

# Chapter 2

## Models of Development: Nature and Nurture in Adulthood

### LECTURE GUIDELINES

This is a heavily theoretical chapter and can be tough going for students who are eager to move on to learning more concrete information about adult development and aging. Depending on the nature of the class and its size, the lecture can be oriented toward more or less theoretical aspects of the material by providing a conceptual orientation (more theoretical) or concrete examples (less theoretical). Because this material previews much of what is to come in later chapters, it is also possible to use this chapter as a way to plant the "seeds" for these later concepts and discussions.

Depending on the length of the class, it is advisable to break this chapter into two or more lectures, dividing it along the lines of biological vs. psychosocial theories. Biological theories can occupy an entire class period, particularly when combined with videos (see below). Some students may need extensive background in concepts of genetics. These will be important for later chapters, particularly Chapter 5, in which the genetic contributions to Alzheimer's and other diseases are discussed. The psychosocial theories provide an opportunity to present some substantive material that may be of greater inherent interest to students in psychology and other social sciences as it previews concepts that will not appear until much later in the course, such as personality development and family issues.

### VIDEOS AND FILMS

The topic of developmental models is an important one to break up with relevant videos and films because the concepts are inherently dry and theoretical for some students. There are ample resources on biological theories of aging. The best ones that I have found are on the PBS series called "NOVA Science Now": <http://www.pbs.org/wgbh/nova/sciencenow/> which aired several segments about the genetics of aging. A popular movie that contains interesting twists about age and time is "The Curious Case of Benjamin Button." <http://www.pbs.org/wgbh/nova/body/can-we-slow-aging.html>

Ageism can be illustrated by showing scenes from humorous portrayals of aging characters in a stereotyped fashion, such as the Simpson's, a classic cartoon series with a wealth of material on aging. There is also an excellent example in the Seinfeld episode called "The Old Man," in which the characters each confront an older adult who is depicted in a funny but stereotypical fashion.

Examples of identity assimilation and identity accommodation can also be provided from film or television shows in which characters either resist changing (identity assimilation) or change excessively (identity accommodation) in response to an event that challenges their identities. A good example of identity assimilation is "Driving Miss Daisy" which, in the first scene of the movie, shows the struggle she experiences as she is faced with accommodating to her loss of the ability to drive.

### DISCUSSION QUESTIONS

#### KEY CONCEPTS IN THE STUDY OF THE LIFESPAN

How does the notion of contextual influences on development relate to concepts such as gender, race, and socioeconomic status?

How do "nature" and "nurture" interact in development throughout life?

#### MODELS OF INDIVIDUAL-ENVIRONMENT INTERACTIONS

Which model do you feel is most appropriate for understanding development?

Why is it important to an interactionist model to emphasize the concept of reciprocity?

How has your life involved niche-picking?

Can you think of examples from your life when an action you took or decision you made had an outcome on a later event?

## SOCIOCULTURAL MODELS OF DEVELOPMENT

How does the life course perspective relate to the concepts of social clock and age-graded normative influences discussed in Chapter 1?

How does the ecological perspective link models of development that focus on external processes to those that focus on processes within the individual?

Why do you think disengagement theory was popular at one time?

Do you know anyone who exemplifies disengagement theory? Activity theory? Continuity theory?

What type of involvement in society would make you happiest when you get older? Why?

How do older minority individuals (especially women) manage to cope with discrimination?

What is your social clock?

Do you think that the social clock is helpful or harmful when people think about themselves and their lives?

## PSYCHOLOGICAL MODELS OF DEVELOPMENT IN ADULTHOOD

Do you feel that Erikson's theory provides a reasonable framework for understanding development throughout life? What are its weaknesses and what are its strengths?

Some critics of Erikson's theory feel that the theory is narrowly focused on heterosexual relationships in adulthood. Others argue that Erikson made an unreasonable distinction between development in men and women in that he suggested that intimacy precedes identity for women. What do you think of these criticisms?

Why is identity balance considered an optimal way of adapting to the aging process?

Provide some examples of age-related thresholds either in your own life or in the life of other people you have known. How did the people involved adapt to these thresholds?

Why are psychological models of development necessary? What do they add to biological theories?

## BIOLOGICAL APPROACHES TO AGING IN ADULTHOOD

What would the world (or universe) be like if there was no aging?

What will be the implications of mapping the human genome?

What would you like most to learn about the genome and how would this information be of relevance to you?

Can aging be programmed by our genes?

What if the process of replicative senescence could be stopped?

Which is your favorite biological theory? Why?

What products are being sold on the market based on these theories of aging? Are their claims legitimate or not, in your opinion, based on what you're learning in the course?

## MULTIPLE CHOICE QUESTIONS

### AGING TODAY

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#### 1. PRENATAL STRESS AND DEVELOPMENT

Difficulty: Hard

Correct choice: A

Research on genetic explanations of behavior suggests that stress during a mother's pregnancy can lead to changes in the \_\_\_\_\_ of the developing child's body.

- A. proteins
- B. eye color
- C. blood type
- D. sex

## KEY CONCEPTS IN THE STUDY OF THE LIFESPAN

### 2. LIFE-SPAN PERSPECTIVE- STEM

The life-span perspective in development emphasizes:

- A. decline in later adulthood due to biological changes.
- B. psychological rather than biological influences on the individual
- C. understanding development as continuous from childhood to old age.
- D. childhood as the most important period of an individual's life.

### 3. LIFE SPAN PERSPECTIVE- CHOICE

Difficulty: Moderate

Correct choice: B

The view that development is best viewed as continuous throughout life is referred to as the \_\_\_\_\_ perspective.

- A. gerontological
- B. life span
- C. contextual
- D. sociocultural

### 4. DEVELOPMENTAL SCIENCE- CHOICE

Difficulty: Hard

Correct choice: C

To indicate a broadening of our understanding of changes in individuals over time, the term developmental \_\_\_\_\_ is increasingly becoming used in the field.

- A. psychology
- B. sociology
- C. science
- D. programming

## MODELS OF INDIVIDUAL-ENVIRONMENT INTERACTIONS

### 5. ORGANISMIC MODEL EXAMPLE- CHOICE

Difficulty: Moderate

Correct choice: B

A research lab that focuses on studying the aging process is attempting to find the specific set of genes that control aging at the cellular level. It is likely that the researchers in this lab are operating from the \_\_\_\_\_ model of development.

- A. psychosocial
- B. organismic
- C. existential
- D. mechanistic

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#### 6. ORGANISMIC MODEL- STEM

Difficulty: Hard

Correct choice: D

Organismic models of development are most likely to include which types of aging theories?

- A. Sociological
- B. Behavioral
- C. Social-psychological
- D. Biological

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#### 7. PLASTICITY EXAMPLE- STEM

Correct choice: D

According to the plasticity principle in development, individuals can alter the course of their own development by:

- A. seeking genetic therapy.
- B. accelerating the rate of the social clock.
- C. describing the changes that occur in their bodies.
- D. engaging in physical and mental exercise.

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#### 8. MECHANISTIC MODEL- CHOICE

Difficulty: Difficult

Correct choice: A

The greatest emphasis on the environment is associated with which model of development?

- A. Mechanistic.
- B. Organismic.
- C. Reciprocal.
- D. Interactionist.

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#### 9. NICHE-PICKING EXAMPLE- CHOICE

Difficulty: Moderate

Correct choice: D

A young woman joins her college's intramural tennis team because it's a sport she always wanted to try but had no opportunities to do so. It turns out that she's virtually a natural and soon advances to the top of the varsity team's roster. This example illustrates which process in individual-environment interactions?

- A. multidimensionality
- B. epigenesis
- C. niche-picking
- D. accommodation

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## 10. DISENGAGEMENT THEORY- CHOICE

Difficulty: Easy

Correct choice: B

The idea that older adults are much more satisfied with their lives when they are able to leave behind their former social roles and involvements is consistent with which role adjustment theory?

- A. Activity
- B. Disengagement
- C. Mechanistic
- D. Ecological

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## 11. RECIPROCITY MODEL- CHOICE

Difficulty: Moderate

Correct choice: A

Which model of development emphasizes the influence you have on the other people in your home, school, and community?

- A. Reciprocal
- B. Mechanistic
- C. Organismic
- D. Contextual

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## 12. ECOLOGICAL PERSPECTIVE MODEL- STEM

Difficulty: Moderate

Correct choice: D

In the Bronfenbrenner ecological model of development, which type of system has the most direct impact on the individual?

- A. mesosystem
- B. exosystem
- C. macrosystem
- D. microsystem

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## 13. MACROSYSTEM DEFINITION- STEM

Difficulty:

Correct choice: B

In Bronfenbrenner's ecological model of development, the macrosystem includes:

- A. friends, family, and others who the individual knows.
- B. culture, nationality, and the economic structure.
- C. the community and healthcare agencies.
- D. changes that occur in systems over time.

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## 14. MICROSYSTEM- CHOICE

Difficulty:

Correct choice: D

In the Bronfenbrenner ecological model of development, which type of system has the most direct impact on the individual?

- A. mesosystem
- B. exosystem
- C. macrosystem
- D. microsystem

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#### 15. CHRONOSYSTEM DEFINITION- CHOICE

Difficulty: Moderate

Correct choice: B

The changes that take place over time, according to the ecological model of development, fall into the realm of the:

- A. social clock
- B. chronosystem
- C. age strata
- D. macrosystem

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#### 16. SOCIOCULTURAL EXAMPLE- CHOICE

Difficulty: Easy

Correct choice: A

In the Whitehall II study, the fact that social class was related to physical functioning provided a demonstration of which type of influence on development in Bronfenbrenner's model?

- A. Sociocultural
- B. Proximal
- C. Adaptational
- D. Reciprocal

### SOCIOCULTURAL MODELS OF DEVELOPMENT

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#### 17. LIFE COURSE EXAMPLE- CHOICE

Difficulty: Moderate

Correct choice: B

A 35-year-old woman feels concerned about her career because she believes that, by this age, she should have advanced further than she has by now. Her concern would be best explained by which theoretical approach to understanding development?

- A. life span
- B. life course
- C. life expectancy
- D. life clock

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#### 18. CONTINUITY THEORY EXAMPLE- STEM

Difficulty: Moderate

Correct choice: C

An older adult couple in your neighborhood retired from their jobs as teachers but continue to work in the community as school volunteers. It seems as if they enjoy maintaining similar roles that they had when they were working. They would be a good example of which role satisfaction theory of aging?

- A. Social clock
- B. Disengagement
- C. Continuity
- D. Organismic

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### 19. SOCIAL CLOCK DEFINITION- CHOICE

Difficulty: Hard

Correct choice: C

The idea of being “on-time” or “off-time” in achieving major life goals is considered an important element of adjustment in the \_\_\_\_\_ model.

- A. role fulfillment
- B. disengagement
- C. social clock
- D. identity process

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### 20. AGEISM FROM WHO

Difficulty: Moderate

Correct choice: D

According to the World Health Organization, which is one of the stereotypes about aging?

- A. Older men have less value than younger men
- B. Older adults are selfish and wish to use up society’s resources.
- C. Older women lack interest in providing care for others.
- D. Older people are helpless and unable to care for themselves.

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### 21. AGEISM EXAMPLE FROM WHO

Difficulty:

Correct choice: B

The ageist stereotype that older adults are “past their sell-by date,” according to the World Health Organization, is refuted by the fact that:

- A. an Olympic gymnast performed a record-setting high jump at the age of 42.
- B. a 100-year-old Canadian woman completed a marathon in Toronto.
- C. the majority of women in sub-Saharan Africa care for their grandchildren.
- D. most Nobel prize winners in Medicine or Physiology are scientists in their 60s and 70s.

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### 22. MODERNIZATION HYPOTHESIS- STEM

Difficulty: Moderate

Correct choice: C

The modernization hypothesis of ageism proposes that attitudes toward older adults will be most negative in societies that:

- A. emphasize oral traditions in which families hand down collective wisdom.
- B. do not believe in an afterlife in which people can come back from the dead.
- C. value people for the amount they can produce and contribute to society.
- D. insist that older adults try to “fit in” by looking as young as possible.

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### 23. TERROR MANAGEMENT THEORY- CHOICE

Difficulty: Moderate

Correct choice: D

As proposed by terror management theory, the cause of ageism can be traced to:

- A. lack of familiarity about the aging process.
- B. loss of contact with older adults in the family.
- C. greater urbanization and industrialization in society.
- D. the anxiety that people feel about their own deaths.

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### 24. MULTIPLE JEOPARDY- STEM

Difficulty: Moderate

Correct choice: A

The multiple jeopardy hypothesis proposes that ageism will be most severe for people who have which characteristic?

- A. Being from more than one category of minority status.
- B. Only being over the age of 75 years old.
- C. Frequent involvement with younger adults.
- D. Unable to live independently in the community.

## PSYCHOLOGICAL MODELS OF DEVELOPMENT IN ADULTHOOD

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### 25. INDUSTRY VS. INFERIORITY EXAMPLE- STEM

Difficulty: Moderate

Correct choice: A

People who resolve the industry vs. inferiority issue associated with Erikson’s psychosocial theory unfavorably are likely to have difficulty in which area of development?

- A. Identifying with the work ethic.
- B. Getting close to a romantic partner.
- C. Being able to accept death.
- D. Having a strong sense of self.

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### 26. AUTONOMY IN OLDER ADULT EXAMPLE- STEM

Difficulty: Moderate

Correct choice: B

An older adult faced with issues pertaining to autonomy vs. shame and doubt, in Erikson’s theory, might be confronting which situation?

- A. Trying to meet new friends after having recently become widowed.



- B. Having to move to a nursing home instead of being able to live independently.
- C. Recovering from having been mugged after getting off the bus.
- D. Becoming concerned about an illness that is likely to be terminal.

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### 27. GENERATIVITY EXAMPLE- STEM

Difficulty: Moderate

Correct choice: B

In Erikson's theory, which of the following behaviors would be considered specific to a person high in generativity?

- A. Becoming independent from one's parents.
- B. Mentoring a younger colleague.
- C. Investing in a risky new financial venture.
- D. Appreciating a beautiful work of art.

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### 28. ISOLATION CONCEPT- CHOICE

Difficulty: Hard

Correct choice: D

People who find it difficult to establish long-lasting, mutually satisfying, close relationships would be considered, in Erikson's theory, to be high on which specific quality?

- A. Stagnation
- B. Mistrust
- C. Despair
- D. Isolation

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### 29. INITIATIVE EXAMPLE- CHOICE

Difficulty: Moderate

Correct choice: A

A man in his 50s finds that he does his best work when he allows himself to daydream or even take a break and play a video game. According to Erikson, this man would be high in the quality of:

- A. initiative
- B. identity
- C. industry
- D. inferiority

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### 30. PIAGETIAN ASSIMILATION- CHOICE

Difficulty: Hard

Correct choice: B

When people are first confronted with new ideas or approaches, they often resist accepting them and instead use their existing schemas or ways of responding. According to Piaget, this process is called:

- A. equilibrium
- B. assimilation
- C. epigenesis
- D. accommodation

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### 31. IDENTITY ASSIMILATION EXAMPLE- CHOICE

Difficulty: Hard

Correct choice: B

A 70-year-old who refuses to think of herself as hearing impaired even though she truly has difficulty hearing conversations at ordinary levels, would be considered to show which identity process?

- A. Secondary aging
- B. Identity assimilation
- C. Ego integrity
- D. Identity accommodation

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### 32. IDENTITY ACCOMMODATION- CHOICE

Difficulty: Hard

Correct choice: D

In the process called identity \_\_\_\_\_, people are able to accept negative information about themselves as part of their sense of self without feeling unduly disturbed or devastated.

- A. assimilation
- B. reflection
- C. balance
- D. accommodation

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### 33. IDENTITY BALANCE- CHOICE

Difficulty: Hard

Correct choice: D

In process called identity \_\_\_\_\_, people are able to accept negative information about themselves as part of their sense of self without feeling unduly disturbed or devastated.

- E. assimilation
- F. reflection
- G. balance
- H. accommodation

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### 34. IDENTITY BALANCE EXAMPLE- CHOICE

Difficulty: Moderate

Correct choice: A

A person using the process of identity balance would have which reaction to age-related changes in physical functioning?

- A. Maintaining a stable view of self despite the change.
- B. Becoming upset and disturbed over any sign of loss or decline.
- C. Pretending that the change has not occurred.
- D. Giving up entirely on any form of physical exercise.

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### 35. SELF-EFFICACY- CHOICE

Difficulty: Moderate

Correct choice: C

The feeling that a person is able to succeed at a specific type of task is referred to as \_\_\_\_\_

- A. selective optimization.
- B. identity accommodation.
- C. self-efficacy.
- D. ego integrity

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### 36. SELECTIVE OPTIMIZATION WITH COMPENSATION MODEL

Difficulty: Moderate

Correct choice: B

The selective optimization with compensation model proposes that older adults engage in what type of behavior when faced with loss?

- A. Seek help from younger adults to do those tasks for them.
- B. Try to put more energy into the abilities which they care about the most.
- C. Continue to try to achieve their goals, even if they seem out of reach.
- D. Disengage from as many social roles and obligations as they can.

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### 37. SELECTIVE OPTIMIZATION WITH COMPENSATION MODEL- CHOICE

Difficulty: Easy

Correct choice: B

In the Selective Optimization with \_\_\_\_\_ model, older adults are proposed to cut down on the abilities they are weak and make up with the abilities on which they show greater potential for improvement.

- A. Cognition
- B. Compensation
- C. Complexity
- D. Coping

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### 38. MULTIPLE THRESHOLD MODEL- STEM

Difficulty: Moderate

Correct choice: C

The multiple threshold model of aging predicts that people will experience challenges to their identities as they get older in a \_\_\_\_\_ manner.

- A. clocklike
- B. stepwise
- C. sudden
- D. selective

## BIOLOGICAL APPROACHES TO AGING IN ADULTHOOD

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### 39. GENOME-WIDE LINKAGE STUDY- CHOICE

Difficulty: Moderate

Correct choice: A

The behavioral genetics method in which genetic researchers study the entire genomes of family members who seem to have a higher risk of developing a particular disorder is known as what type of study?

- A. genome-wide linkage
- B. selective optimization
- C. genome-wide association
- D. multiple threshold

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#### 40. GENOME-WIDE ASSOCIATION STUDY- CHOICE

Difficulty: Hard

Correct choice: C

The behavioral genetics method in which genetic researchers scan the entire genome looking for signs of genetic disorders is known as what type of study?

- A. genome-wide linkage
- B. mutation analysis
- C. genome-wide association
- D. random error investigation

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#### 41. GOMPERTZ CURVE- CHOICE

Difficulty: Easy

Correct choice: A

The \_\_\_\_\_ curve illustrates the relationship between death rate and age for different species.

- A. Gompertz
- B. Telomere
- C. Mitochondrial
- D. Resveratrol

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#### 42. GOMPERTZ CURVE- STEM

Difficulty: Moderate

Correct choice: C

The Gompertz curve shows the relationship between:

- A. calories and rate of aging.
- B. free radicals and cancer.
- C. death rate and age.
- D. exercise and life span.

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#### 43. ERROR CATASTROPHE THEORY- STEM

Difficulty: Moderate

Correct choice: B

According to the biological theory known as error catastrophe, the most significant effects of aging involve which structure in the cell?

- A. Chromosome
- B. Mitochondrial DNA
- C. Microfibril
- D. Collagen

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#### 44. TELOMERE THEORY- STEM

Difficulty: Moderate

Correct choice: B

The telomere theory proposes that the cause of aging is due to:

- A. release of free radicals.
- B. destruction of the ends of chromosomes.
- C. deterioration of the mitochondria.
- D. cross-linking of long ends of proteins.

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#### 45. TELOMERE THEORY- CHOICE

Difficulty: Easy

Correct choice: A

The ends of the chromosome lost with repeating cell replications that are thought to underlie the aging process are called the:

- A. telomeres.
- B. cross-links.
- C. mutations.
- D. Mitochondria.

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#### 46. SNPS- CHOICE

Difficulty: Hard

Correct choice: A

In genome-wide association studies on genetic causes of aging, researchers are seeking to identify genetic variations in sequences of amino acids known as:

- A. single nucleotide polymorphisms (SNP).
- B. cytosine replacement molecules (CRM).
- C. mutation linkage abnormalities (MLA).
- D. glycolization end-product units (GEP).

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#### 47. FREE RADICALS- CHOICE

Difficulty: Easy

Correct choice: B

According to one random error theory of aging, the \_\_\_\_\_ are unstable molecules that bond to other molecules, causing cells to malfunction.

- A. cross links

- B. free radicals
- C. genetic alleles
- D. amino acids

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#### 48. RESVERATROL- CHOICE

Difficulty:

Correct choice: B

Some research evidence suggests that drinking red wine can slow the aging because it contains:

- A. protein.
- B. resveratrol.
- C. alleles.
- D. mitochondria.

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#### 49. FOXO GENE- CHOICE

Difficulty: Moderate

Correct choice: D

Researchers are identifying a possible genetic candidate for determining longevity known as the \_\_\_\_\_ gene.

- A. BOXY
- B. GWAS
- C. SNPP
- D. FOXO

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#### 50. MITOCHONDRIAL DNA AND AGING- STEM

Difficulty: Moderate

Correct choice: C

[As discussed in class], mice with mitochondrial DNA defects show what effects on aging?

- A. faster running speeds in lab treadmills.
- B. longer ability to reproduce sexually.
- C. loss of muscle and spine strength.
- D. increased appetites for high caloric food.

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#### 51. CALORIC RESTRICTION- STEM

Difficulty: Moderate

Correct choice: A

Researchers studying caloric restriction find that rats fed on diets low in total calories:

- A. have longer lifespans
- B. experience more stress
- C. mate less frequently
- D. become more hostile

### SHORT ANSWER QUESTIONS

## KEY CONCEPTS IN THE STUDY OF THE LIFESPAN

1. What are the three major approaches to understanding development? How do they differ in their emphasis on the role of the individual in development?

## MODELS OF INDIVIDUAL-ENVIRONMENT INTERACTIONS

1. What is niche-picking? Provide an example from your own experience that illustrates how this principle operates in development.
2. Define and contrast the terms: theory, hypothesis, model, and perspective.

## SOCIOCULTURAL MODELS OF DEVELOPMENT

1. What is the major assumption of the life course perspective?
2. What are the major levels of organization in the ecological perspective?

## PSYCHOLOGICAL MODELS OF DEVELOPMENT IN ADULTHOOD

1. Define the term "epigenetic" and explain how it relates to Erikson's psychosocial theory.
2. What are the four major psychosocial crises of adulthood according to Erikson? Define and provide an example of each.
3. What is an implication of the "matrix" as described within Erikson's theory regarding the relationship between age and specific psychosocial issues?
4. Define and provide an example of these terms:
  - a. Assimilation.
  - b. Accommodation.
  - c. Equilibration.
5. How does Piaget's theory differ from that of Erikson?

## BIOLOGICAL APPROACHES TO AGING IN ADULTHOOD

1. Briefly describe the process of aging according to the telomere theory.
2. Define and contrast the random error theories of aging and provide an implication that each theory has for how individuals can slow the rate of their own aging.
3. Can random error theories be integrated with programmed aging theories? Why or why not?

## ESSAY QUESTIONS

1. Defend your position about "why" aging occurs, from an evolutionary perspective.
2. Describe and analyze a behavior of yours related to your own aging in terms of:
  - a. Identity processes.
  - b. Multiple threshold model.
  - c. Sociocultural perspectives.
3. What are two forms that "ageism" can take in terms of ways of thinking about older adults?
4. Provide your own analysis of why negative attitudes have existed toward older adults in Western society. How might these change in the future?
5. How do biological theories of aging relate to sociocultural views of development?