

Chapter 15

Middle Adulthood: Physical and Cognitive Development

INTRODUCTION

Chapter 15 focuses on the middle adulthood years. The major emphasis is on the changes, both physical and cognitive, experienced by middle-aged individuals. The chapter covers three main areas:

- **Physical changes.** Some common changes in vision and hearing during middle adulthood are presented. Female midlife change, including menopause, and male midlife change are examined in detail.
- **Health changes.** The sexuality and overall health of middle-aged individuals are discussed, with special attention to why many individuals resist changing unhealthy habits. Risks that begin to surface at this time are also examined, including cancer and cardiovascular problems.
- **Cognitive functioning.** Cognitive abilities are presented that only seem to appear during middle adulthood. These abilities include dialectical thinking and moral commitment.

LEARNING OBJECTIVES

After completing Chapter 15, you should be able to:

1. Describe the contemporary view of middle age.
2. Describe several vision-related changes and/or disorders that often are evident in middle age, and cite medical interventions that are available to improve quality of vision.
3. Explain when hearing changes usually begin to occur, how these changes affect one's daily living, and who is most at risk for hearing loss.
4. Describe each of the following physical changes of middle age.
 - changes in skin, teeth, and hair
 - muscle atrophy
 - weight gain
 - osteoporosis
 - rheumatoid arthritis
 - menopause

climacteric

reported psychological consequences of menopause

5. Describe several common male midlife changes and the treatments that can improve the quality of a man's life, including the following terms and concepts.

prostate gland

drop in testosterone and accompanying changes

circadian rhythm

impotence

factors that impact a man's virility on a temporary basis

male menopause

6. Discuss findings concerning changes in sexual functioning in middle age, including the following concepts.

frequency of sexual activity

frequency of orgasm

number of sex partners

faithfulness or extramarital sex

inability to achieve orgasm

7. Describe several medical conditions that have an impact on sexual functioning as one ages.
8. Discuss cardiovascular health problems, including risk factors, the course of the disease, and treatments.
9. Discuss different diseases connected with the brain: stroke, Parkinson's, Alzheimer's.
10. Discuss several risk factors related to cancer.
11. Explain the relationship between social support and health.

12. Explain the terms *fluid intelligence* and *crystallized intelligence*.

13. Discuss the differences between cognition and intelligence, including the following terms and concepts.

dialectical thinking

Schaie's four stages

convergent

divergent

14. Discuss the research by Colby and Damon on moral exemplars.

WEB SITES

The following Web sites deal with some of the concepts and issues introduced in Chapter 15. Additional resources can be found on the text's Web site at <http://www.mhhe.com/crandell8>.

Office of Men's Health

<http://www.menshealthoffice.info/about.htm>

Office of Women's Health

<http://www.4woman.gov/owh/>

Early Menopause

<http://www.earlymenopause.com/>

North American Menopause Society

<http://www.menopause.org/>

Dr. Susan Love's Site on Breast Cancer

<http://www.susanlovemd.org/sitemap.html>

National Institute on Aging

<http://www.nia.nih.gov/>

Senior Health

<http://nihseniorhealth.gov/>

AARP Policy and Research

<http://www.aarp.org/research/ageline/>

International Federation on Aging

<http://www.ifa-fiv.org/en/accueil.aspx>

SELF-TESTS

Matching

Match the following key terms with their definitions:

- | | | |
|------------------------------|--------------------------------|-------------------------|
| a. amenorrhea | j. floaters | r. macular degeneration |
| b. cataract | k. fluid intelligence | s. menopause |
| c. cholesterol | l. glaucoma | t. osteoporosis |
| d. climacteric | m. human growth hormone | u. perimenopause |
| e. convergent thinking | n. hormone replacement therapy | v. presbycusis |
| f. crystallized intelligence | o. hypertension | w. presbyopia |
| g. dialectical thinking | p. hypothyroidism | x. prostate gland |
| h. divergent thinking | q. impotence | y. rheumatoid arthritis |
| i. dry eye | | z. stroke |

- | | |
|---|--|
| 1. ____ a blockage of blood flow to the brain | 10. ____ an open-ended way of thinking: multiple solutions are sought, examined, and probed, thereby leading to what are deemed creative responses on measures of creativity |
| 2. ____ a condition associated with a slow, insidious loss of calcium, producing porous bones | 11. ____ an organized approach to analyzing and making sense of the world one experiences that differs fundamentally from formal analysis |
| 3. ____ a normal condition in which the lens of the eye starts to harden, losing its ability to accommodate as quickly as it did in youth | 12. ____ changes in the ovaries and the various biological processes associated with these changes |
| 4. ____ a powerful hormone that was developed to treat children afflicted by dwarfism, and has become a trendy anti-aging potion | 13. ____ diminished tear production |
| 5. ____ a regime often recommended by physicians to maintain cardiovascular fitness, slow bone loss, and slow memory loss | 14. ____ evidenced by faded, distorted, or blurred central vision |
| 6. ____ a vision impairment condition caused by clouding of the lens | 15. ____ floating spots that actually are particles suspended in the gel-like fluid that fills the eyeball but generally do not impair vision |
| 7. ____ a walnut-sized male gland at the base of the urethra | 16. ____ high blood pressure |
| 8. ____ a white, waxy fat found naturally in the body and used to build the cell walls and make certain hormones | 17. ____ increased pressure caused by fluid buildup within the eye that can damage the optic nerve if left untreated |
| 9. ____ an inflammatory disease that causes pain, swelling, stiffness, and loss of function of the joints | 18. ____ the ability to hear high-pitched sounds |
| | 19. ____ the ability to make original adaptations in novel situations |

20. ____ the ability to reuse earlier adaptations on later occasions
21. ____ the absence of a menstrual cycle
22. ____ the application of logic and reasoning to arrive at a single correct answer to a problem
23. ____ the cessation of menstruation, typically over a period of two to four years, with an intermittent missing of periods and the extension of intervals between periods
24. ____ the inability for a male to have or sustain an erection
25. ____ the process culminating in the cessation of menstrual activity
26. ____ underactive thyroid gland

Multiple Choice

Circle the letter of the response that best completes or answers each of the following statements and questions.

Factual Questions

1. From the research on HGH, it is hypothesized that around age 35, changes in body composition are linked to decreasing
- brain activity
 - fat deposits
 - muscle tissue
 - hormone levels
2. Women are at greater risk for osteoporosis after age 35 than are men because
- men have 30 percent more bone mass than women
 - men's higher levels of testosterone prevent bone deterioration
 - men lose old bone tissue more quickly than do women
 - all of these
3. Which of the following disorders does not affect individuals in middle adulthood?
- cataracts
 - glaucoma
 - retinal detachment
 - macular degeneration
4. By age 50, one should eat how many fewer calories a day in order to maintain the same weight as at age 30?
- 170
 - 240
 - 300
 - 1,200

5. In terms of physical changes and health, at age 50 to 60
 - a. most individuals report a dramatic loss in their quality of life
 - b. vital organs are functioning as they were at age 30
 - c. the kidneys, lungs, and heart are less efficient than they were at age 20
 - d. approximately 30 percent of this population suffers from substantial hearing problems

6. Which of the following midlife changes in vision explains why most people in their 40s require glasses, especially to see near objects?
 - a. myopia
 - b. loss of the eye's ability to adapt to darkness
 - c. increased pressure in the eye
 - d. loss of the eye's ability to accommodate

7. By the age of 50, what percentage of our population typically has difficulty hearing a whisper?
 - a. 7 percent
 - b. 17 percent
 - c. 27 percent
 - d. 33 percent

8. The end of menstrual activity is called
 - a. androgyny
 - b. maturity
 - c. menopause
 - d. menarche

9. Which of the following statements is an accurate description of the cessation of menstrual activity?
 - a. Cessation occurs, for most women, within a very short time period, usually within two to three months.
 - b. Cessation is more gradual, often over two to four years, with intervals between symptoms.
 - c. Most women have ceased menstruation by the time they are 45 years old.
 - d. The symptoms typically attributed to menopause are really related to the stress of a woman's working, taking care of a family, and taking care of parents at this time in her life.

10. Which of the following statements regarding estrogen-replacement therapy (ERT) is the most accurate?
 - a. Estrogen increases the development of osteoporosis.
 - b. Estrogen therapy is recommended for all postmenopausal women.
 - c. Estrogen therapy is the leading cause of breast cancer in women.
 - d. Estrogen therapy, by itself, has been linked with uterine cancer.

11. Which of the following statements regarding hormone-replacement therapy (HRT) is least accurate?
 - a. HRT improves the quality of life for many women going through the transition of menopause, relieving some symptoms of hot flashes, headaches, depression, etc.
 - b. HRT, while seemingly protecting the uterus, does not afford protection against breast cancer, particularly if the woman has been on HRT for 5 or more years.
 - c. HRT seems to reduce a woman's risk of osteoporosis and heart disease.
 - d. HRT is the "wonder drug" of the 1990s and has support and approval by most medical practitioners and about 75 percent of patients.

12. During the male midlife change, men experience
- a rapid plunge in hormonal levels
 - increased levels of testosterone and human growth hormone
 - increased incidence of prostate enlargement and its accompanying symptoms
 - markedly decreased virility
13. Several symptoms that middle-aged males experience that may be related to the decline in testosterone include all of the following except
- increased susceptibility to diabetes and heart disease
 - decline in muscle mass and strength
 - build up of body fat and loss of bone density
 - loss of energy and lowered sperm output
14. About 50 percent of American males over age 40 experience a higher incidence of impotence, most likely because of
- preexisting medical conditions that warrant drug consumption
 - stress in the workplace and lack of exercise
 - smoking, alcohol consumption, and general depression
 - all of these
15. You take your blood pressure reading and it is 140/70. You immediately
- call the doctor
 - lie down and rest
 - take it again to be sure
 - relax because this is in the normal range
16. Each of the following is considered to reduce hypertension except
- eating foods high in starch
 - eating foods low in salt
 - drinking alcohol in moderation
 - sleeping more
17. Which of the following is not designated as a risk factor for cancer?
- race
 - weight
 - poverty
 - gender
18. In female-to-female transmission of AIDS/HIV, 97 percent of the surveyed women also had which other risk?
- receipt of blood products
 - sex with high-risk men
 - injected drug use
 - body piercing and tattoos
19. According to the National Health and Social Life Survey (1992), which of the following is not true?
- 20 percent of men and 31 percent of women have had 1 sex partner since age 18
 - 21 percent of men and 36 percent of women have had 2 to 4 sex partners since age 18
 - 45 percent of men and 30 percent of women have had 5 to 10 sex partners since age 18
 - 17 percent of men and 3 percent of women have had 21 or more sex partners since age 18

20. Tests that measure verbal ability show _____ after the age of 60.
- little or no decline
 - substantial decline
 - moderate increase
 - moderate decrease
21. The ability to reuse earlier adaptations on later occasions is called
- fluid intelligence
 - crystallized intelligence
 - culture-free intelligence
 - multiple intelligence
22. One reason cited for older individuals displaying more post-formal thought is
- higher creativity
 - lower creativity
 - life experience
 - life satisfaction
23. Which of Schaie's four stages would the middle-aged adult most likely use?
- acquisitive
 - achieving
 - responsible/executive
 - reintegrative
24. Colby and Damon's research implies that moral exemplars
- are highly educated
 - are spiritual
 - are politically liberal
 - are all involved in charity work
25. According to Guilford, the application of logic and reasoning is called
- creativity
 - divergent thinking
 - convergent thinking
 - productive thinking
26. During the 1990s, the number of Americans over the age of 50 with HIV
- dropped by two-thirds
 - didn't change
 - increased 500 percent
 - none of these

Conceptual Questions

1. You like to invest in the stock market for long-term growth and know that millions of people, the baby boomers, are now entering middle age. Based on your text's information about physical changes and health in midlife, of the following companies and products, which would you be least likely to invest in?
 - a. RJR Tobacco: produces cigarettes
 - b. Bausch and Lomb: produces eye glasses and lenses
 - c. Nike: produces footwear and clothing for recreational activities
 - d. Revlon: produces anti-wrinkling creams, concealers for skin imperfections, and dyes for hair color

2. In which of the following situations will a 50-year-old driver be the most adversely affected?
 - a. driving down a dark highway toward a car that is approaching with its bright lights on
 - b. trying to judge the distance necessary to stop the car when driving at high speed
 - c. trying to carry on a conversation, listen to the radio, and simultaneously drive in rush hour traffic
 - d. trying to accelerate and merge with traffic when entering a busy expressway

3. You are going through menopause and are concerned because your mother told you about unpleasant hot flashes. Your gynecologist should advise you that
 - a. symptoms such as hot flashes occur only if your ovaries are removed
 - b. ERT can eliminate hot flashes and profuse sweating
 - c. women who report hot flashes are merely psychosomatic complainers
 - d. most women who go through this perceive the "bark" of menopause to be worse than the "bite"

4. If you suffer presbycusis you will probably have trouble hearing which instrument?
 - a. bass
 - b. voice
 - c. cello
 - d. saxophone

5. Andre is at his first wine tasting, at the age of 60. Which aspect of the wine will he probably not appreciate?
 - a. the color
 - b. the temperature
 - c. the bouquet
 - d. all of these

6. Recently Duane, 52, is having difficulty trying to urinate, is waking up at night to go to the bathroom, and is urinating more frequently during the day. This is an obvious change in his urinary habits, and he is concerned. As his physician, you are most likely to tell Duane there is
 - a. a strong likelihood of cancer of the bladder, and he must be hospitalized immediately
 - b. nothing unusual about his symptoms because there is no blood in the urine
 - c. probably some type of calcium deposit obstruction at the beginning of the urethra
 - d. a typical enlargement of his prostate gland

7. When Stephen was in his late 20s, he was in a motorcycle accident that left him in the hospital for nearly two months recuperating. For most of his adult life he has taken pain medications to help alleviate the aches and pains associated with the aftereffects of this accident. He also hasn't been able to exercise and play sports like he did prior to the accident. Now that Stephen is approaching 50 years old, he's finding that the quality of his sex life seems to be diminishing also, and he has serious self-doubts about his virility. As a sex therapist, you are most likely to tell Stephen that
- he's going through the typical hormonal midlife change for men, similar to menopause
 - it's the self-fulfilling prophecy at work—it's all a matter of a positive attitude when it comes to adapting to aging—and the "big 5-0" is probably a precipitating factor
 - in his particular case, a combination of physical trauma, overmedication, and lack of exercise have probably contributed to what will probably turn out to be temporary impotence
 - he's a likely candidate for the new medical treatment for impotence
8. You are an average person of age 60. How much has your muscle mass probably declined?
- it hasn't
 - 20 percent
 - 45 percent
 - 85 percent
9. You and your wife have been married for 30 years. While she is still interested in having sex regularly, you are increasingly less interested. A sex therapist would probably tell you that
- too much sexual interest in people your age is perverse
 - your loss of interest may be caused by fear of failure rather than lack of physical ability
 - your loss of interest is being caused by your wife's persistence and sexual aggressiveness
 - your loss of interest is predictable because people with active sex lives in their 20s have more difficulty becoming aroused in their 50s
10. Based on the National Health and Social Life Survey, who of the following are most likely to have a frequent, healthy sex life?
- John and Charlotte, a cohabiting couple
 - Charlie and Theresa, a couple who have been married for 15 years
 - Fred and Linette, who frequently view X-rated videos
 - Peter, a single man in his 30s
11. Karen has been married to Bradley for 25 years. Recently, Karen has begun having an extramarital affair. Karen's behavior
- typifies nearly 75 percent of American married men, who say they have been unfaithful at least once
 - typifies nearly 85 percent of American married women, who say they have been unfaithful at least once
 - is atypical of American married men and women, of whom the majority report they have never been unfaithful
 - is a common occurrence for American couples who have been married longer than 20 years
12. You are interested in becoming an anti-aging consultant. What product might you be promoting?
- video on tai-chi
 - perimenopausal tablets
 - human growth hormones
 - ERT treatment

13. Juan is 50 years old, with a history of coronary artery disease in his family. The initial advice his doctor might give him to prolong his life expectancy might be to
- receive injections of estrogen
 - have coronary bypass surgery
 - exercise more and eat fewer fatty foods
 - limit his exposure to carcinogens
14. Which of the following individuals is the least likely to die of heart disease?
- Mark, a competitive 45-year-old businessman who smokes and drinks
 - Joshua, a 50-year-old Mormon who watches his diet, exercises regularly, and finds time to relax
 - Julianne, an aggressive 42-year-old stockbroker who avoids eating red meat to monitor her high cholesterol
 - Tanya, a 45-year-old fitness instructor with a family history of high blood pressure
15. You have just read an article on the climacteric. What will this article cover?
- the male multi-orgasm
 - the drop in female hormone production
 - the change in body temperature in old age
 - cardiovascular disease
16. Joann seemingly changes her personality style during menopause, becoming more cold, anxious, and depressed. Which of the following conclusions seems to be the most legitimate?
- Menopause is an inner biological event that is commonly associated with major personality change.
 - The woman's husband experienced similar personality changes when he went through male climacteric.
 - The woman possessed all these personality predispositions earlier in adult life.
 - The woman has probably displayed major changes in intellectual and cognitive functioning as well.
17. Statistically, you are more likely to suffer from depression if you are
- going through menopause
 - past menopause
 - 20 to 30 years old
 - 10 to 19 years old
18. You are very good at test taking and vocabulary but find you are not very creative. Which type of intelligence do you have more of?
- fluid
 - crystallized
 - multiple
 - performance
19. You are able to take many different perspectives in settling an argument. You are using
- dialectical thinking
 - convergent thinking
 - divergent thinking
 - metacognitive thinking

20. You find yourself asking the following question: "How can I use the things I've learned to help my family, community, and society?" Which stage are you in?

- a. acquisitive
- b. achieving
- c. executive
- d. reintegrative

21. Someone has suggested that you are a moral exemplar. What trait would you not have?

- a. commitment to moral ideals
- b. willingness to risk your self-interest for your moral values
- c. letting others know you are right
- d. inspiring others

Essay Questions

1. It would seem as if everything is settled by middle adulthood—why then do men and women go through lifestyle changes in this period?

2. Do you agree with the argument, made by some, that graduate studies should really be reserved for those in middle adulthood? Why or why not?

3. Discuss why moral exemplars would tend to be middle and older adults instead of young adults. How do midlife changes affect moral development?
-

ANSWERS FOR SELF-TESTS

Matching

- | | | |
|------|-------|-------|
| 1. z | 10. h | 19. k |
| 2. t | 11. g | 20. f |
| 3. w | 12. d | 21. a |
| 4. m | 13. i | 22. e |
| 5. n | 14. r | 23. u |
| 6. b | 15. j | 24. q |
| 7. x | 16. o | 25. s |
| 8. c | 17. l | 26. p |
| 9. y | 18. v | |

Multiple Choice

Factual

- | | | |
|------|-------|-------|
| 1. d | 10. d | 19. c |
| 2. a | 11. d | 20. a |
| 3. c | 12. c | 21. b |
| 4. b | 13. a | 22. c |
| 5. c | 14. d | 23. c |
| 6. d | 15. d | 24. b |
| 7. d | 16. d | 25. c |
| 8. c | 17. b | 26. c |
| 9. b | 18. c | |

Conceptual

- | | | |
|------|-------|-------|
| 1. a | 8. c | 15. b |
| 2. a | 9. b | 16. c |
| 3. d | 10. a | 17. c |
| 4. b | 11. c | 18. b |
| 5. c | 12. c | 19. a |
| 6. d | 13. c | 20. c |
| 7. c | 14. b | 21. c |

