efficiency and functionality, influencing processing in conversations and interactions. (Colby & McMurray, 2023)
- **Aging adults comprehend spoken language more effectively by prediction** or through the use of context and semantics, compensating for difficult listening conditions when they can understand the meaningful words within the sentences that give heavy context and meaning for the individual to understand.
    - Their efforts to use their energy and attention to listening and perceiving tends to make it difficult for the individuals to have the resources for higher-level comprehension. (Schneider et al., 2015)

## REFERENCES

Berk, L. E. (2018). Development through the lifespan (7th ed.). Pearson Education.

Colby, S. E., & McMurray, B. (2023). Efficiency of spoken word recognition slows across the adult lifespan. Cognition, 240, 105588. https://doi.org/10.1016/j.cognition.2023.105588

Rossi, E., & Diaz, M. T. (2016). How aging and bilingualism influence language processing: theoretical and neural models. Linguistic approaches to bilingualism, 6(1-2), 9–42. https://doi.org/10.1075/lab.14029.ros

Schneider, B. A., Avivi-Reich, M., & Daneman, M. (2016). How Spoken Language Comprehension is Achieved by Older Listeners in Difficult Listening Situations. Experimental Aging Research, 42(1), 40–49. https://doi.org/10.1080/0361073X.2016.1108749