

*Solutions Manual for Lifespan
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Lifespan Develop- ment

OpenStax *Lifespan Development* Instructor Answer Guide

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Chapter 1: Lifespan Psychology and Developmental Theories

Review Questions

1. Karim is thirty-five years old and trying to learn a third language. It is very difficult and Karim wonders whether it is even possible. What key question in developmental psychology is most related to Karim's situation?
 - a. What kinds of changes can we typically expect across the lifespan?
 - b. Are there particular points in time across the lifespan where certain experiences are essential to development?
 - c. What are the ideal environments for people to develop and flourish in? Are they different for everyone?
 - d. How does an individual experience and respond to expectations from their social and cultural environments at various points in their life?

[Answer: B]

2. A high school teacher is teaching students about memory skills. What area of study within developmental psychology is this?
 - a. cognitive
 - b. psychosocial
 - c. sociocultural
 - d. biological

[Answer: A]

3. An economist publishes a study on the benefits to children of participating in a universal pre-kindergarten program. What field or perspective does this scholar's contribution best represent?
 - a. psychology
 - b. behavioral economics
 - c. lifespan development
 - d. human development

[Answer: D]

4. William's grandmother is very outgoing. She notices that William likes to strike up conversations whenever they run errands, so she makes an effort to plan such trips around his schedule so he can go with her. What concept is illustrated in this scenario?
 - a. epigenetics
 - b. reaction range
 - c. gene-environment correlation
 - d. sensitive period

[Answer: C]

5. Every day it seems three-year-old Sasha learns at least five new words. What concept does this most clearly illustrate?
 - a. discontinuous development
 - b. continuous development
 - c. the influence of nature
 - d. the influence of nurture

[Answer: B]

6. Jason is thirteen years old. His baseball coach advises him to be on the lookout for a sudden growth spurt and to work out regularly when these changes begin to happen. What concept is the coach trying to take advantage of?
- sensitive period
 - critical period
 - stability
 - reaction range

[Answer: A]

7. Which two theorists both proposed stage theories?
- Vygotsky, Bowlby
 - Bandura, Freud
 - Skinner, Pavlov
 - Piaget, Erikson

[Answer: D]

8. Which theory is most heavily focused on the role of the environment in development of certain behaviors?
- Piaget's theory of cognitive development
 - Skinner's theory of operant conditioning
 - Vygotsky's sociocultural theory
 - Bandura's social learning theory

[Answer: B]

9. What do the theories of Erikson and Vygotsky have in common?
- Both emphasize the social aspect of development.
 - Both study children's responses to questions.
 - Both are stage theories based on continuous development.
 - Both focus on cognitive development.

[Answer: A]

10. Which term best summarizes the contextual perspective of development?
- adaptive
 - individualistic
 - interconnected
 - discontinuous

[Answer: C]

11. A child's volleyball coach communicating with the child's caregiver is an example of which system in the ecological system model?
- microsystem
 - mesosystem
 - macrosystem
 - exosystem

[Answer: D]

12. Which of the following is an example of a cohort?
- Many commuters get stuck in terrible traffic during a downpour in their city.

- b. When both parents have blue eyes, there is a great chance of their offspring having blue eyes.
- c. People going to a grocery store tend to look for sales and special offers.
- d. Many people remember the explosion of the space shuttle Columbia in 2003.

[Answer: D]

13. What are two of the three identified components of socioeconomic status?

- a. income level and education attainment
- b. occupational prestige and social popularity
- c. political clout and job title
- d. business ownership and home value

[Answer: A]

14. What does the “W” in WEIRD stand for?

- a. women
- b. wisdom
- c. well-being
- d. Western

[Answer: D]

15. What is one of the most common problems associated with longitudinal studies?

- a. ethical concerns
- b. attrition of participants
- c. difficulty of measuring results
- d. lack of control

[Answer: B]

16. A researcher is interested in studying the recent pickleball craze, and wants to know how both newer and more seasoned players operate during the game. They go to a court and sit quietly among others watching various people playing the sport. Which research method is being used?

- a. naturalistic observation
- b. case study
- c. survey
- d. experiment

[Answer: A]

17. Researchers have a responsibility to explain the benefits and risk of research to potential participants, as well as ensure that participants know that they are free to discontinue their participation if they so choose. What is this explanation part of?

- a. due diligence
- b. debriefing
- c. recruitment
- d. informed consent

[Answer: D]

Check Your Understanding Questions

18. Give two examples of disciplines that contribute their perspective to lifespan psychology from a human development perspective.

[Answer: Some disciplines that contribute their perspective to lifespan psychology include anthropology, medicine, communications, history, economics, medicine, and law, among others.]

19. What are two examples of biological growth or maturation?

[Answer: Some examples of biological growth or maturation are development of motor skills, the changes associated with puberty, or the cessation of fertility associated with menopause (as well as the accompanying symptoms some people experience).]

20. Give an example of how a sensitive period might be related to the development of a given skill.

[Answer: Sensitive periods would be related to time-related boosts to the development of language acquisition, the emergence of motor skills, formation of attachment relationships, and the development and strengthening of sensory/perceptual abilities.]

21. Why is it accurate to say that stage theories are associated with discontinuous development?

[Answer: Stage theories are marked by periods of growth or change that are interrupted by periods where growth and change are not taking place.]

22. How do fraternal and identical twins differ in terms of their genetics?

[Answer: Fraternal twins share about 50% of their genes, while identical twins share 100% of their genes.]

23. Which theorist focused on children's incorrect answers to problem-solving, and how was this related to the theory?

[Answer: Piaget's theory of cognitive development includes different challenges that children must pass in order to move to the next level.]

24. Provide at least two examples of developmental concepts present in the lifespan.

[Answer: One example is the self-centered thinking that young children often exhibit—according to Piaget, children in early childhood have trouble taking other's perspective. Another example is attachment theory. This is the bond that forms early in life between an infant and caregiver that is carried into other relationships throughout life.]

25. What is at the center of the ecological systems model developed by Urie Bronfenbrenner?

[Answer: The center of the ecological systems model is the individual.]

26. A law is passed raising the minimum wage for all workers. What system does this occur within?

[Answer: Laws such as this that affect not only the individual but also systems that contain the individual are found on the macrosystem level of the ecological systems model.]

27. What problem does the criticism "Psychology is WEIRD" bring to our attention?

[Answer: Much of the data gathered in research has been from a very specific group of participants and may not reflect the broader diversity of different populations.]

28. What two pieces of information does a correlation coefficient give us?

[Answer: A correlation coefficient gives information about both the strength (or magnitude) and direction of a relationship between two variables. The former is provided by the number,

with values closer to 1.00 or –1.00 being stronger, and values closer to zero being weaker. The latter is indicated by the sign, with positive correlations indicating a direct relationship between variables, and negative correlations indicating an inverse relationship between variables.]

29. Which research method allows us to make cause-and-effect conclusions?

[Answer: Only an experiment can provide information about cause and effect relationships. Other approaches can provide evidence that allows us to speculate on cause and effect, but only an experiment provides actual data that allow such conclusions to be drawn.]

Personal Application Questions

Answers to Personal Application Questions will vary due to students' individual experiences and perspectives.

30. Think about yourself at age fifteen years. In what ways are you similar to that version of yourself? In what ways are you different? How does your answer relate to the terms “maturity” and “stability” as discussed in the text?
31. Identify an area of study within lifespan development that you find particularly intriguing (e.g., cognitive development, social development, physical development). Describe a specific example from your life that illustrates the importance of this area. How has this area of study helped you understand your own development?
32. Think about a skill or ability you have developed over time, such as playing an instrument, participating in a sport or hobby, or learning a new language. In what ways was this development continuous (gradual improvement) and discontinuous (sudden leaps)? Provide examples from your experience to illustrate this.
33. Reflect on an aspect of your personality or behavior that you believe was influenced by both your genes and your environment. How do you think nature (your genetic makeup) and nurture (your upbringing and experiences) played a role in shaping this aspect of yourself?
34. Think about a major transition or milestone in your life (e.g., starting high school, moving to a new city, beginning a new job). How do both Erikson's psychosocial theory and Piaget's cognitive development theory explain your experience during this transition? Describe how both theories apply to your experience.
35. Reflect on your own cognitive development from childhood to adolescence. How do you think your thinking abilities have changed over time? Which aspects of Piaget's stages of cognitive development do you recognize in your own growth?
36. Identify a skill you can do independently, a skill you can do with help, and a skill that is currently beyond your abilities even with the help of a more skilled person. How do these skills relate to Vygotsky's concept of the zone of proximal development (ZPD)? Reflect on how understanding your ZPD can influence your learning and development.
37. Reflect on the impact of smartphones, which were introduced in 2007 and by 2010 were owned by a vast majority of the American population. How have smartphones changed the way society interacts with one another? Consider aspects such as communication, socialization, and access to information. Provide specific examples from your own experiences and observations to illustrate these changes.
38. Consider a time when a significant change in your environment (e.g., moving to a new city, changing schools, starting a new job) affected your development. What aspects of the new

environment were most influential, and how did they impact you? Provide specific examples to support your reflections.

39. Apply Bronfenbrenner's ecological systems model to your own life. Identify and describe elements in your life that fit within each of the five ecological systems: microsystem, mesosystem, exosystem, macrosystem, and chronosystem. How have these systems interacted to shape your development? Be sure to relate your examples to the relevant learning objectives in this section.
40. Think about a policy or practice that has impacted your life, such as an educational policy or a workplace rule. How do you think research in developmental psychology could inform improvements to this policy or practice? Reflect on the connection between research, application, and policy in your own experiences.
41. Reflect on your own cultural identity and how it shapes your worldview. How do you think researchers can ensure their findings are relevant and respectful to different cultural contexts? Provide examples from your life where cultural understanding has played a critical role in your interactions and development.
42. Consider a survey or questionnaire you have taken in the past (e.g., in school, at work, for medical purposes, or an attempt to assess your feelings regarding a purchase). Reflect on your experience as a participant. How do you think the design of the survey influenced your responses? Relate your reflections to concepts of survey design and validity discussed in the text.
43. Imagine you are participating in a longitudinal study that tracks your development over several years. What aspects of your life would you find most interesting to document, and why? Discuss how longitudinal research methods can provide insights into developmental changes over time.
44. Reflect on the importance of ethics in research. Have you ever been in a situation where you had to consider ethical principles (e.g., confidentiality, informed consent, avoiding harm)? How do you think these principles apply to research in developmental psychology? Provide examples to illustrate the importance of ethical guidelines.

Essay Questions

45. Identify and discuss three major questions of interest within the field of lifespan development—stages of development, impact of early childhood experiences, and role of genetic and environmental factors. How do these questions guide research and practice in the field? Provide examples from the text that demonstrate how researchers address these questions.

[Answer: Key Points to Include:

1. Identification of Major Questions:
 - Stages of Development:
 - What kinds of changes can we typically expect across the lifespan?
 - Are there particular points in time across the lifespan where certain experiences are essential to development?
 - Impact of Early Experiences:
 - How do early life experiences affect later development?

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- Are there critical periods during which certain experiences must occur for typical development to proceed?
- Role of Genetic and Environmental Factors:
 - How do nature (genetics) and nurture (environment) interact to influence development?
 - What are the ideal environments for people to develop and flourish in? Are they different for everyone?
- 2. Discussion of How These Questions Guide Research and Practice:
 - Stages of Development:
 - Research on developmental stages helps in understanding normative patterns of growth and development, informing educational practices, and identifying developmental delays.
 - Example from text: The comparison of a toddler's two-word utterances transitioning to complete sentences as they develop.
 - Impact of Early Experiences:
 - Studies on early childhood experiences inform practices in early education, parenting strategies, and interventions for at-risk children.
 - Example from text: The case of Genie, who experienced extreme neglect and demonstrated the importance of critical periods for language development.
 - Role of Genetic and Environmental Factors:
 - Research on nature vs. nurture influences policies related to child welfare, education, and healthcare. Understanding this interaction helps in creating supportive environments for optimal development.
 - Example from text: The concept of reaction range and how genetic potential interacts with environmental conditions to influence intelligence and other traits.
- 3. Examples from the Text Demonstrating How Researchers Address These Questions:
 - Stages of Development:
 - Piaget's theory of cognitive development stages and Erikson's psychosocial stages are key examples. These theories outline predictable patterns and transitions in development.
 - Impact of Early Experiences:
 - Studies like those of Jean-Marc Itard's work with Victor, the "Wild Boy of Aveyron," illustrate the long-term impact of early deprivation and the importance of early intervention.
 - Role of Genetic and Environmental Factors:
 - Twin studies and adoption studies are commonly used to separate the effects of genetics and environment. The text discusses heritability estimates and gene-environment correlations to show how these factors work together.]
- 46. Describe the concept of sensitive periods in development. Why are these periods important for certain skills and abilities? Provide examples from the text and discuss how this understanding can inform parenting practices and early childhood education.

[Answer: Key Points to Include:

1. Definition and Explanation of Sensitive Periods:
 - Define sensitive periods as specific times during development when the individual is particularly responsive to certain environmental experiences.
 - Discuss how these periods are critical for the development of specific skills and abilities, as the brain is especially receptive to particular stimuli during these times.
2. Importance of Sensitive Periods:
 - Explain why sensitive periods are important for optimal development.
 - Discuss the consequences of missing these sensitive periods, such as delayed or atypical development.
3. Examples from the Text:
 - Language Acquisition:
 - Early childhood is a sensitive period for language development. Exposure to language during this time is crucial for typical language acquisition.
 - Example from text: The case of Genie, who was isolated during her early years and faced significant challenges in developing language skills even with later intervention.
 - Social Skills Development:
 - Sensitive periods for social skills often occur in early and middle childhood, where interactions with peers and caregivers shape social competencies.
 - Example from text: Studies on the impact of early social interactions on later social abilities.
4. Application to Parenting Practices:
 - Discuss how understanding sensitive periods can guide parents in providing appropriate experiences and stimulation for their children.
 - Examples: Encouraging language-rich environments, promoting social interactions, and providing diverse and enriching activities during early childhood.
5. Application to Early Childhood Education:
 - Explain how educators can use knowledge of sensitive periods to design curricula and interventions that align with developmental needs.
 - Examples: Early literacy programs, social skills training, and targeted interventions for children at risk of developmental delays.]
47. Compare and contrast Piaget's theory of cognitive development with Vygotsky's sociocultural theory. How do these theories explain the process of learning and development in children? Use specific examples from the text to support your analysis. In your essay, focus on the following three areas: the role of the learner, the role of culture, and the importance of stages. Finally, explain the practical implications for a schoolteacher or any educator considering both theories of cognitive development.

[Answer: Key Points to Include:

1. Introduction:
 - Introduce Piaget's theory of cognitive development and Vygotsky's sociocultural theory.

- State that the essay will compare and contrast these theories, focusing on the role of the learner, the role of culture, the importance of stages, and the mechanisms of learning.
- Mention that the essay will also discuss the practical implications for educators.
- 2. Role of the Learner:
 - Piaget:
 - Explain that Piaget viewed the learner as an active participant in their own development.
 - Discuss the concept of “little scientists” who explore and interact with their environment to construct knowledge.
 - Vygotsky:
 - Explain that Vygotsky emphasized the social nature of learning, with the learner engaging in social interactions and collaborative activities.
 - Discuss the concept of “apprenticeship in thinking,” where children learn through guided participation.
 - Comparison:
 - Compare the emphasis on individual exploration (Piaget) versus social interaction (Vygotsky).
 - Provide examples from the text to illustrate these points.
- 3. Role of Culture:
 - Piaget:
 - Explain that Piaget acknowledged the influence of culture but focused more on universal stages of cognitive development.
 - Vygotsky:
 - Explain that Vygotsky placed a strong emphasis on culture, viewing it as central to cognitive development.
 - Discuss the concept of the “zone of proximal development” (ZPD) and the role of cultural tools and language in learning.
 - Comparison:
 - Compare the limited role of culture in Piaget’s theory with the central role in Vygotsky’s theory.
 - Provide examples from the text to illustrate these points.
- 4. Importance of Stages:
 - Piaget:
 - Describe Piaget’s stages of cognitive development: sensorimotor, preoperational, concrete operational, and formal operational.
 - Explain that Piaget believed children progress through these stages in a fixed order.
 - Vygotsky:
 - Explain that Vygotsky did not emphasize stages but rather continuous development influenced by social and cultural interactions.
 - Comparison:
 - Compare the stage-based approach of Piaget with the continuous development perspective of Vygotsky.

- Provide examples from the text to illustrate these points.
5. Mechanisms of Learning:
- Piaget:
 - Discuss Piaget's concepts of assimilation, accommodation, and equilibrium as mechanisms of learning.
 - Vygotsky:
 - Discuss Vygotsky's concepts of scaffolding, the ZPD, and internalization as mechanisms of learning.
 - Comparison:
 - Compare Piaget's focus on individual cognitive processes with Vygotsky's focus on social and cultural mechanisms.
 - Provide examples from the text to illustrate these points.
6. Practical Implications for Educators:
- Piaget:
 - Emphasize the importance of providing developmentally appropriate activities that promote exploration and discovery.
 - Discuss how teachers can use Piaget's stages to design curriculum and instruction.
 - Vygotsky:
 - Emphasize the importance of social interactions and collaborative learning in the classroom.
 - Discuss how teachers can use scaffolding and the ZPD to support students' learning.
 - Practical Applications:
 - Provide specific strategies for teachers, such as using hands-on activities (Piaget) and peer learning groups (Vygotsky).
 - Explain how understanding both theories can help educators create a balanced and effective learning environment.
7. Conclusion:
- Summarize the key points discussed in the essay.
 - Reinforce the importance of considering both Piaget's and Vygotsky's theories in understanding cognitive development.
 - Emphasize the practical applications of these theories for educators in promoting effective teaching and learning.]
48. Explain the meanings of key variables in lifespan development research, such as gender, socioeconomic status, and ethnoracial identity. How do these variables influence research findings? Provide examples from the text to illustrate how each variable is defined and its impact on research outcomes.

[Answer: Key Points to Include:

1. Introduction:

- Introduce the importance of key variables in lifespan development research.
- State the main variables to be discussed: gender, socioeconomic status, and ethnoracial identity.