

Examples of CD behaviors include

- Breaking serious rules, such as running away, staying out at night when told not to, or skipping school
- Being aggressive in a way that causes harm, such as bullying, fighting, or being cruel to animals
- Lying, stealing, or damaging other people's property on purpose

### *Diagnosing Behavior Disorders*

Learn about the guidelines for diagnosing and treating [ODD](#) and [CD](#)

## Treatment for Disruptive Behavior Disorders

Starting treatment early is important. Treatment is most effective if it fits the needs of the specific child and family. The first step to treatment is to talk with a healthcare provider. A comprehensive evaluation by a mental health professional may be needed to get the right diagnosis. Some of the signs of behavior problems, such as not following rules in school, could be related to learning problems that may need additional intervention. For younger children, the treatment with the strongest evidence is [behavior therapy training for parents](#), where a therapist helps the parent learn effective ways to strengthen the parent-child relationship and respond to the child's behavior. For school-age children and teens, an often-used effective treatment is a combination of training and therapy that includes the child, the family, and the school.

## Managing Symptoms: Staying Healthy

Being healthy is important for all children and can be especially important for children with behavior or conduct problems. In addition to behavioral therapy and medication, practicing certain healthy lifestyle behaviors may reduce challenging and disruptive behaviors your child might experience. Here are some healthy behaviors that may help:

- Engaging in regular physical activity, including aerobic and vigorous exercise
- Eating a healthful diet centered on fruits, vegetables, whole grains, legumes (for example, beans, peas, and lentils), lean protein sources, and nuts and seeds
- Getting the recommended amount of sleep each night based on age
- Strengthening relationships with family members

## Prevention of Disruptive Behavior Disorders

It is not known exactly why some children develop disruptive behavior disorders. Many factors may play a role, including biological and social factors. It is known that children are at greater risk when they are exposed to other types of violence and criminal behavior, when they experience maltreatment or harsh or inconsistent parenting, or when their parents have mental health conditions like [substance use disorders](#), [depression](#), or [attention-deficit/hyperactivity disorder \(ADHD\)](#). The quality of early childhood care also can impact whether a child develops behavior problems.

Although these factors appear to increase the risk for disruptive behavior disorders, there are ways to decrease the chance that

children experience them. Learn about public health approaches to prevent these risks:

- [Positive parenting strategies for young children](#)
- [Child maltreatment prevention](#)
- [Youth violence prevention](#)
- [Bullying prevention](#)
- [Mental health in adults](#)
- [Finding high-quality child care](#)

## Substance Use

Adolescence is a time of rapid change and maturation. It is also a time of experimentation—with new hairstyles, clothes, attitudes, and behaviors. Some of these experiments are harmless. Others, such as using alcohol or other drugs, can have long-lasting harmful consequences. There are several reasons why it is important to identify and treat adolescent substance use.



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<https://topicaldevelopment.pressbooks.sunycREATE.cloud/?p=111#oembed-1>

**Video** 1. Adolescent Substance Use, Addiction, and Treatment discusses the prevalence of substance use and teens' susceptibility to abuse.

Substance use is common among adolescents. Alcohol, marijuana, and tobacco are the substances most commonly used by youth

(Johnston et al., 2014), and alcohol often is the first substance to be used (Johnston et al., 2010). The percentage of young people who have used alcohol increases with age. By eighth grade, 28% of students have tried alcohol, and 12% have been drunk at least once; by twelfth grade, 68% of students have tried alcohol, and more than half have been drunk at least once (Johnston et al., 2014). In 2012, 45% of students in grades 9 through 12 reported ever having used marijuana, and 24% reported having used marijuana in the preceding 30 days. Between 2008 and 2012, the proportion of teens who used marijuana daily increased from 5% to 8% (PDFA, 2013). According to a survey published in 2014, 41% of students in grades 9 through 12 reported having tried cigarettes. Nearly one-quarter said they had used tobacco in some form in the past 30 days (Kann et al., 2014). A substantial percentage of adolescents, including 15% of 12th graders, report misuse (i.e., use without a prescription) of prescription medication, especially stimulants and pain medications (Johnston et al., 2014).

## Why do Adolescents use Drugs?

As we read above, most adolescents will use drugs or alcohol before reaching adulthood; however, the reasons for use can vary greatly. A popular model for understanding the reasons and levels of drug use involves viewing the behavior as a continuum. This continuum includes non-use and experimental drugs, casual, habitual, and compulsive drug use.

A non-user is someone that has never misuse drugs. An experimental user has used drugs a few times out of curiosity. Using substances may make them feel 'grown-up,' or they may do it as a form of rebellion against authority or rules. Using may be exciting for this teen. Typically, experimental users have no significant problems with drug use, and adults are not likely aware of the use.

When substance use becomes more common among peer groups,

teens are more likely to engage in social use. Using drugs or alcohol might be a way of fitting in with some social groups or with friends. Teens may feel that they are more outgoing or social when under the influence of substances. Furthermore, some teens may use substances for fun or out of boredom. There may also be circumstantial-situational reasons for substance use, such as increasing awareness or creativity and lowering inhibitions. These casual users might engage in regular drug use, maybe 2 to 4 times per week. They still associate drug use with feeling excited or stimulated, and they make efforts to maintain control of their use. Their substance use may be frequent enough that the behavior is difficult to hide from parents and school officials. Casual users may experience decreased school performance, loss of interest in previously enjoyed activities that do not involve drug use, and other atypical behaviors for the adolescent (e.g., increased lying).

As we see substance use intensify, the concern for the teen's health and safety increases. A habitual user is likely to use drugs daily, often with a particular group of friends that are also using. Drug use may be part of the group's norms and identity. Teens may also use substances to escape or to self-medicate. At this level of use, the teen may not necessarily lose control but experiences significant school and family problems. Drug use may no longer bring the excitement and stimulation previously sought. Instead, the adolescent may become impulsive, erratic, guilt-ridden, and depressed.

A compulsive user has lost control over their drug use. The person is using drugs several times per day, and they spend a significant part of their day in the procurement, maintenance, and use of a regular drug supply. These adolescents engage in behaviors that put their health and safety at risk. Their emotional state is often disorganized. Individuals in the last three categories – casual, habitual, and compulsive – are most likely to qualify for a substance use disorder diagnosis.

## Risk Factors for Substance Abuse

There are certain factors that increase the risk of adolescent substance abuse. Teens that come from dysfunctional families or live in poverty are at higher risk of abuse. As are youth raised in cultures or communities where substance abuse is common.

Adolescents that struggle academically or are lacking in social skills may also see higher rates of substance abuse. A highly concerning risk factor is early substance use. The earlier and the more a young person uses substances, the higher risk they are for developing a substance disorder.

Substance use has its own risks and also is associated with other risky behaviors. Adolescent substance use poses both short-term and long-term risks. In the short term, drinking, for example, can result in unintentional injuries and death, suicidal behavior, motor vehicle crashes, intimate partner violence, and academic and social problems (Brown et al., 2008; Cole et al., 2011; Weitzman Nelson, 2004). These outcomes occur because excess alcohol consumption leads to decreased cognitive abilities, inaccurate perception of risk, and impaired bodily control. These effects, in combination with the fact that compared to adults, adolescents tend to be more physically active when under the influence of alcohol, put adolescents at greater risk of harm. For example, at blood alcohol concentrations greater than zero, adolescents are at increased risk of being fatally injured or involved in fatal crashes in single, two, and more vehicles compared with sober male drivers ages 21-34 (Voas et al., 2012). Marijuana use is associated with diminished lifetime achievement (Meier et al., 2012). Tobacco use results in poor health in the short and long term, and it can be a gateway to the use of other drugs (Sims, 2009). The risk of substance use is compounded because it is associated with other risky behaviors, such as unplanned, unprotected sex, which can result in pregnancy (Brown, 2008; Levy et al., 2009; Tapert et al., 2001). Adolescents who misuse prescription opioids are at high risk of transitioning to injection

drugs and overdosing (McCabe et al., 2012). Any level of substance use can be harmful to adolescents—no amount is safe.

Adolescence is a particularly vulnerable period for brain development and maturation. Adolescence is a long period of intense neurodevelopmental growth and maturation. As a result, the adolescent brain is particularly vulnerable to the toxic effects of alcohol and other drugs and to the potential for addiction. Persistent marijuana use in adolescence, for example, is associated with neuropsychological impairments across a range of functional domains (Meier et al., 2012). Moreover, stopping use does not fully restore neuropsychological functioning, suggesting particular harm to the adolescent brain.

Use tends to increase over time. National estimates of the prevalence of drinking indicate that older youth drink more and drink more heavily than do younger youth (SAMHSA, 2010). This fact makes it all the more important for pediatricians to start early with screening and brief intervention so as to prevent or delay alcohol use for as long as possible.

Substance use in adolescence is associated with harm in adulthood. The earlier an adolescent begins using substances, the greater are his or her chances of continuing to use and of developing substance use problems later in life. For example, compared to people who do not start drinking until they are young adults, people who begin to drink before age 15 are 5 times as likely to develop alcohol dependence or abuse (Chambers et al., 2003; Grant & Dawson, 1997; Hingson & Zha, 2009). Compared with adolescents who first try marijuana at age 18, those who begin using at 14 or younger are 6 times as likely to meet the criteria for illicit drug dependence or abuse later in life (SAMHSA, 2010). More than 80% of adults who smoke tobacco began before they were 18 (Sims, 2009).

Adolescents who report weekly or more frequent substance use are likely to have a severe substance use disorder. In some cases, by the time an adolescent has reached this point, parents are already aware of the drug use, although they may underestimate the

seriousness of the problem. Adolescents with serious substance-use disorders require more-intensive care as soon as possible, including a comprehensive evaluation by a substance use specialist, assessment for co-occurring mental health disorders, and referral to treatment.

## Prevention of Substance Abuse

Prevention of substance abuse during adolescence should be a multipronged and long-term approach that involves the education of youth, families, and the community. Prevention education should begin as early as preschool and be specific to the target population (i.e., ethnicity, gender), establishing a culture against substance abuse. Effective programs for teens involve interactive education, such as peer discussions and role-playing, and focus on risk-reduction and fostering good decision-making skills.

*D.A.R.E.–the drug prevention program that never worked*

The primary goal of Drug Abuse Resistance Education (DARE) was to teach effective peer resistance and refusal skills so that adolescents can say “no” to drugs and their friends who may want them to use drugs. The secondary goals of the program were to build students’ social skills and enhance their self-esteem, as these are believed to be linked to adolescent drug use.

DARE was developed in 1983 as a joint effort between the Los Angeles County (Calif.) School District and the Los

Angeles Police Department. In 1986, the U.S. Congress passed the Drug-Free Schools and Communities Act to promote drug abuse education and prevention programs across the country, and DARE spread rapidly, with many school districts adopting it for their students. By 1994, DARE was the most widely used school-based drug prevention program, showing up in all 50 states in the United States and spreading to six foreign countries.

Several large scale studies assessed the effectiveness of the DARE program. The findings consistently found no effects. There were no statistically significant differences between students participating in the DARE program and those that did not when comparing rates of drug use, attitudes toward drug use, or self-esteem.

## Anxiety, Depression, And Self-Directed Violent Behavior

Developmental models of anxiety and depression treat adolescence as an important period, especially in terms of the emergence of differences and in prevalence rates that persist through adulthood (Rudolph, 2009). Although the rates vary across specific anxiety and depression diagnoses, rates for some disorders are markedly higher in adolescence than in childhood or adulthood. For example, prevalence rates for anxiety disorders are about 19% in adults, but 32% in adolescents (NIMH, 2017). Adolescents are also more likely to experience depression (13%) compared to adults (7%) (NIMH, 2019). Rates of self-directed violence are also higher among teens

(17%), followed by college students (15%), adults (5%), and children having the lowest rates (1.3%) (APA, 2015).

## Anxiety

Occasional anxiety is an expected part of life. You might feel anxious when faced with a problem, before taking a test, or when making an important decision. But anxiety disorders involve more than temporary worry or fear. For a person with an anxiety disorder, the anxiety does not go away and can get worse over time. The symptoms can interfere with daily activities such as job performance, school work, and relationships.

The wide variety of **anxiety disorders** differ by the objects or situations that induce them but share features of excessive anxiety or worry about a variety of things. Fear and anxiety can cause significant problems in areas of their life, such as social interactions, school, and work. Anxiety also manifests in physiological and psychological responses, such as feeling restless, fatigued, difficulty concentrating, irritability, muscle tension, and sleep problems.



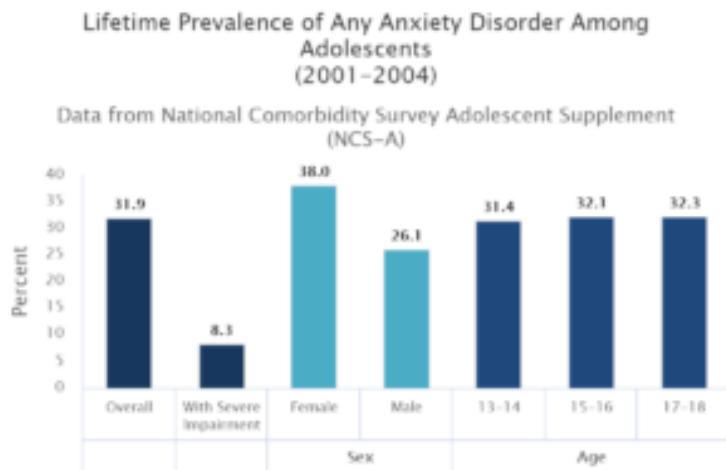
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**Video 2.** Fight, Flight, Freeze—Anxiety Explained for Teens identifies symptoms and responses to the experience of anxiety.

The following data pertains to the compiling of statistics for any anxiety disorder including, panic disorder, generalized anxiety

disorder, agoraphobia, specific phobia, social anxiety disorder, post-traumatic stress disorder, obsessive-compulsive disorder, and separation anxiety disorder. An estimated 31.9% of adolescents have an anxiety disorder. Of adolescents with any anxiety disorder, an estimated 8.3% had severe impairment. The prevalence of any anxiety disorder among adolescents was higher for females (38.0%) than for males (26.1%). The prevalence of any anxiety disorder was similar across age groups.



**Figure 1.** Prevalence of any anxiety disorder among adolescents (2001–2004). Data from the National Comorbidity Survey Adolescent Supplement (NCS-A).

Anxiety disorders are generally treated with psychotherapy, medication, or both. Psychotherapy or “talk therapy” can help people with anxiety disorders. To be effective, psychotherapy must be directed at the person’s specific anxieties and tailored to his or her needs. Medication does not cure anxiety disorders but can help relieve symptoms. Medication for anxiety is prescribed by doctors, such as a psychiatrist or primary care provider. The most common

classes of medications used to combat anxiety disorders are anti-anxiety drugs (such as benzodiazepines), antidepressants, and beta-blockers. Some people with anxiety disorders might benefit from joining a self-help or support group and sharing their problems and achievements with others. Talking with a trusted friend or member of the clergy can also provide support, but it is not necessarily a sufficient alternative to care from a doctor or other health professional. Stress management techniques and meditation can help people with anxiety disorders calm themselves and may enhance the effects of therapy. Research suggests that aerobic exercise can help some people manage their anxiety; however, exercise should not take the place of standard care, and more research is needed.

### *The Prevalence of Mental Illness in youth*

**Video 3.** In *The Prevalence of Mental Illness in Youth*, McKenna Knapp discusses the prevalence of mental health issues in young people and how the pressures to measure up in high school may contribute.



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## Depression

Sadness is something we all experience. It is a normal reaction to a loss or a setback, but it usually passes with a little time. Depression is different. Depression (**major depressive disorder**) is a medical illness that can interfere with a person's ability to handle daily activities, such as sleeping, eating, or managing responsibilities. Depression is common, but that doesn't mean it isn't serious. Well-meaning friends or family members may try to tell someone with depression to "snap out of it," "just be positive," but depression is not a sign of weakness or a character flaw. Many people with depression need treatment to get better.

Depression is characterized by feelings of deep sadness and hopelessness that disrupts all normal, regular activities. However, teens may not identify feelings of sadness and instead report feeling more irritable and angry. Often, when depressed, people feel worthless and excessively guilty. They withdraw from activities that they normally enjoy and spend more time alone. Changes in appetite and sleeping habits (more or less than normal) are common. People with depression may experience fatigue, having low energy, and also feel restless. Physical aches and pains with no associated reason may occur, like muscle, stomach, or headaches. Cognitive functioning, such as attention, concentrating, memory, and decision-making, may be impaired. And while not necessary for a depression diagnosis, thoughts of death or suicide may be an issue.

Teens with depression may sulk, get into trouble at school, be negative and irritable, and feel misunderstood. It can be difficult to determine whether an adolescent is depressed or just "being a teenager." Consider how long the symptoms have been present, how severe they are, and how different the teen is acting from his or her usual self. Teens with depression may also have other disorders such as anxiety, eating disorders, or substance abuse.



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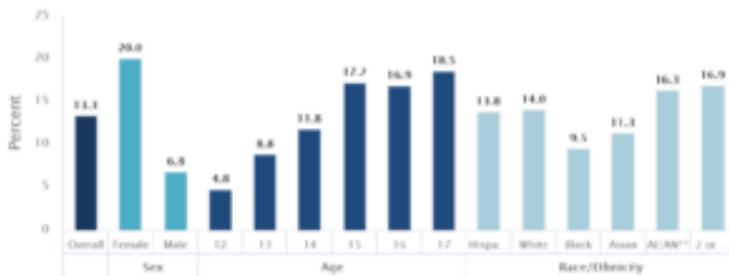
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#### **Video 4.** Adolescent Depression provides information on identifying symptoms of depression in teens and how to respond to concerns.

The figure below shows the prevalence of major depressive episodes among U.S. adolescents in 2017. An estimated 3.2 million adolescents aged 12 to 17 in the United States had at least one major depressive episode. This number represented 13.3% of the U.S. population aged 12 to 17. The prevalence of major depressive episodes was higher among adolescent females (20.0%) compared to males (6.8%). The prevalence of major depressive episodes was highest among adolescents reporting two or more races (16.9%).

Past Year Prevalence of Major Depressive Episode Among U.S. Adolescents (2017)

Data Courtesy of SAMHSA



**Figure 2.** Prevalence of major depressive episode among US adolescents (2017). Data from SAMHSA.

Causes of depression include many factors such as genetics and early childhood experiences that predate adolescence, but puberty may push vulnerable children, especially girls, into despair. During puberty, the rate of major depression more than doubles to an estimated 13%, affecting about one in five girls and one in ten boys. The gender difference occurs for many reasons, biological and cultural (Uddin et al., 2010).

Developmental models focus on interpersonal contexts in both childhood and adolescence that foster depression and anxiety (e.g., Rudolph, 2009). Family adversity, such as abuse and parental psychopathology during childhood, sets the stage for social and behavioral problems during adolescence. Adolescents with such problems generate stress in their relationships (e.g., by resolving conflict poorly and excessively seeking reassurance) and select into more maladaptive social contexts (e.g., “misery loves company” scenarios in which depressed youths select other depressed youths as friends and then frequently co-ruminate as they discuss their problems, exacerbating negative affect and stress). These processes are intensified for girls compared with boys because girls have more relationship-oriented goals related to intimacy and social approval, leaving them more vulnerable to disruption in these relationships. Anxiety and depression then exacerbate problems in social relationships, which in turn contribute to the stability of anxiety and depression over time.

Depression, even in the most severe cases, can be treated. The earlier that treatment can begin, the more effective it is. Depression is usually treated with medications, psychotherapy, or a combination of the two. An estimated 19.6% received care by a mental health professional alone, and another 17.9% received combined care by a mental health professional and medication treatment. Treatment with medication alone was the least common (2.4%). Approximately 60.1% of adolescents with major depressive episodes did not receive treatment.

Antidepressants are medicines that treat depression. They may help improve the way the brain uses certain chemicals that control

mood or stress. Trying several different antidepressant medicines may be necessary before finding the one that improves symptoms and has manageable side effects. Antidepressants take time – usually 2 to 4 weeks – to work, and often, symptoms such as sleep, appetite, and concentration problems improve before mood lifts, so it is important to give medication a chance before reaching a conclusion about its effectiveness.

Several types of psychotherapy (also called “talk therapy” or, in a less specific form, counseling) can help people with depression. Examples of evidence-based approaches specific to the treatment of depression include cognitive-behavioral therapy (CBT), interpersonal therapy (IPT), and problem-solving therapy. CBT can help an individual with depression change negative thinking and interpret the environment and interactions in a positive, realistic way. IPT is designed to help an individual understand and work through troubled relationships or major issues that may cause depression or make it worse.

Teenagers usually rely on parents, teachers, or other caregivers to recognize their suffering and get them the treatment they need. Many teens don't know where to go for mental health treatment or believe that treatment won't help. Others don't get help because they think depression symptoms may be just part of the typical stress of school or being a teen. Some teens worry about what other people will think if they seek mental health care.

## **Self-Directed Violence**

Self-directed violence (SDV) encompasses a range of violent behaviors, including acts of fatal and nonfatal suicidal behavior, and non-suicidal self-injury (i.e., behaviors where the intention is not to kill oneself, as in self-mutilation). Recognizing signs of self-directed violence and interventions to help people engaging in this behavior can save a life and help get them treatment.

**Non-suicidal self-injury** (NSSI), also referred to as self-harm, self-mutilation, or cutting, is a “deliberate, self-inflicted injury without suicidal intent or for socially sanctioned purposes (such as tattoos or piercings). NSSI is most often associated with ‘cutting’ but means of self-harm often also include scratching, punching, punching oneself, banging objects with the intention of injury, biting, tearing of the skin, or burning. The location of the injury may also be an indicator of the severity of the psychological disturbance. Injuries to the face, eye, jugular, or genitals may be more concerning. Although not a suicide attempt, NSSI is associated with suicide and can result in an accidental fatality (Whitlock, 2010).

The average age of the first NSSI is between 11 and 15 years old. The prevalence of at least one incident NSSI is estimated to be 12-37% in high school populations and 12 to 20% in late adulthood and early adulthood cohorts, with 6-7% of adolescents reported repetitive NSSI in the last year. Of those reporting repetitive incidents, 40% reported stopping the behavior within a year of starting, and the vast majority (79.8%) stopped within five years (Whitlock, 2010).

While we might presume that NSSI behavior is associated with mental illness, like depression and anxiety, that is not always the case. Forty-four percent of people that engage in common NSSI do not have any co-morbidity. This type of NSSI includes self-injurious behaviors that are (1) compulsive or ritualistic (like trichotillomania), (2) episodic or occasional, with no identification as a person that self-harms, (3) repetitive with a self-harming identity. Common NSSI can be mild, moderate, or severe, depending on the severity of the injuries (Whitlock, 2010).

The reasons for NSSI are psychological, social, and biological and often stem from a history of childhood adversity, comorbid psychological disorders, and emotional dysregulation. The psychological reasons are the most common and involve reducing psychological pain, expressing distress, and distracting oneself from other negative stimuli. Fewer teens report social reasons for NSSI, such as seeking attention or copying peers. Social factors, like peer

reinforcement of the behavior, can increase the likelihood of repetitive NSSI. Those reporting “getting a rush” or “feeling normal” from NSSI may have biological reasons for the behavior. These individuals may have chronically low levels of certain neurotransmitters in their brains. The neurochemical response to injury may bring these neurotransmitter levels to a more normal level and help them regulate emotions. This may be the reason that some people are dependent on NSSI (Whitlock, 2010).

The correlation between NSSI and suicide-related behaviors is well known, but the nature of that relationship is rather paradoxical. Moving from NSSI to suicide-related behaviors may appear to be a predictable progression in severity—without intervention, those engaged in NSSI may get worse and eventually become suicidal. However, experts agree that NSSI may actually help alleviate the distress that could lead to suicide-related behavior, at least temporarily. NSSI could be a tool for coping with distress and avoid suicide (Whitlock, 2010).

In 2017, suicide was the second leading cause of death for people aged 10–19. After a stable period from 2000 to 2007, suicide death rates for teens are now increasing. Distressing thoughts about killing oneself become most common at about age 15 (Berger, 2019) and can lead to a variety of suicide-related behaviors.

Suicide-related behaviors include the following:

- **Suicide:** Death caused by self-directed injurious behavior with any intent to die.
- **Suicide attempt:** A non-fatal self-directed potentially injurious behavior with any intent to die as a result of the behavior. A suicide attempt may or may not result in injury.
- **Suicidal ideation:** Thinking about, considering, or planning for suicide.

Suicide-related behavior is complicated and rarely the result of a single source of trauma or stress. Youth who are at increased risk for suicide-related behavior are dealing with a complex interaction

of multiple relationships (peer, family, or romantic), mental health, and school stressors. Often, people who engage in suicide-related behavior experience overwhelming feelings of helplessness and hopelessness. Involvement with bullying behavior is one stressor that may significantly contribute to feelings of helplessness and hopelessness that raise the risk of suicide.

Youth are at higher risk for suicide-related behaviors if they experienced violence, including child abuse, bullying, or sexual violence, and cannot cope with problems in healthy ways and solve problems peacefully. Teens with disabilities, learning differences, sexual/gender identity differences, or cultural differences are often most vulnerable to being bullied. Teens who report frequently bullying others are at high, long-term risk for suicide-related behavior. Youth who report both being bullied and bullying others (sometimes referred to as bully-victims) have the highest rates of negative mental health outcomes, including depression, anxiety, and thinking about suicide.

The behaviors listed below may be signs that someone is thinking about suicide.

- Talking about wanting to kill themselves or making a plan to kill themselves
- Talking about feeling empty, hopeless, or having no reason to live
- Talking about great guilt or shame
- Talking about feeling trapped or feeling that there are no solutions
- Feeling unbearable pain (emotional pain or physical pain)
- Talking about being a burden to others
- Using alcohol or drugs more often
- Acting anxious or agitated
- Withdrawing from family and friends
- Changing eating and/or sleeping habits
- Showing rage or talking about seeking revenge
- Taking great risks that could lead to death, such as driving

extremely fast

- Talking or thinking about death often
- Displaying extreme mood swings, suddenly changing from very sad to very calm/happy
- Giving away important possessions
- Saying goodbye to friends and family
- Putting affairs in order, making a will

If these warning signs apply to you or someone you know, get help as soon as possible, particularly if the behavior is new or has increased recently. Call the [National Suicide Prevention Lifeline \(Lifeline\)](#) at 1-800-273-TALK (8255), or text the Crisis Text Line (text HELLO to 741741). Both services are free and available 24 hours a day, seven days a week. The following recommendations are five action steps to help someone in emotional pain:

- ASK: “Are you thinking about killing yourself?” It’s not an easy question, but studies show that [asking at-risk individuals if they are suicidal](#) does not increase suicides or suicidal thoughts.
- KEEP THEM SAFE: Reducing a suicidal person’s access to highly lethal items or places is an important part of suicide prevention. While this is not always easy, asking if the at-risk person has a plan and removing or disabling the lethal means can make a difference.
- BE THERE: Listen carefully and learn what the individual is thinking and feeling. Research suggests [acknowledging and talking about](#) suicide may [reduce rather than increase](#) suicidal thoughts.
- HELP THEM CONNECT: Save the National Suicide Prevention Lifeline’s (1-800-273-TALK (8255)) and the Crisis Text Line’s number (741741) in your phone, so it’s there when you need it. You can also help make a connection with a trusted individual like a family member, friend, spiritual advisor, or mental health professional.

- STAY CONNECTED: [Staying in touch after a crisis](#) or after being discharged from care can make a difference. Studies have shown the number of suicide deaths goes down when someone follows up with the at-risk person.



**Figure 3.** Five action steps for helping someone in emotional pain.



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# Moral Development

## Theories of Moral Development

The founder of psychoanalysis, Freud (1962), proposed the existence of a tension between the needs of society and the individual. According to Freud, moral development proceeds when the individual's selfish desires are repressed and replaced by the values of important socializing agents in one's life (for instance, one's parents). A proponent of behaviorism, Skinner (1972) similarly focused on socialization as the primary force behind moral development. In contrast to Freud's notion of a struggle between internal and external forces, Skinner focused on the power of external forces (reinforcement contingencies) to shape an individual's development. While both Freud and Skinner focused on the external forces that bear on morality (parents in the case of Freud, and behavioral contingencies in the case of Skinner), Piaget (1965) focused on the individual's construction, construal, and interpretation of morality from a social-cognitive and social-emotional perspective.

Kohlberg (1963) expanded upon Piagetian notions of moral development. While they both viewed moral development as a result of a deliberate attempt to increase the coordination and integration of one's orientation to the world, Kohlberg provided a systematic 3-level, 6-stage sequence reflecting changes in moral judgment throughout the lifespan. Specifically, Kohlberg argued that development proceeds from a selfish desire to avoid punishment (personal), to a concern for group functioning (societal), to a concern for the consistent application of universal ethical principles (moral).

Turiel (1983) argued for a social domain approach to social cognition, delineating how individuals differentiate moral (fairness,

equality, justice), societal (conventions, group functioning, traditions), and psychological (personal, individual prerogative) concepts from early in development throughout the lifespan. Over the past 40 years, research findings have supported this model, demonstrating how children, adolescents, and adults differentiate moral rules from conventional rules, identify the personal domain as a nonregulated domain, and evaluate multifaceted (or complex) situations that involve more than one domain.

For the past 20 years, researchers have expanded the field of moral development, applying moral judgment, reasoning, and emotion attribution to topics such as prejudice, aggression, theory of mind, emotions, empathy, peer relationships, and parent-child interactions.

## Piaget's Theory of Moral Development

To understand adult morality, Piaget believed that it was necessary to study both how morality manifests in the child's world as well as the factors that contribute to the emergence of central moral concepts such as welfare, justice, and rights. By interviewing children, Piaget (1965) found that young children were focused on authority mandates and that with age, children become autonomous, evaluating actions from a set of independent principles of morality.

He developed two phases of moral development, one common among children and the other common among adults.

### Heteronomous Phase

The first is the Heteronomous Phase. This phase, more common among children, is characterized by the idea that rules come from

authority figures in one's life, such as parents, teachers, and God. It also involves the idea that rules are permanent no matter what. Thirdly, this phase of moral development includes the belief that "naughty" behavior must always be punished and that the punishment will be proportional. This absolutism in moral development is seen in children's play from the age of 5, where they exhibit a blind belief in the rules and ideas of right and wrong passed to them by their elders.

## Autonomous Phase

The second phase in Piaget's theory of moral development is referred to as the Autonomous Phase. This phase is more common after one has matured and is no longer a child. In this phase, people begin to view the intentions behind actions as more important than their consequences. For instance, if a person who is driving swerves in order to not hit a dog and then knocks over a road sign, adults are likely to be less angry at the person than if he or she had done it on purpose just for fun. Even though the outcome is the same, people are more forgiving because of the good intention of saving the dog. This phase also includes the idea that people have different morals and that morality is not necessarily universal. People in the Autonomous Phase also believe rules may be broken under certain circumstances. For instance, Rosa Parks broke the law by refusing to give up her seat on a bus, which was against the law but something many people consider moral nonetheless. In this phase, people also stop believing in the idea of immanent justice.

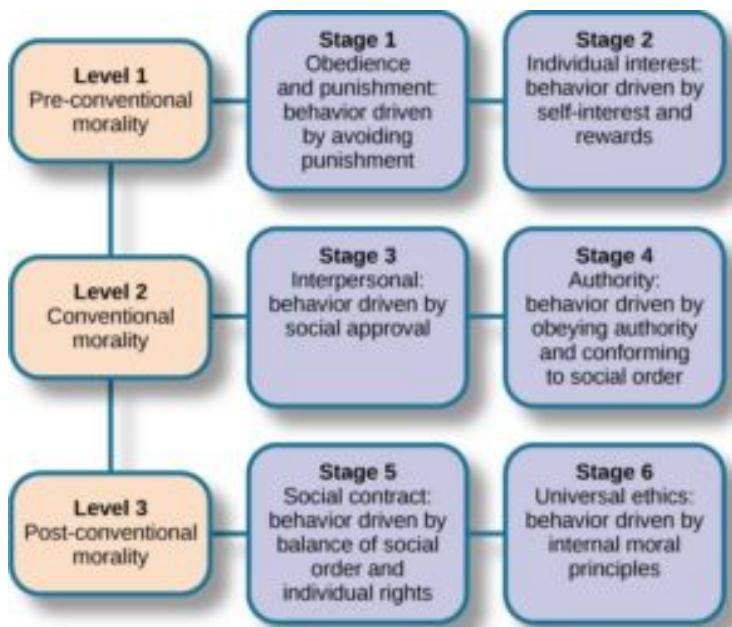
## Kohlberg's Theory of Moral Development

Psychologist Lawrence Kohlberg (1927–1987) extended upon the

foundation that Piaget built regarding moral and cognitive development. Kohlberg, like Piaget, was interested in moral reasoning. Moral reasoning does not necessarily equate to moral behavior. Holding a particular belief does not mean that our behavior will always be consistent with the belief. To develop this theory, Kohlberg posed moral dilemmas to people of all ages, and then he analyzed their answers to find evidence of their particular stage of moral development. After presenting people with this and various dilemmas, Kohlberg reviewed people's responses and placed them in different stages of moral reasoning. According to Kohlberg, an individual progresses from the capacity for preconventional morality (before age 9) to the capacity for conventional morality (early adolescence), and toward attaining post-conventional morality (once formal operational thought is attained), which only a few fully achieve.

## Moral Stages According to Kohlberg

Using a stage model similar to Piaget's, Kohlberg proposed three levels, with six stages, of moral development. Individuals experience the stages universally and in sequence as they form beliefs about justice. He named the levels simply preconventional, conventional, and postconventional.



**Figure 1.** Kohlberg identified three levels of moral reasoning: pre-conventional, conventional, and post-conventional: Each level is associated with increasingly complex stages of moral development.

## Preconventional: Obedience and Mutual Advantage

The preconventional level of moral development coincides approximately with the preschool period of life and with Piaget's preoperational period of thinking. At this age, the child is still relatively self-centered and insensitive to the moral effects of actions on others. The result is a somewhat short-sighted orientation to morality. Initially (Kohlberg's Stage 1), the child

adopts **ethics of obedience and punishment** —a sort of “morality of keeping out of trouble.” The rightness and wrongness of actions are determined by whether actions are rewarded or punished by authorities, such as parents or teachers. If helping yourself to a cookie brings affectionate smiles from adults, then taking the cookie is considered morally “good.” If it brings scolding instead, then it is morally “bad.” The child does not think about why an action might be praised or scolded; in fact, says Kohlberg, he would be incapable, at Stage 1, of considering the reasons even if adults offered them.

Eventually, the child learns not only to respond to positive consequences but also learns how to **produce** them by exchanging favors with others. The new ability creates Stage 2, **ethics of market exchange**. At this stage, the morally “good” action is one that favors not only the child but another person directly involved. A “bad” action is one that lacks this reciprocity. If trading the sandwich from your lunch for the cookies in your friend’s lunch is mutually agreeable, then the trade is morally good; otherwise, it is not. This perspective introduces a type of fairness into the child’s thinking for the first time. However, it still ignores the larger context of actions—the effects on people not present or directly involved. In Stage 2, for example, it would also be considered morally “good” to pay a classmate to do another student’s homework—or even to avoid bullying—provided that both parties regard the arrangement as being fair.

## Conventional: Conformity to Peers and Society

As children move into the school years, their lives expand to include a larger number and range of peers and (eventually) of the community as a whole. The change leads to **conventional morality**, which are beliefs based on what this larger array of people agree on—hence Kohlberg’s use of the term “conventional.” At first, in Stage 3, the child’s reference group are immediate peers, so Stage

3 is sometimes called the **ethics of peer opinion**. If peers believe, for example, that it is morally good to behave politely with as many people as possible, then the child is likely to agree with the group and to regard politeness as not merely an arbitrary social convention, but a moral “good.” This approach to moral belief is a bit more stable than the approach in Stage 2 because the child is taking into account the reactions not just of one other person, but of many. But it can still lead astray if the group settles on beliefs that adults consider morally wrong, like “Shoplifting for candy bars is fun and desirable.”

Eventually, as the child becomes a youth and the social world expands, even more, he or she acquires even larger numbers of peers and friends. He or she is, therefore, more likely to encounter disagreements about ethical issues and beliefs. Resolving the complexities lead to Stage 4, the **ethics of law and order**, in which the young person increasingly frames moral beliefs in terms of what the majority of society believes. Now, an action is morally good if it is legal or at least customarily approved by most people, including people whom the youth does not know personally. This attitude leads to an even more stable set of principles than in the previous stage, though it is still not immune from ethical mistakes. A community or society may agree, for example, that people of a certain race should be treated with deliberate disrespect, or that a factory owner is entitled to dump wastewater into a commonly shared lake or river. To develop ethical principles that reliably avoid mistakes like these require further stages of moral development.

## Postconventional: Social Contract and Universal Principles

As a person becomes able to think abstractly (or “formally,” in Piaget’s sense), ethical beliefs shift from acceptance of what the community **does** believe to the **process** by which community beliefs

are formed. The new focus constitutes Stage 5, the **ethics of social contract**. Now an action, belief, or practice is morally good if it has been created through fair, democratic processes that respect the rights of the people affected. Consider, for example, the laws in some areas that require motorcyclists to wear helmets. In what sense are the laws about this behavior ethical? Was it created by consulting with and gaining the consent of the relevant people? Were cyclists consulted, and did they give consent? Or how about doctors or the cyclists' families? Reasonable, thoughtful individuals disagree about how thoroughly and fairly these **consultation** processes should be. In focusing on the processes by which the law was created; however, individuals are thinking according to Stage 5, the ethics of social contract, regardless of the position they take about wearing helmets. In this sense, beliefs on both sides of a debate about an issue can sometimes be morally sound, even if they contradict each other.

Paying attention to due process certainly seems like it should help to avoid mindless conformity to conventional moral beliefs. As an ethical strategy, though, it too can sometimes fail. The problem is that an ethics of social contract places more faith in the democratic process than the process sometimes deserves, and does not pay enough attention to the content of what gets decided. In principle (and occasionally in practice), a society could decide democratically to kill off every member of a racial minority, but would deciding this by due process make it ethical? The realization that ethical means can sometimes serve unethical ends leads some individuals toward Stage 6, the **ethics of self-chosen, universal principles**. At this final stage, the morally good action is based on personally held principles that apply both to the person's immediate life as well as to the larger community and society. The universal principles may include a belief in democratic due process (Stage 5 ethics), but also other principles, such as a belief in the dignity of all human life or the sacredness of the natural environment. At Stage 6, the universal principles will guide a person's beliefs even if the principles mean

occasionally disagreeing with what is customary (Stage 4) or even with what is legal (Stage 5).



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**Video 1.** Kohlberg's Six Stages of Moral Development explains the stages of moral reasoning and applies it to an example scenario.



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## Kohlberg and the Heinz Dilemma

The Heinz dilemma is a frequently used example to help us understand Kohlberg's stages of moral development. How would you answer this dilemma? Kohlberg was not interested in whether you answer yes or no to the dilemma: Instead, he was interested in the reasoning behind your answer.

*In Europe, a woman was near death from a special kind of cancer. There was one drug that the doctors thought might save her. It was*

*a form of radium that a druggist in the same town had recently discovered. The drug was expensive to make, but the druggist was charging ten times what the drug cost him to make. He paid \$200 for the radium and charged \$2,000 for a small dose of the drug. The sick woman's husband, Heinz, went to everyone he knew to borrow the money, but he could only get together about \$1,000, which is half of what it cost. He told the druggist that his wife was dying and asked him to sell it cheaper or let him pay later. But the druggist said: "No, I discovered the drug and I'm going to make money from it." So Heinz got desperate and broke into the man's store to steal the drug for his wife. Should the husband have done that? (Kohlberg, 1969, p. 379)*

From a theoretical point of view, it is not important what the participant thinks that Heinz should do. Kohlberg's theory holds that the justification the participant offers is what is significant, the form of their response. Below are some of many examples of possible arguments that belong to the six stages:

- Stage one (obedience): Heinz should not steal the medicine because he will consequently be put in prison, which will mean he is a bad person. OR Heinz should steal the medicine because it is only worth \$200 and not how much the druggist wanted for it; Heinz had even offered to pay for it and was not stealing anything else.
- Stage two (self-interest): Heinz should steal the medicine because he will be much happier if he saves his wife, even if he will have to serve a prison sentence. OR Heinz should not steal the medicine because prison is an awful place, and he would more likely languish in a jail cell than over his wife's death.
- Stage three (conformity): Heinz should steal the medicine because his wife expects it; he wants to be a good husband. OR Heinz should not steal the drug because stealing is bad, and he is not a criminal; he has tried to do everything he can without breaking the law, you cannot blame him.
- Stage four (law-and-order): Heinz should not steal the medicine because the law prohibits stealing, making it illegal.

OR Heinz should steal the drug for his wife but also take the prescribed punishment for the crime as well as paying the druggist what he is owed. Criminals cannot just run around without regard for the law; actions have consequences.

- Stage five (social contract orientation): Heinz should steal the medicine because everyone has a right to choose life, regardless of the law. OR Heinz should not steal the medicine because the scientist has a right to fair compensation. Even if his wife is sick, it does not make his actions right.
- Stage six (universal human ethics): Heinz should steal the medicine because saving a human life is a more fundamental value than the property rights of another person. OR Heinz should not steal the medicine because others may need medicine just as badly, and their lives are equally significant.

### *Think It Over*

Consider your decision-making processes. What guides your decisions? Are you primarily concerned with your personal well-being? Do you make choices based on what other people will think about your decision? Or are you guided by other principles? To what extent is this approach guided by your culture?

Kohlberg continued to explore his theory after he published his research. He postulated that there could be other stages and that there could be transitions into each stage. One thing that Kohlberg never fully addressed was his use of nearly all-male samples. Men and women tend to have very different styles of moral decision-making; men tend to be very justice-oriented, while women tend to be more compassion-oriented. In terms of Kohlberg's stages,

women tend to be in lower stages than men because of their compassion orientation.

Carol Gilligan was one of Kohlberg's research assistants. She believed that Kohlberg's theory was inherently biased against women. Gilligan suggests that the biggest reason that there is a gender bias in Kohlberg's theory is that males tend to focus on logic and rules. In contrast, women focus on caring for others and relationships. She suggests, then, that in order to truly measure women's moral development, it was necessary to create a measure specifically for women. Gilligan was clear that she did not believe neither male nor female moral development was better, but rather that they were equally important.

## Gilligan's Morality of Care

As logical as they sound, Kohlberg's stages of moral justice are not sufficient for understanding the development of moral beliefs. To see why, suppose that you have a student who asks for an extension of the deadline for an assignment. The justice orientation of Kohlberg's theory would prompt you to consider issues of whether granting the request is fair. Would the late student be able to put more effort into the assignment than other students? Would the extension place a difficult demand on you, since you would have less time to mark the assignments? These are important considerations related to the rights of the students and the teacher. In addition to these, however, are considerations having to do with the responsibilities that you and the requesting student have for each other and others. Does the student have a valid personal reason (illness, death in the family, etc.) for the assignment being late? Will the assignment lose its educational value if the student has to turn it in prematurely? These latter questions have less to do with fairness and rights and more to do with taking care of and responsibility for

students. They require a framework different from Kohlberg's to be understood fully.

One such framework has been developed by Carol Gilligan, whose ideas center on **morality of care**, or system of beliefs about human responsibilities, care, and consideration for others. Gilligan proposed three moral positions that represent different extents or breadth of ethical care. Unlike Kohlberg or Piaget, she does not claim that the positions form a strictly developmental sequence, but only that they can be ranked hierarchically according to their depth or subtlety. In this respect, her theory is "semi-developmental" in a way similar to Maslow's theory of motivation (Brown & Gilligan, 1992; Taylor, Gilligan, & Sullivan, 1995). Table 9.1 summarizes the three moral positions from Gilligan's theory.

**Table 1.** Positions of moral development according to Gilligan

Moral position	Definition of what is morally good
Position 1: Survival orientation	Action that considers one's personal needs only
Position 2: Conventional care	Action that considers others' needs or preferences, but not one's own
Position 3: Integrated care	Action that attempts to coordinate one's own personal needs with those of others

## Position 1: Caring as Survival

The most basic kind of caring is a **survival orientation**, in which a person is concerned primarily with his or her welfare. If a teenage girl with this ethical position is wondering whether to get an abortion, for example, she will be concerned entirely with the effects of the abortion on herself. The morally good choice will be whatever creates the least stress for herself, and that disrupts her own life the least. Responsibilities to others (the baby, the father, or her family) play little or no part in her thinking.

As a moral position, a survival orientation is obviously not satisfactory for classrooms on a widespread scale. If every student only looked out for himself or herself, classroom life might become rather unpleasant! Nonetheless, there are situations in which focusing primarily on yourself is both a sign of good mental health and relevant to teachers. For a child who has been bullied at school or sexually abused at home, for example, it is both healthy and morally desirable to speak out about how bullying or abuse has affected the victim. Doing so means essentially looking out for the victim's own needs at the expense of others' needs, including the bully's or abuser's. Speaking out, in this case, requires a survival orientation and is healthy because the child is taking care of herself.

## Position 2: Conventional Caring

A more subtle moral position is **caring for others**, in which a person is concerned about others' happiness and welfare, and about reconciling or integrating others' needs where they conflict with each other. In considering an abortion, for example, the teenager at this position would think primarily about what other people prefer. Do the father, her parents, and/or her doctor want her to keep the child? The morally good choice becomes whatever will please others the best. This position is more demanding than Position 1, ethically, and intellectually, because it requires coordinating several persons' needs and values. Nevertheless, it is often morally insufficient because it ignores one crucial person: the self.

In classrooms, students who operate from Position 2 can be very desirable in some ways; they can be eager to please, considerate, and good at fitting in and at working cooperatively with others. Because these qualities are usually welcome in a busy classroom, teachers can be tempted to reward students for developing and using them. The problem with rewarding Position 2 ethics, however, is that doing so neglects the student's development—his or her own

academic and personal goals or values. Sooner or later, personal goals, values, and identity need attention and care, and educators have a responsibility for assisting students in discovering and clarifying them.

## Position 3: Integrated Caring

The most developed form of moral caring in Gilligan's model is **integrated caring**, the coordination of personal needs and values with those of others. Now the morally good choice takes account of everyone, *including yourself*, not everyone except yourself. In considering an abortion, a woman at Position 3 would think not only about the consequences for the father, the unborn child, and her family but also about the consequences for herself. How would bearing a child affect her own needs, values, and plans? This perspective leads to moral beliefs that are more comprehensive but ironically are also more prone to dilemmas because the widest possible range of individuals is being considered.

In classrooms, integrated caring is most likely to surface whenever teachers give students wide, sustained freedom to make choices. If students have little flexibility in their actions, there is little room for considering *anyone's* needs or values, whether their own or others'. If the teacher says simply: "Do the homework on page 50 and turn it in tomorrow morning," then the main issue becomes compliance, not a moral choice. Suppose instead that she says something like this: "Over the next two months, figure out an inquiry project about the use of water resources in our town. Organize it any way you want—talk to people, read widely about it, and share it with the class in a way that all of us, including yourself, will find meaningful." An assignment like this poses moral challenges that are not only educational but also moral since it requires students to make value judgments. Why? For one thing, students must decide what aspect of the topic matters to them.

Such a decision is partly a matter of personal values. For another thing, students have to consider how to make the topic meaningful or important to others in the class. Third, because the timeline for completion is relatively far in the future, students may have to weigh personal priorities (like spending time with friends or family) against educational priorities (working on the assignment a bit more on the weekend). As you might suspect, some students might have trouble making good choices when given this sort of freedom—and their teachers might, therefore, be cautious about giving such an assignment. Nevertheless, the difficulties in making choices are part of Gilligan's point: integrated caring is indeed more demanding than caring based only on survival or on consideration of others. Not all students may be ready for it.



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**Video 2.** Carol Gilligan's Theory of Moral Development explains the difference in moral development from the care perspective that females often take in society.



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# The Development of Moral Reasoning

## The Foundations of Moral Reasoning in Infancy

The work of Lawrence Kohlberg was an important start to modern research on moral development and reasoning. However, Kohlberg relied on a specific method: he presented moral dilemmas and asked children and adults to explain what they would do and—more importantly—why they would act in that particular way. Kohlberg found that children tended to make choices based on avoiding punishment and gaining praise. But children are at a disadvantage compared to adults when they must rely on language to convey their inner thoughts and emotional reactions, so what they say may not adequately capture the complexity of their thinking.



Starting in the 1980s, developmental psychologists created new methods for studying the thought processes of children and infants long before they acquire language. One particularly effective method is to present children with puppet shows to grab their attention and then record nonverbal behaviors, such as looking and choosing, to identify children's preferences or interests.

A research group at Yale University has been using the puppet show technique to study the moral thinking of children for much of the past decade. What they have discovered has given us a glimpse of surprisingly complex thought processes that may serve as the foundation of moral reasoning.

## EXPERIMENT 1: Do children prefer givers or takers?

In 2011, J. Kiley Hamlin and Karen Wynn put on puppet shows for very young children: 5-month-old infants. The infants watch a puppet bouncing a ball. We'll call this puppet the "bouncer puppet." Two other puppets stand at the back of the stage, one to left and the other to the right. After a few bounces, the ball gets away from the bouncer puppet and rolls to the side of the stage toward one of the other puppets. This puppet grabs the ball. The bouncer puppet turns toward the ball and opens its arms as if asking for the ball back.

This is where the puppet show gets interesting (for a young infant, anyway!). Sometimes, the puppet with the ball rolls it back to the bouncer puppet. This is the "giver puppet" condition. Other times, the infant sees a different ending. As the bouncer puppet opens its arms to ask for the ball, the puppet with the ball turns and runs away with it. This is the "taker puppet" condition. Although the giver and taker puppets are two copies of the same animal doll, they are easily distinguished because they are wearing different colored shirts, and color is a quality that infants easily distinguish and remember. It looks like this:



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### Video 3. Experiment 1 Demonstration.

Each infant sees both conditions: the giver condition and the

taker condition. Just after the end of the second puppet show (i.e., the second condition), a new researcher, who doesn't know which puppet was the giver and which was the taker, sits in front of the infant with the giver puppet in one hand and the taker puppet in the other. The 5-month-old infants are allowed to reach for a puppet. The one the child reaches out to touch is considered the preferred puppet. The children preferred the giver puppet.

But this isn't the end of the story...

## EXPERIMENT 2: Do infants judge others based on their behavior?

Dr. Hamlin and her colleagues wondered if infants might consider more factors than nice or hurtful when making a judgment. Adults generally prefer situations where good things happen to someone rather than something harmful. However, when adults see someone do something bad, they may find satisfaction in seeing that person punished by having something bad happen to him or her. In a nutshell: good things should happen to good people and bad things should happen to bad people. This is what is called "just world" thinking, where people get what they deserve.

In this second study, Hamlin's team tested 8-month-old infants and repeated the procedures from Experiment 1 with a major addition. First, they saw the bouncer puppet either helping or hindering another puppet—setting the conditions for the bouncer puppet to be seen as good or bad. Then, they watched the same ball-bouncing puppet show. Here is what happened:

- Puppet Show #1: A puppet is trying to open a box, but cannot quite succeed. Two puppets stand in the background. For some infants, as the first puppet struggles to open the box, one of the puppets in the back comes forward and helps to open the box. This is the helper puppet. For other children, as the first

puppet struggles, a puppet comes from the back and jumps on the box, slamming it shut. This is the hinderer puppet. Each infant sees only a helper or a hinderer—not both. Here is a video showing the helper puppet situation:



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#### **Video 4. Experiment 2 Demonstration.**

- Puppet Show #2: Just after the infants have watched the first show, the second puppet show begins. This is the show that you read about in Experiment 1. The only thing that is new is that the bouncer puppet, the one that loses the ball, is either the helper puppet from Puppet Show #1 or the hinderer puppet from Puppet Show #1. Each infant sees this puppet lose the ball to a giver, who returns the ball, and to a taker, who runs off with the ball.

This video demonstrates show #2. The elephant in the yellow shirt from the first show is now bouncing a ball. After dropping the ball, the moose in the green shirt gives it back to him, while the moose in the red shirt takes it away.



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### **Video 5. Experiment 2 Demonstration.**



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### **Video 6. Experiment 2 Demonstration.**



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So far we have concluded that even young babies prefer the “nice” puppet and show a preference for a puppet who helps another puppet. But this only happened when the bouncer puppet was the helper from the first puppet show. What if, instead of the nice elephant in the yellow shirt bouncing the ball, the elephant in the red shirt (the one who jumped on the duck’s box, remember?)

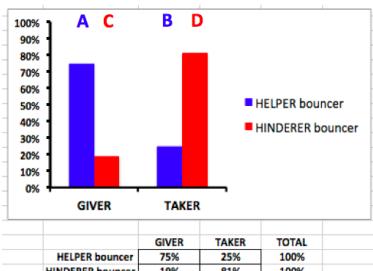
was the one bouncing the ball? Imagine the same scenario: the mean elephant in the red shirt is bouncing the ball, he drops it, and the moose in the green shirt gives it to him or the moose in the red shirt takes it away.



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So now things are getting interesting, right? Do 8-month old infants understand the concepts of revenge or justice? We must always be careful when labeling behaviors of children (or animals) with characteristics we use for human adults. In the description above, we have talked of “nice puppets” and “mean puppets” and used other loaded terms. It is tempting to interpret the choices of the 8-month-olds as a kind of revenge motive: the bad guy gets its just desserts (the hinderer puppet has its ball stolen) and the good guy gets its just reward (the helper puppet is itself helped by the giver). Maybe that is what is going on, but we encourage you to consider



**Figure 2.** This bar graph shows the results of Experiment 2 for 8-month-old infants. The blue bars show the preferences for the infants who saw the helper from the first show as the bouncer in the second. Bar A is taller than Bar B, showing the greater choice of the giver than the taker puppet. The red bars show the reverse effect. The babies strongly preferred the taker (Bar C) to the giver (Bar D) when the puppet bouncing the ball had been the hinderer, who jumped on the box in the first show.

these very sophisticated types of thinking as merely one hypothesis. Remember the facts—what did the puppets do and what choices did the infants make?—without committing yourself to the adult-level interpretation.

The researchers believe that this type of thinking, which is remarkably sophisticated, takes some cognitive development. They tested 5-month-olds using the same procedures, and the results with these younger infants were different. The 5-month-olds showed an overwhelming preference for the giver puppets, regardless of who was bouncing the ball. Maybe it is too complex for them to understand that the bouncer puppet in the second show was the same puppet from the first show. Or perhaps their memory processes are too fragile to hold onto information for that length of time. Maybe the revenge motive is too advanced. Or maybe something else is going on. What is clear is that 5-month-olds and 8-month-olds respond differently to the situations tested in the second experiment.

## CONCLUSIONS

This exercise started with a reminder that Lawrence Kohlberg found that children went through a long developmental process in their moral reasoning. Based on children's reasoning aloud about moral dilemmas, Kohlberg concluded that children younger than about 8 or 9 years of age make moral decisions based on avoiding punishment and receiving praise. Neither his research nor that of most others in the 1970s and 1980s suggested that young children would use multiple sources of information and judgments about the meaning of behaviors in their thinking about what sorts of behaviors are better or worse.

If Dr. Hamlin and her colleagues are right, then infants are much more sophisticated and complex in their thinking about the world than these earlier researchers thought. In Dr. Hamlin's view, infants

like good things to happen to good puppets and people, and bad things to happen to bad puppets and people. Experiment 3 suggests that they make judgments about more than helping and harming behavior. They prefer others who are like them (green beans vs. graham crackers) and they don't mind if others who are not like them have unpleasant experiences.

The research we have been reviewing is just part of an impressive set of research on infant thinking. The ideas that the researchers have developed are intriguing and they are consistent with the modern view of the infant as an active, creative thinker. At the same time, remember that science doesn't rest on an early set of explanations based on a small set of complicated experiments. Science pushes beyond what we currently know and believe. This starts with curiosity on your part. Are the experimenters correct in interpreting reaching behavior as showing a preference or is something else going on? Do infants really prefer prosocial behaviors to antisocial behaviors, or is there some other explanation for their preferences? How else could we test the moral judgments of infants without using puppet shows? The next generation of creative scientists will push beyond what we know now, with new research methods and new ideas about the mind.

We'll give Dr. Hamlin the last word. Here is part of her conclusion section from an article that summarizes some of the research we have been studying: "In sum, recent developmental research supports the claim that at least some aspects of human morality are innate...Indeed, these early tendencies are far from shallow, mechanical predispositions to behave well or knee-jerk reactions to particular states of the world. Infant moral inclinations are sophisticated, flexible, and surprisingly consistent with adults' moral inclinations, incorporating aspects of moral goodness, evaluation, and retaliation." (Hamlin, 2013, p. 191)

## Moral Reasoning in Childhood

**Conscience** consists of the cognitive, emotional, and social influences that cause young children to create and act consistently with internal standards of conduct (Kochanska, 2002). It emerges from young children's experiences with parents, particularly in the development of a mutually responsive relationship that motivates young children to respond constructively to the parents' requests and expectations. Biologically based temperament is involved, as some children are temperamentally more capable of motivated self-regulation (a quality called effortful control) than are others, while some children are more prone to the fear and anxiety that parental disapproval can evoke. The development of conscience is influenced by having a good fit between the child's temperamental qualities and how parents communicate and reinforce behavioral expectations.

Conscience development also expands as young children begin to represent moral values and think of themselves as moral beings. By the end of the preschool years, for example, young children develop a "moral self" by which they think of themselves as people who want to do the right thing, who feel badly after misbehaving, and who feel uncomfortable when others misbehave. In the development of conscience, young children become more socially and emotionally competent in a manner that provides a foundation for later moral conduct (Thompson, 2012).

## Moral Reasoning in Adolescence

As adolescents become increasingly independent, they also develop more nuanced thinking about morality, or what is right or wrong. As adolescents' cognitive, emotional, and social development continue to mature, their understanding of morality expands, and their

behavior becomes more closely aligned with their values and beliefs. Therefore, moral development describes the evolution of these guiding principles and is demonstrated by the ability to apply these guidelines in daily life. Understanding moral development is important in this stage, where individuals make so many important decisions and gain more and more legal responsibility.

Adolescents are receptive to their culture, to the models they see at home, in school, and in the mass media. These observations influence moral reasoning and moral behavior. When children are younger, their family, culture, and religion greatly influence their moral decision-making. During the early adolescent period, peers have a much greater influence. Peer pressure can exert a powerful influence because friends play a more significant role in teens' lives.

Furthermore, the new ability to think abstractly enables youth to recognize that rules are simply created by other people. As a result, teens begin to question the absolute authority of parents, schools, government, and other traditional institutions (Vera-Estay, Dooley, & Beauchamp, 2014). By late adolescence, most teens are less rebellious as they have begun to establish their own identity, their own belief system, and their place in the world.

Unfortunately, some adolescents have life experiences that may interfere with their moral development. Traumatic experiences may cause them to view the world as unjust and unfair. Additionally, social learning also impacts moral development. Adolescents may have observed the adults in their lives, making immoral decisions that disregarded the rights and welfare of others, leading these youth to develop beliefs and values that are contrary to the rest of society. That being said, adults have opportunities to support moral development by modeling the moral character that we want to see in our children. Parents are particularly important because they are generally the original source of moral guidance. Authoritative parenting facilitates children's moral growth better than other parenting styles, and one of the most influential things a parent can do is to encourage the right kind of peer relations (McDevitt & Ormrod, 2004). While parents may find this process of moral

development difficult or challenging, it is important to remember that this developmental step is essential to their children's well-being and ultimate success in life.

As mentioned previously, Lawrence Kohlberg (1984) argued that moral development moves through a series of stages, and reasoning about morality becomes increasingly complex (somewhat in line with increasing cognitive skills, as per Piaget's stages of cognitive development). In early adolescence, young people begin to care about how situational outcomes impact others and want to please and be accepted (conventional morality). At this developmental phase, people are able to value the good that can be derived from holding to social norms in the form of laws or less formalized rules. From adolescence and beyond, adolescents begin to employ abstract reasoning to justify behaviors. Moral behavior is based on self-chosen ethical principles that are generally comprehensive and universal, such as justice, dignity, and equality, which is postconventional morality.

## Influences on Moral Development

Like most aspects of development, influencing factors are multifaceted. Moral development is strongly influenced by interpersonal factors, such as family, peers, and culture. Intrapersonal factors also impact moral development, such as cognitive changes, emotions, and even neurodevelopment.

### Interpersonal Influences

Children's interactions with caregivers and peers have been shown to influence their development of moral understanding and behavior. Researchers have addressed the influence of interpersonal

interactions on children's moral development from two primary perspectives: socialization/internalization (Grusec & Goodnow, 1994; Kochanska & Askan, 1995; Kochanska, Askan, & Koenig, 1995) and social domain theory (Turiel, 1983; Smetana 2006). Research from the social domain theory perspective focuses on how children actively distinguish moral from conventional behavior based in part based on the responses of parents, teachers, and peers (Smetana, 1997). Adults tend to respond to children's moral transgressions (e.g., hitting or stealing) by drawing the child's attention to the effect of his or her action on others and doing so consistently across various contexts.

In contrast, adults are more likely to respond to children's conventional misdeeds (e.g., wearing a hat in the classroom, eating spaghetti with fingers) by reminding children about specific rules and doing so only in certain contexts (e.g., at school but not at home) (Smetana, 1984; 1985). Peers respond mainly to moral but not conventional transgressions and demonstrate emotional distress (e.g., crying or yelling) when they are the victim of moral but not conventional transgressions (Smetana, 1984). Children then use these different cues to help determine whether behaviors are morally or conventionally wrong.

Research from a socialization/internalization perspective focuses on how adults pass down standards of behavior to children through parenting techniques and why children do or do not internalize those values (Grusec & Goodnow, 1994; Kochanska & Askan, 1995). From this perspective, moral development involves children's increasing compliance with and internalization of adult rules, requests, and standards of behavior. Using these definitions, researchers find that parenting behaviors vary in the extent to which they encourage children's internalization of values and that these effects depend partially on child attributes, such as age and temperament (Grusec & Goodnow, 1994). For instance, Kochanska (1997) showed that gentle parental discipline best promotes conscience development in temperamentally fearful children. However, the same parental responsiveness and a mutually

responsive parent-child orientation best promote conscience development in temperamentally fearless children. These parental influences exert their effects through multiple pathways, including increasing children's experience of moral emotions (e.g., guilt, empathy) and their self-identification as moral individuals (Kochanska, 2010).

## Moral Development in the Family

In the formation of children's morals, no outside influence is greater than that of the family. Through punishment, reinforcement, and both direct and indirect teaching, families instill morals in children and help them to develop beliefs that reflect the values of their culture. Although families' contributions to children's moral development are broad, there are particular ways in which morals are most effectively conveyed and learned.

### Justice

Families establish rules for right and wrong behavior, which are maintained through positive reinforcement and punishment. Positive reinforcement is the reward for good behavior and helps children learn that certain actions are encouraged above others. Punishment, by contrast, helps to deter children from engaging in bad behaviors, and from an early age helps children to understand that actions have consequences. This system additionally helps children to make decisions about how to act, as they begin to consider the outcomes of their behavior.

## Fairness

The notion of what is fair is one of the central moral lessons that children learn in the family context. Families set boundaries on the distribution of resources, such as food and living spaces, and allow members different privileges based on age, gender, and employment. The way in which a family determines what is fair affects children's development of ideas about rights and entitlements, and also influences their notions of sharing, reciprocity, and respect.

## Personal Balance

Through understanding principles of fairness, justice, and social responsibilities, children learn to find a balance between their own needs and wants and the interests of the greater social environment. By placing limits on their desires, children benefit from a greater sense of love, security, and shared identity. At the same time, this connectedness helps children to refine their own moral system by providing them with a reference for understanding right and wrong.

## Social Roles

In the family environment, children come to consider their actions not only in terms of justice but also in terms of emotional needs. Children learn the value of social support from their families and develop motivations based on kindness, generosity, and empathy, rather than on only personal needs and desires. By learning to care for the interests and well-being of their family, children develop concern for society as a whole.

## Morality and Culture

The role of culture on moral development is an important topic that raises fundamental questions about what is universal and what is culturally specific regarding morality and moral development. Many research traditions have examined this question, with social-cognitive and structural-developmental positions theorizing that morality has a universal requirement to it, drawing from moral philosophy. The expectation is that if morality exists, it has to do with those values that are generalizable across groups and cultures. Alternatively, relativistic cultural positions have been put forth mostly by socialization theories that focus on how cultures transmit values rather than what values are applied across groups and individuals.

As an example of some of the debates, Shweder, Mahapatra, and Miller (1987) argued for moral relativism or the notion that different cultures defined the boundaries of morality differently. In contrast, Turiel and Perkins (2004) argued for the universality of morality, focusing largely on evidence throughout the history of resistance movements that fight for justice through the affirmation of individual self-determination rights. In an update on the debate between moral relativism and moral universality, Miller (2006) provides a thoughtful review of the cultural variability of moral priorities. Miller argues that rather than variability in what individuals consider moral (fairness, justice, rights), there is cultural variability in the priority given to moral considerations (e.g., the importance of prosocial helping). Wainryb (2006), in contrast, reviews extensive literature that has demonstrated that children in diverse cultures such as the U.S., India, China, Turkey, and Brazil share a pervasive view about upholding fairness and the wrongfulness of inflicting harm on others. Cultures vary in terms of conventions and customs, but not principles of fairness, which appear to emerge very early in development, before socialization influences. Wainryb (1991; 1993) shows that many apparent cultural

differences in moral judgments are actually due to different informational assumptions or beliefs about the way the world works. When people hold different beliefs about the effects of actions or the status of different groups of people, their judgments about the harmfulness or fairness of behaviors often differ, even when they are applying the same moral principles.

Another powerful socializing mechanism by which values are transmitted is religion, which is for many inextricably linked to cultural identity. Nucci and Turiel (1993) assessed individuals' reactions to dictates from God, and the distinctions in their reactions to God's moral (e.g., stealing) and conventional (e.g., day of worship) dictates. One explicit manner in which societies can socialize individuals is through moral education. Solomon and colleagues (1988) present evidence from a study that integrated both direct instruction and guided reflection approaches to moral development, with evidence for resultant increases in spontaneous prosocial behavior. Finally, studies of moral development and cultural issues cover many subtopics. For instance, a recent review of studies examining social exclusion identifies cultural similarities in the evaluation of exclusion across a range of societies and cultures (Hitti, Mulvey & Killen, 2011).

## Intrapersonal Influences

Moral questions tend to be emotionally charged issues that evoke strong affective responses. Consequently, emotions likely play an important role in moral development. However, there is currently little consensus among theorists on how emotions influence moral development. Psychoanalytic theory, founded by Freud, emphasizes the role of guilt in repressing primal drives. Research on prosocial behavior has focused on how emotions motivate individuals to engage in moral or altruistic acts. Social-cognitive development theories have recently begun to examine how emotions influence

moral judgments. Intuitionist theorists assert that moral judgments can be reduced to immediate, instinctive emotional responses elicited by moral dilemmas.

Research on socioemotional development and prosocial development has identified several “moral emotions,” which are believed to motivate moral behavior and influence moral development (Eisenberg, 2000, for a review). The primary emotions consistently linked with moral development are guilt, shame, empathy, and sympathy. Guilt has been defined as “an agitation-based emotion or painful feeling of regret that is aroused when the actor causes, anticipates causing or is associated with an aversive event” (Fergusen & Stegge, 1998). Shame is often used synonymously with guilt but implies a more passive and dejected response to a perceived wrong. Guilt and shame are considered “self-conscious” emotions because they are of primary importance to an individual’s self-evaluation.

In contrast to guilt and shame, empathy and sympathy are considered other-oriented moral emotions. Empathy is commonly defined as an affective response produced by the apprehension or comprehension of another’s emotional state, which mirrors the other’s affective state. Similarly, sympathy is defined as an emotional response produced by the apprehension or comprehension of another’s emotional state, which does not mirror the other’s affect but instead causes one to express concern or sorrow for the other (Eisenberg, 2000).

The relation between moral action and moral emotions has been extensively researched. Very young children have been found to express feelings of care, and empathy towards others, showing concerns for other’s well-being (Eisenberg, Spinard, & Sadovsky, 2006). Research has consistently demonstrated that when empathy is induced in an individual, he or she is more likely to engage in subsequent prosocial behavior (Batson 1998; Eisenberg, 200 for review). Additionally, other research has examined emotions of shame and guilt concerning children’s empathetic and prosocial behavior (Zahn-Waxler & Robinson, 1995).

While emotions serve as information for children in their interpretations about the moral consequences of acts, the role of emotions in children's moral judgments has only recently been investigated. Some approaches to studying emotions in moral judgments come from the perspective that emotions are automatic intuitions that define morality (Greene, 2001; Haidt, 2001). Other approaches emphasize the role of emotions as evaluative feedback that help children interpret acts and consequences (Turiel & Killen, 2010). Research has shown that children attribute different emotional outcomes to actors involved in moral transgressions than those involved in conventional transgressions (Arsenio, 1988; Arsenio & Fleiss, 1996). Emotions may help individuals prioritize among different information and possibilities and reduce information processing demands in order to narrow the scope of the reasoning process (Lemerise & Arsenio, 2000). In addition, Malti, Gummerum, Keller, and Buchmann (2009), found individual differences in how children attribute emotions to victims and victimizers.

### **Forming a Sense of Rights and Responsibilities**

When it comes to schooling and teaching, moral choices are not restricted to occasional dramatic incidents but are woven into almost every aspect of classroom life. Imagine this simple example. Suppose that you are teaching, reading to a small group of second-graders, and the students are taking turns reading a story out loud. Should you give every student the same amount of time to read, even though some might benefit from having additional time? Or should you give more time to the students who need extra help, even if doing so bores classmates and deprives others of equal shares of "floor time"? Which option is fairer, and which is more considerate? Simple dilemmas like this happen every day at all grade levels simply because students are diverse, and because class time and a teacher's energy are finite.

Embedded in this rather ordinary example are moral themes about fairness or justice, on the one hand, and about consideration or care on the other. It is important to keep both themes in mind

when thinking about how students develop beliefs about right or wrong. A **morality of justice** is about human rights—or, more specifically, about respect for fairness, impartiality, equality, and individuals' independence. A **morality of care**, on the other hand, is about human responsibilities—more specifically, about caring for others, showing consideration for individuals' needs, and interdependence among individuals. Students and teachers need both forms of morality. In the next sections, therefore, we explain a major example of each type of developmental theory, beginning with the morality of justice.

## Character Development: Integrating Ethical Understanding, Care, and Action

The theories described so far all offer frameworks for understanding how children grow into youth and adults. Those by Maslow, Kohlberg, and Gilligan are more specific than the one by Erikson in that they focus on the development of understanding about ethics. From a teacher's point of view, though, the theories are all limited in two ways. One problem is that they focus primarily on cognition—on what children *think* about ethical issues—more than on emotions and actions. The other is that they say little about how to encourage ethical development. Encouragement is part of teachers' jobs, and doing it well requires understanding not only what students know about ethics, but also how they feel about it and what ethical actions they are prepared to take.

Many educators have recognized the need for children to be guided in the development of ethics and morals, and a number of them have, therefore, developed practical programs that integrate ethical understanding, care, and action. As a group, the programs are often called **character education**. However, individual programs have a variety of specific names (for example, moral dilemma education, integrative ethical education, social competence

education, and many more). Details of the programs vary, but they all combine a focus on ethical knowledge with attention to ethical feelings and actions (Elkind & Sweet, 2004; Berkowitz & Bier, 2006; Narvaez, 2010). Character education programs go well beyond just teaching students to obey ethical rules, such as “Always tell the whole truth” or “Always do what the teacher tells you to do.” Such rules require very little thinking on the part of the student, and there are usually occasions in which a rule that is supposedly universal needs to be modified, “bent,” or even disobeyed. (For example, if telling the whole truth might hurt someone’s feelings, it might sometimes be more considerate—and thus more ethical—to soften the truth a bit, or even to say nothing at all.)

Instead, character education is about inviting students to think about the broad questions of his or her life, such as “What kind of person should I be?” or “How should I live my life?” Thoughtful answers to such broad questions help to answer a host of more specific questions that have ethical implications. For example, “Should I listen to the teacher right now, even if she is a bit boring, or just tune out?” or “Should I offer to help my friend with the homework she is struggling with, or hold back, so that learns to do it herself?” Most of the time, there is not enough time to reason about questions like these deliberately or consciously. Responses have to become intuitive, automatic, and **embodied**—meaning that they have to be based on fairly immediate emotional responses (Narvaez, 2009). The goal of character education is to develop students’ capacities to respond to daily ethical choices not only consciously and cognitively, but also intuitively and emotionally. To the extent that this goal is met, students can indeed live a good, ethically responsible life.

## Schoolwide Programs of Character Education

In the most comprehensive approaches to character education, an

entire school commits itself to develop students' ethical character, despite the immense diversity among students (Minow, Schweder, & Markus, 2008). All members of the staff—not just teachers and administrators, but also custodians and educational assistants—focus on developing positive relationships with students. The underlying theme that develops is one of cooperation and mutual care, not competition. Fairness, respect, and honesty pervade class and school activities; discipline, for example, focuses on solving conflicts between students and between students and teachers, rather than on rewarding obedience or punishing wrong-doers. The approach requires significant reliance on democratic meetings and discussions, both in classrooms and wherever else groups work together in school.

### *Building a Culture of Kindness*

**Video 7.** *Building a Culture of Kindness* with a Day of Services discusses ways that schools are building character education into their programs and the impact it is having on students.



One or more interactive elements has been excluded from this version of the text. You can view them online here:

[https://topicaldevelopment.pressbooks.sunycREATE.cloud  
/?p=112#oembed-3](https://topicaldevelopment.pressbooks.sunycREATE.cloud/?p=112#oembed-3)

## Classroom Programs of Character Education

Even if a teacher is teaching character education simply within her classroom, there are many strategies available. The goal, in this case, is to establish the classroom as a place where everyone feels included, and where everyone treats everyone else with civility and respect. Conflicts and disagreements may still occur, but in a caring community, they can be resolved without undue anger or hostility. Here are a few ways to work toward this sort of classroom:

- Use class meetings to decide on as many important matters as possible—such as the expected rules of behavior, important classroom activities, or ongoing disagreements.
- Try arranging for students to collaborate on significant projects and tasks.
- Arrange a “Buddies” program in which students of different grade levels work together on a significant task. Older students can sometimes assist younger students by reading to them, by listening to them read, or both. If an older student is having trouble with reading himself or herself, furthermore, a reading buddies program can sometimes also be helpful to the older student.
- Familiarize students with conflict resolution strategies and practice using them when needed.
- Many areas of curriculum lend themselves to discussions about ethical issues. Obvious examples are certain novels, short stories, and historical events. However, ethical issues lurk elsewhere as well. Teaching nutrition, for example, can raise issues about the humane treatment of animals that will be slaughtered for food, and about the ethical acceptability of using a large number of grains to feed animals even though many people in the world do not have enough to eat.
- Service learning projects can be very helpful in highlighting issues of social justice. Planning, working at, and reflecting

about a local soup kitchen, tutoring students from low-income families, performing simple repairs on homes in need: projects like these broaden knowledge of society and the needs of its citizens.

# Glossary

**Ainsworth's strange situation:** a sequence of staged episodes that illustrate the type of attachment between a child and (typically) their mother

**adverse childhood experiences:** abuse, neglect, and violent experiences that contribute to childhood trauma

**aggressive-rejected:** children who are ostracized because they are aggressive, loud, and confrontational

**anal stage:** the second stage in Freud's theory of psychosexual development, lasting from age 18 months to three years, during which time the anus is the primary erogenous zone and pleasure is derived from controlling bladder and bowel movements

**athletic coach style of parenting:** the rules for behavior are consistent and objective and presented in that way. The parent's role is to provide guidance while the child learns firsthand how to handle these situations

**attachment:** the positive emotional bond that develops between a child and a particular individual

**authoritarian parenting:** the traditional model of parenting in which parents make the rules and children are expected to be obedient

**authoritative parenting:** appropriately strict, reasonable, and affectionate. They are willing to negotiate when appropriate

**autonomy vs. shame and doubt:** Erikson's second crisis of psychosocial development, during which toddlers strive to gain a sense of self-rule over their actions and their bodies

**average:** children who receive an average number of positive and negative nominations from their peers

**cisgender:** an umbrella term used to describe people whose sense of personal identity and gender corresponds with their birth sex

**clique:** used to describe a group of persons who interact with each other more regularly and intensely than others in the same

setting. Cliques are distinguished from “crowds” in that their members interact with one another

**controversial:** children who are either strongly liked or strongly disliked by quite a few peers

**conventional moral development:** stages 3 and 4 of moral development where morality is internalized, and the concern is on society norms

**crowds:** large groups of adolescents defined by their shared image and reputation

**delayed gratification:** the ability to hold out for a larger reward by forgoing a smaller immediate reward

**deviant peer contagion:** process by which peers reinforce problem behavior by laughing or showing other signs of approval that then increase the likelihood of future problem behavior

**disorganized attachment:** a type of attachment that is marked by an infant's inconsistent reactions to the caregiver's departure and return

**emotional regulation:** the ability to respond to the ongoing demands of experience with the range of emotions in a manner that is socially tolerable and sufficiently flexible to permit spontaneous reactions, as well as the ability to delay spontaneous reactions as needed

**false self-training:** holding a child to adult standards while denying the child's developmental needs

**food insecurity:** limited or uncertain availability of safe, nutritious food

**foreclosure:** term for premature identity formation, which occurs when an adolescent adopts his or her parents' or society's role and values without questioning or analysis, according to Marcia's theory

**gender:** a term that refers to social or cultural distinctions of behaviors that are considered male or female

**gender dysphoria:** a condition listed in the DSM-5 in which people whose gender at birth is contrary to the one they identify with. This condition replaces “gender identity disorder”

**gender expression:** how one demonstrates gender (based on

traditional gender role norms related to clothing, behavior, and interactions); can be feminine, masculine, androgynous, or somewhere along a spectrum

**gender identity:** the way that one thinks about gender and self-identifies, can be woman, man, or genderqueer

**goodness-of-fit:** the notion that development is dependent on the degree of match between children's temperament and the nature and demands of the environment in which they are being raised

**homophily:** a tendency of individuals to form links disproportionately with others like themselves

**identity achievement:** Erikson's term for the attainment of identity, or the point at which a person understands who he or she is as a unique individual, in accord with past experiences and future plans; already questioned and made commitment according to Marcia's theory

**identity vs. role confusion:** Erikson's term for the fifth stage of development, in which the person tries to figure out "Who am I?" but is confused as to which of many possible roles to adopt

**insecure-avoidant attachment:** a pattern of attachment in which an infant avoids connection with the caregiver, as when the infant seems not to care about the caregiver's presence, departure, or even return

**insecure-resistant/ambivalent attachment:** a pattern of attachment in which an infant's anxiety and uncertainty are evident, as when the infant becomes very upset at separation from the caregiver and both resists and seeks contact on reunion

**introjection:** a process Freud described where children incorporate values from others into their value set

**looking-glass self:** the process by which our sense of self develops as we interact with others through various social relationships and incorporate the way those other people view us into our own sense of self

**major depression:** feelings of hopelessness, lethargy, and worthlessness that last two weeks or more

**martyr parent:** parent who will do anything for the child, even

tasks that the child should do independently, may later use what they have done for the child to invoke guilt and compliance

**moratorium:** an adolescent's choice of a socially acceptable way to postpone making identity-achievement decisions. Going to college is a common example. Engaged in questioning, but not yet making a commitment, according to Marcia's theory

**negative punishment:** a desirable stimulus is removed to decrease a behavior; for example, losing the privilege of playing a desired game or using a desired item

**negative reinforcement:** an undesirable stimulus is removed to increase a behavior; for example, the car beeping goes away when we click into the seatbelt

**neglected:** children who tend to go unnoticed but are not especially liked or disliked by their peers

**pal parent:** wants to be the child's friend and focuses on being entertaining and fun

**parasuicide:** any potentially lethal action against the self that does not result in death. (also called attempted suicide or failed suicide)

**peer pressure:** encouragement to conform to one's friends or contemporaries in behavior, dress, and attitude; usually considered a negative force, as when adolescent peers encourage one another to defy adult authority

**permissive parenting:** involves being a friend to a child rather than an authority figure. Children are allowed to make their own rules and determine their own activities

**phallic stage:** the third stage in Freud's theory of psychosexual development, lasting from age three to six years, during which the libido (desire) centers upon the genitalia and children become aware of bodies

**police officer/drill sergeant parent:** focuses primarily on making sure that the child is obedient and that the parent has full control of the child

**popular-antisocial:** children who gain popularity by acting tough or spreading rumors about others

**popular-prosocial:** children who are popular because they are nice and have good social skills

**positive punishment:** an undesirable stimulus is added to decrease a behavior; for example, spanking or receiving a speeding ticket

**positive reinforcement:** a desirable stimulus is added to increase a behavior; for example, stickers on a behavior chart or words of encouragement

**post-conventional moral development:** stages 5 and 6 of moral development where morality comes from personal understanding of rights and justice, regardless of whether that understanding matches societal norms

**pre-conventional moral development:** first 2 stages of moral development where morality comes from outside the person, and the concern is on physical consequences of actions

**response inhibition:** the ability to recognize a potential behavior and stop the initiation of an undesired behavior

**role confusion:** a situation in which an adolescent does not seem to know or care what his or her identity is. (Sometimes called identity diffusion or role diffusion)

**secure attachment:** a relationship in which an infant obtains both comfort and confidence from the presence of their caregiver

**secure base:** a parental presence that gives children a sense of safety as they explore their surroundings

**self-awareness:** a person's realization that they are a distinct individual whose body, mind, and actions are separate from those of other people

**self-concept:** the idea of who we are, what we are capable of doing, and how we think and feel

**self-esteem:** considered an important component of emotional health, self-esteem encompasses both self-confidence and self-acceptance. It is the way individuals perceive themselves and their self-value

**separation anxiety:** fear or distress caused by the departure of familiar significant others; most obvious between 9-14 months

**sex:** a term that denotes the presence of physical or physiological differences between males and females

**sexual orientation:** a term that refers to whether a person is sexually and romantically attracted to others of the same sex, the opposite sex, or both sexes

**social smile:** a smile evoked by a human face, normally first evident in infants about 6 weeks after birth

**stranger wariness:** fear is often associated with the presence of strangers where an infant expresses concern or a look of fear while clinging to a familiar person

**suicide:** the act of intentionally causing one's own death

**suicidal ideation:** thinking about suicide, usually with some serious emotional and intellectual or cognitive overtones

**teacher-counselor parent:** pays a lot of attention to expert advice on parenting and believes that as long as all of the steps are followed, the parent can rear a perfect child

**temperament:** inborn differences between one person and another in emotions, activity, and self-regulation, typically measured by the person's responses to the environment

**toxic stress:** excessive stress that exceeds a child's ability to cope, especially in the absence of supportive caregiving from adults

**transgender:** a term used to describe people whose sense of personal identity does not correspond with their birth sex

**trust vs. mistrust:** Erikson's first crisis of psychosocial development, during which infants learn basic trust if the world is a secure place where their needs (food, comfort, attention) are met

**uninvolved parenting:** parents who are disengaged from their children, do not make demands on their children, and are non-responsive

**withdrawn-rejected:** children who are excluded because they are shy and withdrawn



# PYHICAL DEVELOPMENT IN ADULTHOOD

## *Learning outcomes*

- Describe various definitions of stress, including the difference between stimulus-based and response-based stress and good stress and bad stress
- Describe the contributions of Walter Cannon (fight or flight) and Hans Selye (general adaptation syndrome) to the stress research field
- Explain what occurs in the sympathetic nervous system, and the hypothalamic-pituitary-adrenal system during stress
- Describe different types of possible stressors, including major life readjustments and the connection between stressors, job strain, and job burnout
- Describe how stress impacts the functioning of the immune system
- Describe how stress and emotional factors can lead to the development and exacerbation of cardiovascular disorders
- Define coping and differentiate between problem-focused and emotion-focused coping
- Describe the importance of perceived control in our reactions to stress
- Explain how social support is vital in health and longevity

- Identify common stress reduction techniques
- Summarize the developmental tasks of early adulthood
- Describe physical development and health in early adulthood
- Summarize risky behaviors and causes of death in early adulthood
- Describe sexuality and fertility issues related to early adulthood
- Detail the most important physiological changes occurring in men and women during middle adulthood
- Describe how physiological changes during middle adulthood can impact life experience, health, and sexuality
- Describe age categories of late adulthood
- Explain trends in life expectancies, including factors that contribute to longer life
- Describe primary aging, including vision and hearing loss
- Explain secondary aging concerns that are common in late adulthood, including illnesses and diseases
- Describe and compare theories of aging

# Stress



Stress is a process whereby an individual perceives and responds to events appraised as overwhelming or threatening to one's well-being. The scientific study of how stress and emotional factors impact health

and well-being is called **health psychology**, a field devoted to studying the general impact of psychological factors on health. While there are circumstances in which stress can be good, we know that stress can have serious negative consequences on the body.

Stressors can be chronic (long term) or acute (short term), and can include traumatic events, significant life changes, daily hassles, and situations in which people are frequently exposed to challenging and unpleasant events. Many potential stressors include events or situations that require us to make changes in our lives, such as a divorce or moving to a new residence. Thomas Holmes and Richard Rahe developed the Social Readjustment Rating Scale (SRRS) to measure stress by assigning a number of life change units to life events that typically require some adjustment, including positive events. Although the SRRS has been criticized on a number of grounds, extensive research has shown that the accumulation of many LCUs is associated with increased risk of illness. Many potential stressors also include daily hassles, which are minor irritations and annoyances that can build up over time. In addition, jobs that are especially demanding, offer little control over one's working environment, or involve unfavorable working conditions can lead to job strain, thereby setting the stage for job burnout.

# What is Stress?

The term **stress** as it relates to the human condition first emerged in scientific literature in the 1930s, but it did not enter the popular vernacular until the 1970s (Lyon, 2012). Today, we often use the term loosely in describing a variety of unpleasant feeling states; for example, we often say we are stressed out when we feel frustrated, angry, conflicted, overwhelmed, or fatigued. Despite the widespread use of the term, stress is a fairly vague concept that is difficult to define with precision.



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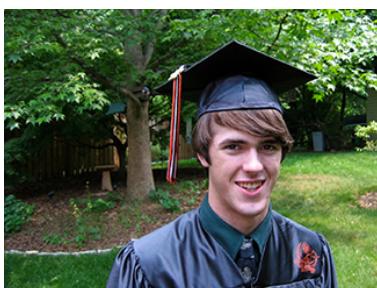
## Video 1. What is Stress?

A useful way to conceptualize stress is to view it as a process whereby an individual perceives and responds to events that he appraises as overwhelming or threatening to his well-being (Lazarus & Folkman, 1984). A critical element of this definition is that it emphasizes the importance of how we appraise—that is, judge—demanding or threatening events (often referred to as **stressors**); these appraisals, in turn, influence our reactions to such events. Two kinds of appraisals of a stressor are especially important in this regard: primary and secondary appraisals. A **primary appraisal** involves judgment about the degree of potential harm or threat to well-being that a stressor might entail. A stressor would likely be appraised as a threat if one anticipates that it could lead to some kind of harm, loss, or other negative consequence;

conversely, a stressor would likely be appraised as a challenge if one believes that it carries the potential for gain or personal growth. For example, an employee who is promoted to a leadership position would likely perceive the promotion as a much greater threat if she believed the promotion would lead to excessive work demands than if she viewed it as an opportunity to gain new skills and grow professionally. Similarly, a college student on the cusp of graduation may face the change as a threat or a challenge (Figure 1).

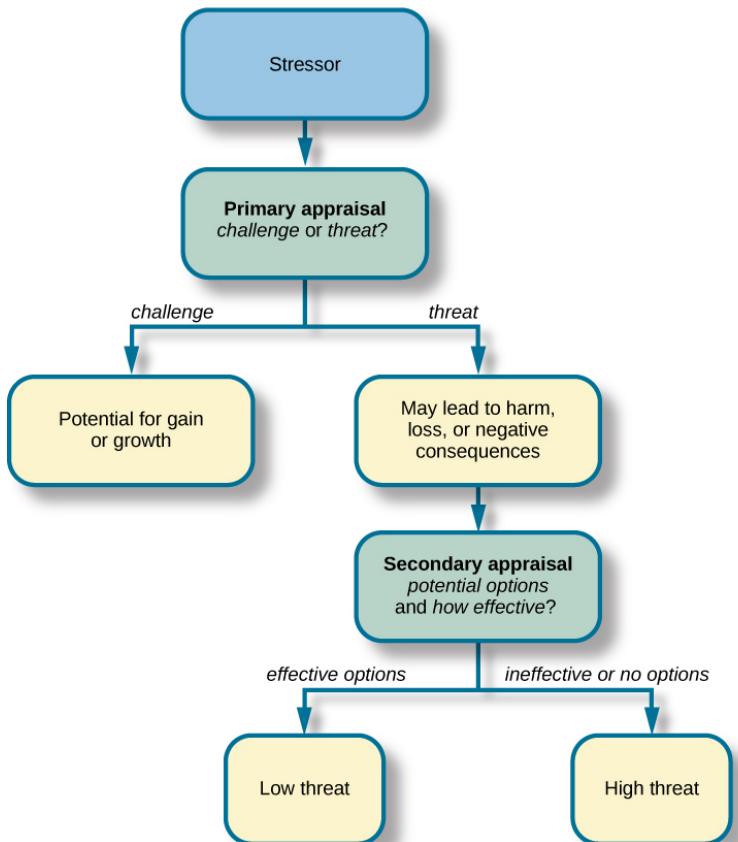
The perception of a threat triggers a **secondary appraisal**: judgment of the options available to cope with a stressor, as well as perceptions of how effective such options will be (Lyon, 2012) (Figure 2). As you may recall from what you learned about self-efficacy, an individual's belief in his ability to complete a task is important (Bandura, 1994). A threat tends to be viewed as less

catastrophic if one believes something can be done about it (Lazarus & Folkman, 1984). Imagine that two middle-aged women, Robin and Maria, perform breast self-examinations one morning and each woman notices a lump on the lower region of her left breast. Although both women view the breast lump as a potential threat (primary appraisal), their secondary appraisals differ considerably. In considering the breast lump, some of the thoughts racing through Robin's mind are, "Oh my God, I could have breast cancer! What if the cancer has spread to the rest of my body and I cannot recover? What if I have to go through chemotherapy? I've heard that experience is awful! What if I have to quit my job? My husband and I won't have enough money to pay the mortgage. Oh, this is just horrible...I can't deal with it!" On the other hand, Maria thinks,



**Figure 1.** Graduating from college and entering the workforce can be viewed as either a threat (loss of financial support) or a challenge (opportunity for independence and growth). (credit: Timothy Zanker)

“Hmm, this may not be good. Although most times these things turn out to be benign, I need to have it checked out. If it turns out to be breast cancer, there are doctors who can take care of it because the medical technology today is quite advanced. I'll have a lot of different options, and I'll be just fine.” Clearly, Robin and Maria have different outlooks on what might turn out to be a very serious situation: Robin seems to think that little could be done about it, whereas Maria believes that, worst case scenario, a number of options that are likely to be effective would be available. As such, Robin would clearly experience greater stress than would Maria.



**Figure 2.** When encountering a stressor, a person judges its potential threat (primary appraisal) and then determines if effective options are available to manage the situation. Stress is likely to result if a stressor is perceived as extremely threatening or threatening with few or no effective coping options available.

To be sure, some stressors are inherently more stressful than others in that they are more threatening and leave less potential for variation in cognitive appraisals (e.g., objective threats to one's health or safety). Nevertheless, appraisal will still play a role in

augmenting or diminishing our reactions to such events (Everly & Lating, 2002).

If a person appraises an event as harmful and believes that the demands imposed by the event exceed the available resources to manage or adapt to it, the person will subjectively experience a state of stress. In contrast, if one does not appraise the same event as harmful or threatening, she is unlikely to experience stress. According to this definition, environmental events trigger stress reactions by the way they are interpreted and the meanings they are assigned. In short, stress is largely in the eye of the beholder: it's not so much what happens to you as it is how you respond (Selye, 1976).

## Try It



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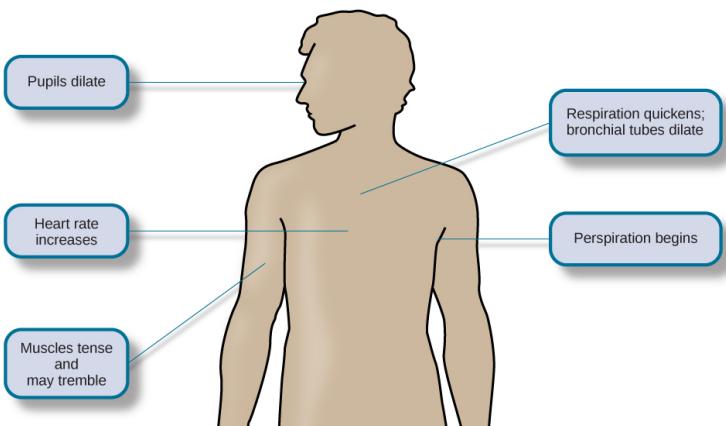
## Responses to Stress

When stressed, we may have a number of physiological, psychological, and behavioral responses. The type of response may depend on the stressor and our appraisal.

### Cannon and the Fight-or-Flight Response

Imagine that you are hiking in the beautiful mountains of Colorado on a warm and sunny spring day. At one point during your hike, a large, frightening-looking black bear appears from behind a stand of trees and sits about 50 yards from you. The bear notices you, sits up, and begins to lumber in your direction. In addition to thinking, “This is definitely not good,” a constellation of physiological reactions begins to take place inside you. Prompted by a deluge of epinephrine (adrenaline) and norepinephrine (noradrenaline) from your adrenal glands, your pupils begin to dilate. Your heart starts to pound and speeds up, you begin to breathe heavily and perspire, you get butterflies in your stomach, and your muscles become tense,

preparing you to take some kind of direct action. Cannon proposed that this reaction, which he called the **fight-or-flight response**, occurs when a person experiences very strong emotions—especially those associated with a perceived threat (Cannon, 1932). During the fight-or-flight response, the body is rapidly aroused by activation of both the sympathetic nervous system and the endocrine system (Figure 7). This arousal helps prepare the person to either fight or flee from a perceived threat.



**Figure 3.** Fight or flight is a physiological response to a stressor.

According to Cannon, the fight-or-flight response is a built-in mechanism that assists in maintaining homeostasis—an internal environment in which physiological variables such as blood pressure, respiration, digestion, and temperature are stabilized at levels optimal for survival. Thus, Cannon viewed the fight-or-flight response as adaptive because it enables us to adjust internally and externally to changes in our surroundings, which is helpful in species survival.

## Selye and the General Adaptation Syndrome

Another important early contributor to the stress field was Hans Selye, mentioned earlier. He would eventually become one of the world's foremost experts in the study of stress (Figure 8). As a young assistant in the biochemistry department at McGill University in the 1930s, Selye was engaged in research involving sex hormones in rats.

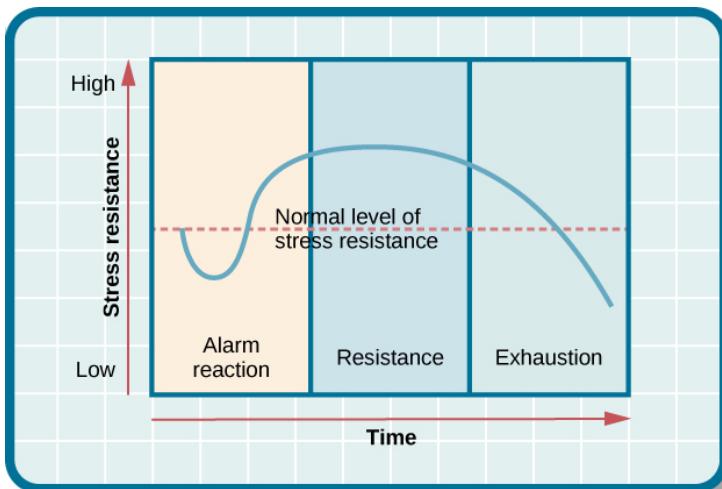
Although he was unable to find an answer for what he was initially researching, he incidentally discovered that when exposed to prolonged negative stimulation (**stressors**)—such as extreme cold, surgical injury, excessive muscular exercise, and shock—the rats showed signs of adrenal enlargement, thymus and lymph node shrinkage, and stomach ulceration. Selye realized that these responses were triggered by a coordinated series of physiological reactions that unfold over time during continued exposure to a stressor. These physiological reactions were nonspecific, which means that regardless of the type of stressor, the same pattern of reactions would occur. What Selye discovered was the general adaptation syndrome, the body's nonspecific physiological response to stress.

The general adaptation syndrome, shown in Figure 9, consists of three stages: (1) alarm reaction, (2) stage of resistance, and (3) stage of exhaustion (Selye, 1936; 1976). **Alarm reaction** describes the body's immediate reaction upon facing a threatening situation or emergency, and it is roughly analogous to the fight-or-flight response described by Cannon. During an alarm reaction, you are alerted to a stressor, and your body alarms you with a cascade of



**Figure 4.** Hans Selye specialized in research about stress. In 2009, his native Hungary honored his work with this stamp, released in conjunction with the 2nd annual World Conference on Stress.

physiological reactions that provide you with the energy to manage the situation. A person who wakes up in the middle of the night to discover her house is on fire, for example, is experiencing an alarm reaction.



**Figure 5.** The three stages of Selye's general adaptation syndrome are shown in this graph. Prolonged stress ultimately results in exhaustion.

If exposure to a stressor is prolonged, the organism will enter the **stage of resistance**. During this stage, the initial shock of alarm reaction has worn off and the body has adapted to the stressor. Nevertheless, the body also remains on alert and is prepared to respond as it did during the alarm reaction, although with less intensity. For example, suppose a child who went missing is still missing 72 hours later. Although the parents would obviously remain extremely disturbed, the magnitude of physiological reactions would likely have diminished over the 72 intervening hours due to some adaptation to this event.

If exposure to a stressor continues over a longer period of time, the **stage of exhaustion** ensues. At this stage, the person is no

longer able to adapt to the stressor: the body's ability to resist becomes depleted as physical wear takes its toll on the body's tissues and organs. As a result, illness, disease, and other permanent damage to the body—even death—may occur. If a missing child still remained missing after three months, the long-term stress associated with this situation may cause a parent to literally faint with exhaustion at some point or even to develop a serious and irreversible illness.

In short, Selye's general adaptation syndrome suggests that stressors tax the body via a three-phase process—an initial jolt, subsequent readjustment, and a later depletion of all physical resources—that ultimately lays the groundwork for serious health problems and even death. It should be pointed out, however, that this model is a response-based conceptualization of stress, focusing exclusively on the body's physical responses while largely ignoring psychological factors such as appraisal and interpretation of threats. Nevertheless, Selye's model has had an enormous impact on the field of stress because it offers a general explanation for how stress can lead to physical damage and, thus, disease. As we shall discuss later, prolonged or repeated stress has been implicated in development of a number of disorders such as hypertension and coronary artery disease.

### Try It





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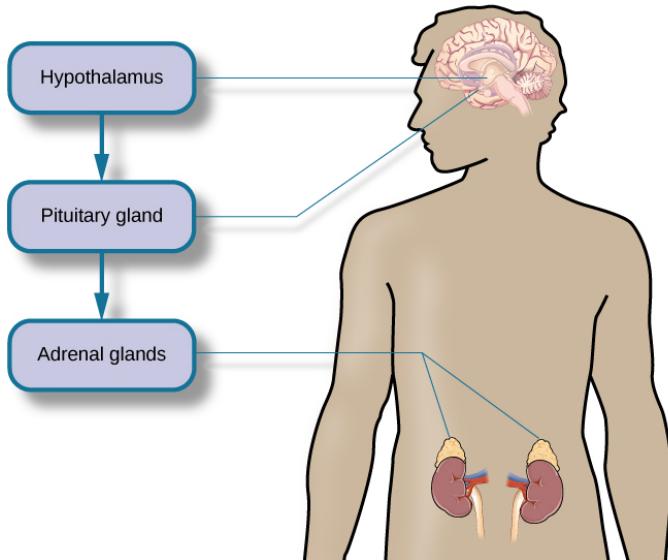
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## The Physiological Basis of Stress

What goes on inside our bodies when we experience stress? The physiological mechanisms of stress are extremely complex, but they generally involve the work of two systems—the **sympathetic nervous system** and the **hypothalamic-pituitary-adrenal (HPA)** axis. When a person first perceives something as stressful (Selye's alarm reaction), the sympathetic nervous system triggers arousal via the release of adrenaline from the adrenal glands. Release of these hormones activates the **fight-or-flight** responses to stress,

such as accelerated heart rate and respiration. At the same time, the HPA axis, which is primarily endocrine in nature, becomes especially active, although it works much more slowly than the sympathetic nervous system. In response to stress, the hypothalamus (one of the limbic structures in the brain) releases corticotrophin-releasing factor, a hormone that causes the pituitary gland to release adrenocorticotrophic hormone (ACTH) (Figure 10). The ACTH then activates the adrenal glands to secrete a number of hormones into the bloodstream; an important one is cortisol, which can affect virtually every organ within the body. Cortisol is commonly known as a stress hormone and helps provide that boost of energy when we first encounter a stressor, preparing us to run away or fight. However, sustained elevated levels of cortisol weaken the immune system.



**Figure 6.** This diagram shows the functioning of the hypothalamic-pituitary-adrenal (HPA) axis. The hypothalamus activates the pituitary gland, which in turn activates the adrenal glands, increasing their secretion of cortisol.

In short bursts, this process can have some favorable effects, such as providing extra energy, improving immune system functioning temporarily, and decreasing pain sensitivity. However, extended release of cortisol—as would happen with prolonged or chronic stress—often comes at a high price. High levels of cortisol have been shown to produce a number of harmful effects. For example, increases in cortisol can significantly weaken our immune system (Glaser & Kiecolt-Glaser, 2005), and high levels are frequently observed among depressed individuals (Geoffroy, Hertzman, Li, & Power, 2013). In summary, a stressful event causes a variety of physiological reactions that activate the adrenal glands, which in turn release epinephrine, norepinephrine, and cortisol. These hormones affect a number of bodily processes in ways that prepare the stressed person to take direct action, but also in ways that may heighten the potential for illness.

When stress is extreme or chronic, it can have profoundly negative consequences. For example, stress often contributes to the development of certain psychological disorders, including post-traumatic stress disorder, major depressive disorder, and other serious psychiatric conditions. Additionally, we noted earlier that stress is linked to the development and progression of a variety of physical illnesses and diseases. For example, researchers in one study found that people injured during the September 11, 2001, World Trade Center disaster or who developed post-traumatic stress symptoms afterward later suffered significantly elevated rates of heart disease (Jordan, Miller-Archie, Cone, Morabia, & Stellman, 2011). Another investigation yielded that self-reported stress symptoms among aging and retired Finnish food industry workers were associated with morbidity 11 years later. This study also predicted the onset of musculoskeletal, nervous system, and endocrine and metabolic disorders (Salonen, Arola, Nygård, & Huhtala, 2008). Another study reported that male South Korean manufacturing employees who reported high levels of work-related stress were more likely to catch the common cold over the next several months than were those employees who reported lower

work-related stress levels (Park et al., 2011). Later, you will explore the mechanisms through which stress can produce physical illness and disease.

### Try It



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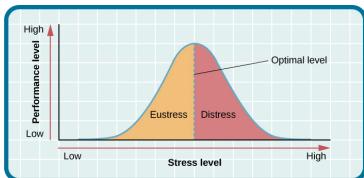
# Stressors

## Good Stress?

Although stress carries a negative connotation, at times it may be of some benefit. Stress can motivate us to do things in our best interests, such as study for exams, visit the doctor regularly, exercise, and perform to the best of our ability at work. Indeed, Selye (1974) pointed out that not all stress is harmful. He argued that stress can sometimes be a positive, motivating force that can improve the quality of our lives. This kind of stress, which Selye called **eustress** (from the Greek *eu* = “good”), is a good kind of stress associated with positive feelings, optimal health, and performance. A moderate amount of stress can be beneficial in challenging situations. For example, athletes may be motivated and energized by pregame stress, and students may experience similar beneficial stress before a major exam. Indeed, research shows that moderate stress can enhance both immediate and delayed recall of educational material. Male participants in one study who memorized a scientific text passage showed improved memory of the passage immediately after exposure to a mild stressor as well as one day following exposure to the stressor (Hupbach & Fieman, 2012).

Increasing one’s level of stress will cause performance to change in a predictable way. As shown in Figure 3, as stress increases, so do performance and general well-being (eustress); when stress levels reach an optimal level (the highest point of the curve), performance reaches its peak. A person at this stress level is colloquially at the top of his game, meaning he feels fully energized, focused, and can work with minimal effort and maximum efficiency. But when stress exceeds this optimal level, it is no longer a positive force—it becomes excessive and debilitating, or what Selye termed **distress** (from the Latin *dis* = “bad”). People who reach this level of stress feel

burned out; they are fatigued, exhausted, and their performance begins to decline. If the stress remains excessive, health may begin to erode as well (Everly & Lating, 2002).



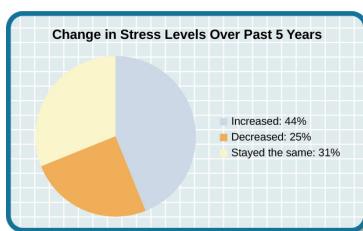
**Figure 7.** As the stress level increases from low to moderate, so does performance (eustress). At the optimal level (the peak of the curve), performance has reached its peak. If stress exceeds the optimal level, it will reach the distress region, where it will become excessive and debilitating, and performance will decline (Everly & Lating, 2002).

experience when, for example, you have to drive somewhere in a crippling blizzard, when you wake up late the morning of an important job interview, when you run out of money before the next pay period, and before taking an important exam for which you realize you are not fully prepared.

Stress is an experience that evokes a variety of responses, including those that are physiological (e.g., accelerated heart rate, headaches, or gastrointestinal problems), cognitive (e.g., difficulty concentrating or making decisions), and behavioral (e.g., drinking alcohol, smoking, or taking actions directed at eliminating the cause of the stress). Although stress can be positive at times, it can have deleterious

## The Prevalence of Stress

Stress is everywhere and, as shown in Figure 4, it has been on the rise over the last several years. Each of us is acquainted with stress—some are more familiar than others. In many ways, stress feels like a load you just can't carry—a feeling you



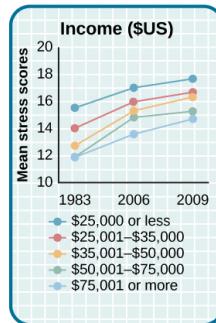
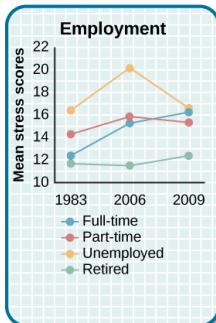
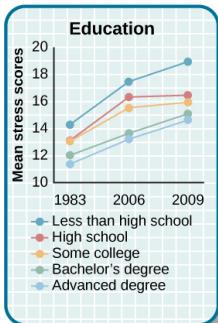
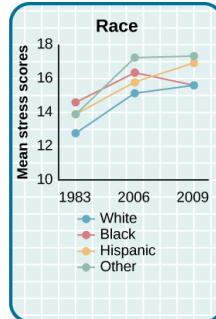
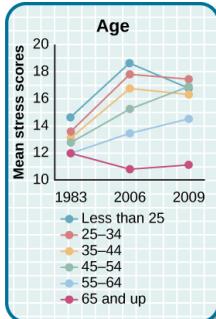
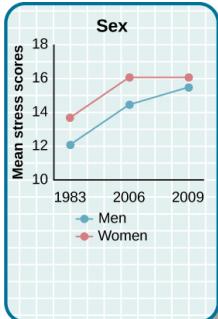
**Figure 8.** Nearly half of U.S. adults indicated that their stress levels have increased over the last five years (Neelakantan, 2013).

health implications, contributing to the onset and progression of a variety of physical illnesses and diseases (Cohen & Herbert, 1996).

The scientific study of how stress and other psychological factors impact health falls within the realm of **health psychology**, a subfield of psychology devoted to understanding the importance of psychological influences on health, illness, and how people respond when they become ill (Taylor, 1999). Health psychology emerged as a discipline in the 1970s, a time during which there was increasing awareness of the role behavioral and lifestyle factors play in the development of illnesses and diseases (Straub, 2007). In addition to studying the connection between stress and illness, health psychologists investigate issues such as why people make certain lifestyle choices (e.g., smoking or eating unhealthy food despite knowing the potential adverse health implications of such behaviors). Health psychologists also design and investigate the effectiveness of interventions aimed at changing unhealthy behaviors. Perhaps one of the more fundamental tasks of health psychologists is to identify which groups of people are especially at risk for negative health outcomes, based on psychological or behavioral factors. For example, measuring differences in stress levels among demographic groups and how these levels change over time can help identify populations who may have an increased risk for illness or disease.

Figure 5 depicts the results of three national surveys in which several thousand individuals from different demographic groups completed a brief stress questionnaire; the surveys were administered in 1983, 2006, and 2009 (Cohen & Janicki-Deverts, 2012). All three surveys demonstrated higher stress in women than in men. Unemployed individuals reported high levels of stress in all three surveys, as did those with less education and income; retired persons reported the lowest stress levels. However, from 2006 to 2009 the greatest increase in stress levels occurred among men, Whites, people aged 45–64, college graduates, and those with full-time employment. One interpretation of these findings is that concerns surrounding the 2008–2009 economic downturn (e.g.,

threat of or actual job loss and substantial loss of retirement savings) may have been especially stressful to White, college-educated, employed men with limited time remaining in their working careers.



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For an individual to experience stress, he must first encounter a potential stressor. In general, stressors can be placed into one of two broad categories: chronic and acute. Chronic stressors include events that persist over an extended period of time, such as caring for a parent with dementia, long-term unemployment, or imprisonment. Acute stressors involve brief focal events that sometimes continue to be experienced as overwhelming well after the event has ended, such as falling on an icy sidewalk and breaking your leg (Cohen, Janicki-Deverts, & Miller, 2007). Whether chronic or acute, potential stressors come in many shapes and sizes. They can include major traumatic events, significant life changes, daily hassles, as well as other situations in which a person is regularly exposed to threat, challenge, or danger.

## Traumatic Events

Some stressors involve traumatic events or situations in which a person is exposed to actual or threatened death or serious injury. Stressors in this category include exposure to military combat,

threatened or actual physical assaults (e.g., physical attacks, sexual assault, robbery, childhood abuse), terrorist attacks, natural disasters (e.g., earthquakes, floods, hurricanes), and automobile accidents. Men, non-Whites, and individuals in lower socioeconomic status (SES) groups report experiencing a greater number of traumatic events than do women, Whites, and individuals in higher SES groups (Hatch & Dohrenwend, 2007). Some individuals who are exposed to stressors of extreme magnitude develop post-traumatic stress disorder (PTSD): a chronic stress reaction characterized by experiences and behaviors that may include intrusive and painful memories of the stressor event, jumpiness, persistent negative emotional states, detachment from others, angry outbursts, and avoidance of reminders of the event (American Psychiatric Association [APA], 2013).

## Life Changes

Most stressors that we encounter are not nearly as intense as the ones described above. Many potential stressors we face involve events or situations that require us to make changes in our ongoing lives and require time as we adjust to those changes. Examples include death of a close family member, marriage, divorce, and moving (Figure 1).

In the 1960s, psychiatrists Thomas Holmes and Richard Rahe wanted to examine the link between life stressors and physical illness, based on the hypothesis that life events requiring significant changes in a person's normal life routines are stressful, whether these events are desirable or undesirable. They developed the **Social Readjustment Rating Scale (SRRS)**, consisting of 43 life events that require varying degrees of personal readjustment (Holmes & Rahe, 1967). Many life events that most people would consider pleasant (e.g., holidays, retirement, marriage) are among those listed on the SRRS; these are examples of eustress. Holmes and Rahe also proposed that life events can add up over time, and that experiencing a cluster of stressful events increases one's risk of developing physical illnesses.

In developing their scale, Holmes and Rahe asked 394 participants to provide a numerical estimate for each of the 43 items; each estimate corresponded to how much readjustment participants felt each event would require. These estimates resulted in mean value scores for each event—often called life change units (LCUs) (Rahe, McKeen, & Arthur, 1967). The numerical scores ranged from 11 to 100, representing the perceived magnitude of life change each event entails. Death of a spouse ranked highest on the scale with 100 LCUs, and divorce ranked second highest with 73 LCUs. In addition, personal injury or illness, marriage, and job termination also ranked highly on the scale with 53, 50, and 47 LCUs, respectively. Conversely, change in residence (20 LCUs), change in eating habits (15 LCUs), and vacation (13 LCUs) ranked low on the scale (Table 1). Minor violations of the law ranked the lowest with 11 LCUs. To complete the scale, participants checked yes for events experienced



**Figure 9.** Some fairly typical life events, such as moving, can be significant stressors. Even when the move is intentional and positive, the amount of resulting change in daily life can cause stress. (credit: "Jellaluna"/Flickr)

within the last 12 months. LCUs for each checked item are totaled for a score quantifying the amount of life change. Agreement on the amount of adjustment required by the various life events on the SRRS is highly consistent, even cross-culturally (Holmes & Masuda, 1974).

**Table 1. Some Stressors on the Social Readjustment Rating Scale (Holmes & Rahe, 1967)**

Life event	Life change units
Death of a close family member	63
Personal injury or illness	53
Dismissal from work	47
Change in financial state	38
Change to different line of work	36
Outstanding personal achievement	28
Beginning or ending school	26
Change in living conditions	25
Change in working hours or conditions	20
Change in residence	20
Change in schools	20
Change in social activities	18
Change in sleeping habits	16
Change in eating habits	15
Minor violation of the law	11

Extensive research has demonstrated that accumulating a high number of life change units within a brief period of time (one or two years) is related to a wide range of physical illnesses (even accidents and athletic injuries) and mental health problems (Monat & Lazarus, 1991; Scully, Tosi, & Banning, 2000). In an early demonstration, researchers obtained LCU scores for U.S. and Norwegian Navy personnel who were about to embark on a six-month voyage. A later examination of medical records revealed positive (but small)

correlations between LCU scores prior to the voyage and subsequent illness symptoms during the ensuing six-month journey (Rahe, 1974). In addition, people tend to experience more physical symptoms, such as backache, upset stomach, diarrhea, and acne, on specific days in which self-reported LCU values are considerably higher than normal, such as the day of a family member's wedding (Holmes & Holmes, 1970).

The Social Readjustment Rating Scale (SRRS) provides researchers a simple, easy-to-administer way of assessing the amount of stress in people's lives, and it has been used in hundreds of studies (Thoits, 2010). Despite its widespread use, the scale has been subject to criticism. First, many of the items on the SRRS are vague; for example, death of a close friend could involve the death of a long-absent childhood friend that requires little social readjustment (Dohrenwend, 2006). In addition, some have challenged its assumption that undesirable life events are no more stressful than desirable ones (Derogatis & Coons, 1993). However, most of the available evidence suggests that, at least as far as mental health is concerned, undesirable or negative events are more strongly associated with poor outcomes (such as depression) than are desirable, positive events (Hatch & Dohrenwend, 2007). Perhaps the most serious criticism is that the scale does not take into consideration respondents' appraisals of the life events it contains. As you recall, appraisal of a stressor is a key element in the conceptualization and overall experience of stress. Being fired from work may be devastating to some but a welcome opportunity to obtain a better job for others. The SRRS remains one of the most well-known instruments in the study of stress, and it is a useful tool for identifying potential stress-related health outcomes (Scully et al., 2000).

## *Link to Learning*

Go to this [site to complete the SRRS scale](#) and determine the total number of LCUs you have experienced over the last year.

### Try It



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## Hassles

Potential stressors do not always involve major life events. **Daily hassles**—the minor irritations and annoyances that are part of our everyday lives (e.g., rush hour traffic, lost keys, obnoxious coworkers, inclement weather, arguments with friends or family)—can build on one another and leave us just as stressed as life change events (Figure 2) (Kanner, Coyne, Schaefer, & Lazarus, 1981).



(a)



(b)

**Figure 10.** Daily commutes, whether (a) on the road or (b) via public transportation, can be hassles that contribute to our feelings of everyday stress. (credit a: modification of work by Jeff Turner; credit b: modification of work by “epSos.de”/Flickr)

Researchers have demonstrated that the frequency of daily hassles is actually a better predictor of both physical and psychological health than are life change units. In a well-known study of San Francisco residents, the frequency of daily hassles was found to be more strongly associated with physical health problems than were life change events (DeLongis, Coyne, Dakof, Folkman, & Lazarus, 1982). In addition, daily minor hassles, especially interpersonal conflicts, often lead to negative and distressed mood states (Bolger, DeLongis, Kessler, & Schilling, 1989). Cyber hassles that occur on social media may represent a new source of stress. In one investigation, undergraduates who, over a 10-week period, reported greater Facebook-induced stress (e.g., guilt or discomfort over rejecting friend requests and anger or sadness over being unfriended by another) experienced increased rates of upper respiratory infections, especially if they had larger social networks (Campisi et al., 2012). Clearly, daily hassles can add up and take a toll on us both emotionally and physically.

## Other Stressors

Stressors can include situations in which one is frequently exposed to challenging and unpleasant events, such as difficult, demanding, or unsafe working conditions. Although most jobs and occupations can at times be demanding, some are clearly more stressful than others (Figure 3). For example, most people would likely agree that a firefighter's work is inherently more stressful than that of a florist. Equally likely, most would agree that jobs containing various unpleasant elements, such as those requiring exposure to loud noise (heavy equipment operator), constant harassment and threats of physical violence (prison guard), perpetual frustration (bus driver in a major city), or those mandating that an employee work alternating day and night shifts (hotel desk clerk), are much more demanding—and thus, more stressful—than those that do not

contain such elements. Table 2 lists several occupations and some of the specific stressors associated with those occupations (Sulsky & Smith, 2005).



(a)



(b)

**Figure 11.** (a) Police officers and (b) firefighters hold high stress occupations.  
(credit a: modification of work by Australian Civil-Military Centre; credit b: modification of work by Andrew Magill)

**Table 2. Occupations and Their Related Stressors**

Occupation	Stressors Specific to Occupation (Sulsky & Smith, 2005)
Police officer	physical dangers, excessive paperwork, red tape, dealing with court system, coworker and supervisor conflict, lack of support from the public
Firefighter	uncertainty over whether a serious fire or hazard awaits after an alarm
Social worker	little positive feedback from jobs or from the public, unsafe work environments, frustration in dealing with bureaucracy, excessive paperwork, sense of personal responsibility for clients, work overload
Teacher	Excessive paperwork, lack of adequate supplies or facilities, work overload, lack of positive feedback, vandalism, threat of physical violence
Nurse	Work overload, heavy physical work, patient concerns (dealing with death and medical concerns), interpersonal problems with other medical staff (especially physicians)
Emergency medical worker	Unpredictable and extreme nature of the job, inexperience
Air traffic controller	Little control over potential crisis situations and workload, fear of causing an accident, peak traffic situations, general work environment
Clerical and secretarial work	Little control over job mobility, unsupportive supervisors, work overload, lack of perceived control
Managerial work	Work overload, conflict and ambiguity in defining the managerial role, difficult work relationships

Although the specific stressors for these occupations are diverse, they seem to share two common denominators: heavy workload and uncertainty about and lack of control over certain aspects of a job. Both of these factors contribute to **job strain**, a work situation that combines excessive job demands and workload with little discretion in decision making or job control (Karasek & Theorell, 1990). Clearly, many occupations other than the ones listed in Table 2 involve at least a moderate amount of job strain in that they often involve heavy workloads and little job control (e.g., inability to decide when to take breaks). Such jobs are often low-status and include those

of factory workers, postal clerks, supermarket cashiers, taxi drivers, and short-order cooks. Job strain can have adverse consequences on both physical and mental health; it has been shown to be associated with increased risk of hypertension (Schnall & Landsbergis, 1994), heart attacks (Theorell et al., 1998), recurrence of heart disease after a first heart attack (Aboa-Éboulé et al., 2007), significant weight loss or gain (Kivimäki et al., 2006), and major depressive disorder (Stansfeld, Shipley, Head, & Fuhrer, 2012). A longitudinal study of over 10,000 British civil servants reported that workers under 50 years old who earlier had reported high job strain were 68% more likely to later develop heart disease than were those workers under 50 years old who reported little job strain (Chandola et al., 2008).

Some people who are exposed to chronically stressful work conditions can experience **job burnout**, which is a general sense of emotional exhaustion and cynicism in relation to one's job (Maslach & Jackson, 1981). Job burnout occurs frequently among those in human service jobs (e.g., social workers, teachers, therapists, and police officers). Job burnout consists of three dimensions. The first dimension is exhaustion—a sense that one's emotional resources are drained or that one is at the end of her rope and has nothing more to give at a psychological level. Second, job burnout is characterized by depersonalization: a sense of emotional detachment between the worker and the recipients of his services, often resulting in callous, cynical, or indifferent attitudes toward these individuals. Third, job burnout is characterized by diminished personal accomplishment, which is the tendency to evaluate one's work negatively by, for example, experiencing dissatisfaction with one's job-related accomplishments or feeling as though one has categorically failed to influence others' lives through one's work.

Job strain appears to be one of the greatest risk factors leading to job burnout, which is most commonly observed in workers who are older (ages 55–64), unmarried, and whose jobs involve manual labor. Heavy alcohol consumption, physical inactivity, being overweight, and having a physical or lifetime mental disorder are also associated

with job burnout (Ahola, et al., 2006). In addition, depression often co-occurs with job burnout. One large-scale study of over 3,000 Finnish employees reported that half of the participants with severe job burnout had some form of depressive disorder (Ahola et al., 2005). Job burnout is often precipitated by feelings of having invested considerable energy, effort, and time into one's work while receiving little in return (e.g., little respect or support from others or low pay) (Tatris, Peeters, Le Blanc, Schreurs, & Schaufeli, 2001).

As an illustration, consider CharlieAnn, a nursing assistant who worked in a nursing home. CharlieAnn worked long hours for little pay in a difficult facility. Her supervisor was domineering, unpleasant, and unsupportive; he was disrespectful of CharlieAnn's personal time, frequently informing her at the last minute she must work several additional hours after her shift ended or that she must report to work on weekends. CharlieAnn had very little autonomy at her job. She had little say in her day-to-day duties and how to perform them, and she was not permitted to take breaks unless her supervisor explicitly told her that she could. CharlieAnn did not feel as though her hard work was appreciated, either by supervisory staff or by the residents of the home. She was very unhappy over her low pay, and she felt that many of the residents treated her disrespectfully.

After several years, CharlieAnn began to hate her job. She dreaded going to work in the morning, and she gradually developed a callous, hostile attitude toward many of the residents. Eventually, she began to feel as though she could no longer help the nursing home residents. CharlieAnn's absenteeism from work increased, and one day she decided that she had had enough and quit. She now has a job in sales, vowing never to work in nursing again.

Finally, our close relationships with friends and family—particularly the negative aspects of these relationships—can be a potent source of stress. Negative aspects of close relationships can include adverse exchanges and conflicts, lack of emotional support or confiding, and lack of reciprocity. All of these can be overwhelming, threatening to the relationship, and thus stressful.

Such stressors can take a toll both emotionally and physically. A longitudinal investigation of over 9,000 British civil servants found that those who at one point had reported the highest levels of negative interactions in their closest relationship were 34% more likely to experience serious heart problems (fatal or nonfatal heart attacks) over a 13–15 year period, compared to those who experienced the lowest levels of negative interaction (De Vogli, Chandola & Marmot, 2007).

## Try It



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## Responses to Stress

As stress researcher Robert Sapolsky (1998) describes,

stress-related disease emerges, predominantly, out of the fact that we so often activate a physiological system that has evolved for responding to acute physical emergencies, but we turn it on for months on end, worrying about mortgages, relationships, and promotions. (p. 6)

The stress response, as noted earlier, consists of a coordinated but complex system of physiological reactions that are called upon as needed. These reactions are beneficial at times because they prepare us to deal with potentially dangerous or threatening situations (for example, recall our old friend, the fearsome bear on the trail). However, health is affected when physiological reactions are sustained, as can happen in response to ongoing stress. A number of studies have demonstrated that stress weakens the functioning of the immune system. Cardiovascular disorders are

serious medical conditions that have been consistently shown to be influenced by stress and negative emotions, such as anger, negative affectivity, and depression. Other psychophysiological disorders that are known to be influenced by stress and emotional factors include asthma and tension headaches.

## Psychophysiological Disorders

If the reactions that compose the stress response are chronic or if they frequently exceed normal ranges, they can lead to cumulative wear and tear on the body, in much the same way that running your air conditioner on full blast all summer will eventually cause wear and tear on it. For example, the high blood pressure that a person under considerable job strain experiences might eventually take a toll on his heart and set the stage for a heart attack or heart failure. Also, someone exposed to high levels of the stress hormone cortisol might become vulnerable to infection or disease because of weakened immune system functioning (McEwen, 1998).

Physical disorders or diseases whose symptoms are brought about or worsened by stress and emotional factors are called **psychophysiological disorders**. The physical symptoms of psychophysiological disorders are real and they can be produced or exacerbated by psychological factors (hence the *psycho* and *physiological* in psychophysiological). A list of frequently encountered psychophysiological disorders is provided in Table 1.

**Table 1. Types of Psychophysiological Disorders (adapted from Everly & Lating, 2002)**

Type of Psychophysiological Disorder	Examples
Cardiovascular	hypertension, coronary heart disease
Gastrointestinal	irritable bowel syndrome
Respiratory	asthma, allergy
Musculoskeletal	low back pain, tension headaches
Skin	acne, eczema, psoriasis

In addition to stress itself, emotional upset and certain stressful personality traits have been proposed as potential contributors to ill health. Franz Alexander (1950), an early-20th-century psychoanalyst and physician, once postulated that various diseases are caused by specific unconscious conflicts. For example, he linked hypertension to repressed anger, asthma to separation anxiety, and ulcers to an unconscious desire to “remain in the dependent infantile situation—to be loved and cared for” (Alexander, 1950, p. 102). Although hypertension does appear to be linked to anger (as you will learn below), Alexander’s assertions have not been supported by research. Years later, Friedman and Booth-Kewley (1987), after statistically reviewing 101 studies examining the link between personality and illness, proposed the existence of disease-prone personality characteristics, including depression, anger/hostility, and anxiety. Indeed, a study of over 61,000 Norwegians identified depression as a risk factor for all major disease-related causes of death (Mykletun et al., 2007). In addition, neuroticism—a personality trait that reflects how anxious, moody, and sad one is—has been identified as a risk factor for chronic health problems and mortality (Ploubidis & Grundy, 2009).

Before we discuss two kinds of psychophysiological disorders about which a great deal is known: cardiovascular disorders and asthma, it is necessary to turn our attention to a discussion of the

immune system—one of the major pathways through which stress and emotional factors can lead to illness and disease.

## Stress and the Immune System

In a sense, the **immune system** is the body's surveillance system. It consists of a variety of structures, cells, and mechanisms that serve to protect the body from invading toxins and microorganisms that can harm or damage the body's tissues and organs. When the immune system is working as it should, it keeps us healthy and disease free by eliminating bacteria, viruses, and other foreign substances that have entered the body (Everly & Lating, 2002).

## Immune System Errors

Sometimes, the immune system will function erroneously. For example, sometimes it can go awry by mistaking your body's own healthy cells for invaders and repeatedly attacking them. When this happens, the person is said to have an autoimmune disease, which can affect almost any part of the body. How an autoimmune disease affects a person depends on what part of the body is targeted. For instance, rheumatoid arthritis, an autoimmune disease that affects the joints, results in joint pain, stiffness, and loss of function. Systemic lupus erythematosus, an autoimmune disease that affects the skin, can result in rashes and swelling of the skin. Grave's disease, an autoimmune disease that affects the thyroid gland, can result in fatigue, weight gain, and muscle aches (National Institute of Arthritis and Musculoskeletal and Skin Diseases [NIAMS], 2012).

In addition, the immune system may sometimes break down and be unable to do its job. This situation is referred to as **immunosuppression**, the decreased effectiveness of the immune

system. When people experience immunosuppression, they become susceptible to any number of infections, illness, and diseases. For example, acquired immune deficiency syndrome (AIDS) is a serious and lethal disease that is caused by human immunodeficiency virus (HIV), which greatly weakens the immune system by infecting and destroying antibody-producing cells, thus rendering a person vulnerable to any of a number of opportunistic infections (Powell, 1996).

## Stressors and Immune Function

The question of whether stress and negative emotional states can influence immune function has captivated researchers for over three decades, and discoveries made over that time have dramatically changed the face of health psychology (Kiecolt-Glaser, 2009). **Psychoneuroimmunology** is the field that studies how psychological factors such as stress influence the immune system and immune functioning. The term psychoneuroimmunology was first coined in 1981, when it appeared as the title of a book that reviewed available evidence for associations between the brain, endocrine system, and immune system (Zacharie, 2009). To a large extent, this field evolved from the discovery that there is a connection between the central nervous system and the immune system.

Some of the most compelling evidence for a connection between the brain and the immune system comes from studies in which researchers demonstrated that immune responses in animals could be classically conditioned (Everly & Lating, 2002). For example, Ader and Cohen (1975) paired flavored water (the conditioned stimulus) with the presentation of an immunosuppressive drug (the unconditioned stimulus), causing sickness (an unconditioned response). Not surprisingly, rats exposed to this pairing developed a conditioned aversion to the flavored water. However, the taste of

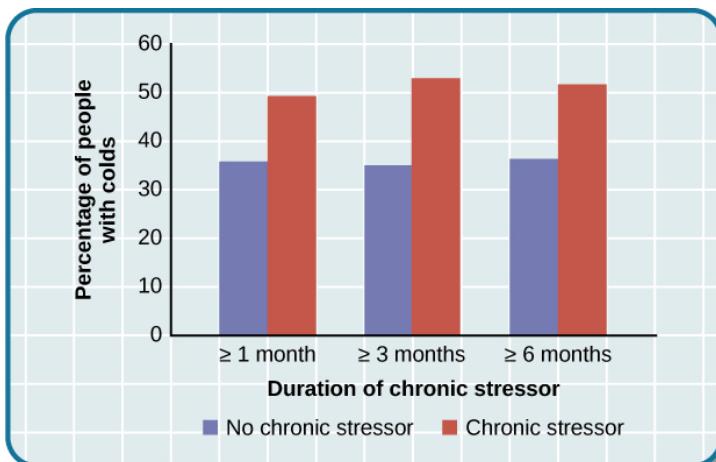
the water itself later produced immunosuppression (a conditioned response), indicating that the immune system itself had been conditioned. Many subsequent studies over the years have further demonstrated that immune responses can be classically conditioned in both animals and humans (Ader & Cohen, 2001). Thus, if classical conditioning can alter immunity, other psychological factors should be capable of altering it as well.

Hundreds of studies involving tens of thousands of participants have tested many kinds of brief and chronic stressors and their effect on the immune system (e.g., public speaking, medical school examinations, unemployment, marital discord, divorce, death of spouse, burnout and job strain, caring for a relative with Alzheimer's disease, and exposure to the harsh climate of Antarctica). It has been repeatedly demonstrated that many kinds of stressors are associated with poor or weakened immune functioning (Glaser & Kiecolt-Glaser, 2005; Kiecolt-Glaser, McGuire, Robles, & Glaser, 2002; Segerstrom & Miller, 2004).

When evaluating these findings, it is important to remember that there is a tangible physiological connection between the brain and the immune system. For example, the sympathetic nervous system innervates immune organs such as the thymus, bone marrow, spleen, and even lymph nodes (Maier, Watkins, & Fleshner, 1994). Also, we noted earlier that stress hormones released during hypothalamic-pituitary-adrenal (HPA) axis activation can adversely impact immune function. One way they do this is by inhibiting the production of **lymphocytes**, white blood cells that circulate in the body's fluids that are important in the immune response (Everly & Lating, 2002).

Some of the more dramatic examples demonstrating the link between stress and impaired immune function involve studies in which volunteers were exposed to viruses. The rationale behind this research is that because stress weakens the immune system, people with high stress levels should be more likely to develop an illness compared to those under little stress. In one memorable experiment using this method, researchers interviewed 276 healthy volunteers

about recent stressful experiences (Cohen et al., 1998). Following the interview, these participants were given nasal drops containing the cold virus (in case you are wondering why anybody would ever want to participate in a study in which they are subjected to such treatment, the participants were paid \$800 for their trouble). When examined later, participants who reported experiencing chronic stressors for more than one month—especially enduring difficulties involving work or relationships—were considerably more likely to have developed colds than were participants who reported no chronic stressors (Figure 1).



**Figure 12.** This graph shows the percentages of participants who developed colds (after receiving the cold virus) after reporting having experienced chronic stressors lasting at least one month, three months, and six months (adapted from Cohen et al., 1998).

In another study, older volunteers were given an influenza virus vaccination. Compared to controls, those who were caring for a spouse with Alzheimer's disease (and thus were under chronic stress) showed poorer antibody response following the vaccination (Kiecolt-Glaser, Glaser, Gravenstein, Malarkey, & Sheridan, 1996).

Other studies have demonstrated that stress slows down wound healing by impairing immune responses important to wound repair (Glaser & Kiecolt-Glaser, 2005). In one study, for example, skin blisters were induced on the forearm. Subjects who reported higher levels of stress produced lower levels of immune proteins necessary for wound healing (Glaser et al., 1999). Stress, then, is not so much the sword that kills the knight, so to speak; rather, it's the sword that breaks the knight's shield, and your immune system is that shield.

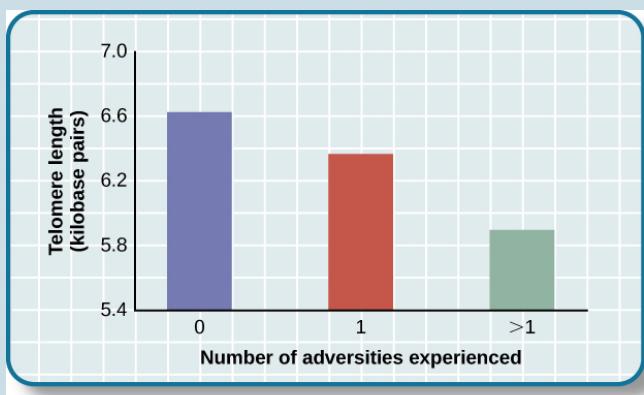
### *Stress and Aging: A Tale of Telomeres*

Have you ever wondered why people who are stressed often seem to have a haggard look about them? A pioneering study from 2004 suggests that the reason is because stress can actually accelerate the cell biology of aging.

Stress, it seems, can shorten telomeres, which are segments of DNA that protect the ends of chromosomes. Shortened telomeres can inhibit or block cell division, which includes growth and proliferation of new cells, thereby leading to more rapid aging (Sapolsky, 2004). In the study, researchers compared telomere lengths in the white blood cells in mothers of chronically ill children to those of mothers of healthy children (Epel et al., 2004). Mothers of chronically ill children would be expected to experience more stress than would mothers of healthy children. The longer a mother had spent caring for her ill child, the shorter her telomeres (the correlation between years of caregiving and telomere length was  $r = -.40$ ). In addition, higher levels of perceived stress were negatively correlated with telomere size ( $r = -.31$ ). These researchers also found

that the average telomere length of the most stressed mothers, compared to the least stressed, was similar to what you would find in people who were 9–17 years older than they were on average.

Numerous other studies since have continued to find associations between stress and eroded telomeres (Blackburn & Epel, 2012). Some studies have even demonstrated that stress can begin to erode telomeres in childhood and perhaps even before children are born. For example, childhood exposure to violence (e.g., maternal domestic violence, bullying victimization, and physical maltreatment) was found in one study to accelerate telomere erosion from ages 5 to 10 (Shalev et al., 2013). Another study reported that young adults whose mothers had experienced severe stress during their pregnancy had shorter telomeres than did those whose mothers had stress-free and uneventful pregnancies (Entringer et al., 2011). Further, the corrosive effects of childhood stress on telomeres can extend into young adulthood. In an investigation of over 4,000 U.K. women ages 41–80, adverse experiences during childhood (e.g., physical abuse, being sent away from home, and parent divorce) were associated with shortened telomere length (Surtees et al., 2010), and telomere size decreased as the amount of experienced adversity increased (Figure 13).



**Figure 13.** Telomeres are shorter in adults who experienced more trauma as children (adapted from Blackburn & Epel, 2012).

Efforts to dissect the precise cellular and physiological mechanisms linking short telomeres to stress and disease are currently underway. For the time being, telomeres provide us with yet another reminder that stress, especially during early life, can be just as harmful to our health as smoking or fast food (Blackburn & Epel, 2012).

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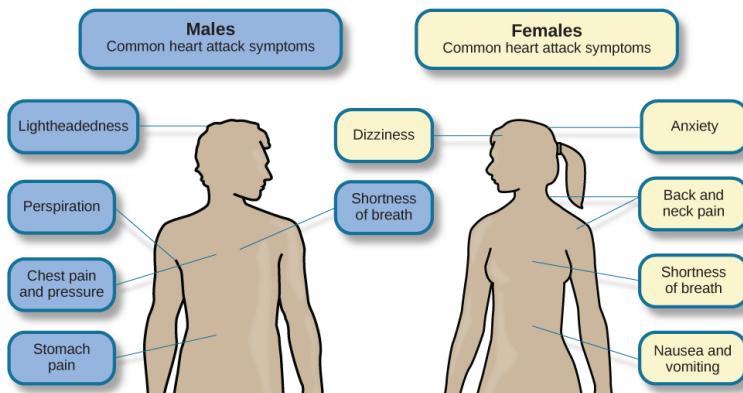
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## Cardiovascular Disorders

The cardiovascular system is composed of the heart and blood circulation system. For many years, disorders that involve the cardiovascular system—known as **cardiovascular disorders**—have been a major focal point in the study of psychophysiological

disorders because of the cardiovascular system's centrality in the stress response (Everly & Lating, 2002). **Heart disease** is one such condition. Each year, heart disease causes approximately one in three deaths in the United States, and it is the leading cause of death in the developed world (Centers for Disease Control and Prevention [CDC], 2011; Shapiro, 2005).

The symptoms of heart disease vary somewhat depending on the specific kind of heart disease one has, but they generally involve angina—chest pains or discomfort that occur when the heart does not receive enough blood (Office on Women's Health, 2009). The pain often feels like the chest is being pressed or squeezed; burning sensations in the chest and shortness of breath are also commonly reported. Such pain and discomfort can spread to the arms, neck, jaws, stomach (as nausea), and back (American Heart Association [AHA], 2012a) (Figure 3).



**Figure 14.** Males and females often experience different symptoms of a heart attack.

A major risk factor for heart disease is **hypertension**, which is high blood pressure. Hypertension forces a person's heart to pump harder, thus putting more physical strain on the heart. If left unchecked, hypertension can lead to a heart attack, stroke, or heart

failure; it can also lead to kidney failure and blindness. Hypertension is a serious cardiovascular disorder, and it is sometimes called the silent killer because it has no symptoms—one who has high blood pressure may not even be aware of it (AHA, 2012b).

Many risk factors contributing to cardiovascular disorders have been identified. These risk factors include social determinants such as aging, income, education, and employment status, as well as behavioral risk factors that include unhealthy diet, tobacco use, physical inactivity, and excessive alcohol consumption; obesity and diabetes are additional risk factors (World Health Organization [WHO], 2013).

Over the past few decades, there has been much greater recognition and awareness of the importance of stress and other psychological factors in cardiovascular health (Nusair, Al-dadah, & Kumar, 2012). Indeed, exposure to stressors of many kinds has also been linked to cardiovascular problems; in the case of hypertension, some of these stressors include job strain (Trudel, Brisson, & Milot, 2010), natural disasters (Saito, Kim, Maekawa, Ikeda, & Yokoyama, 1997), marital conflict (Nealey-Moore, Smith, Uchino, Hawkins, & Olson-Cerny, 2007), and exposure to high traffic noise levels at one's home (de Kluizenaar, Gansevoort, Miedema, & de Jong, 2007). Perceived discrimination appears to be associated with hypertension among African Americans (Sims et al., 2012). In addition, laboratory-based stress tasks, such as performing mental arithmetic under time pressure, immersing one's hand into ice water (known as the cold pressor test), mirror tracing, and public speaking have all been shown to elevate blood pressure (Phillips, 2011).

## Are you Type A or Type B?

Sometimes research ideas and theories emerge from seemingly trivial observations. In the 1950s, cardiologist Meyer Friedman was

looking over his waiting room furniture, which consisted of upholstered chairs with armrests. Friedman decided to have these chairs reupholstered. When the man doing the reupholstering came to the office to do the work, he commented on how the chairs were worn in a unique manner—the front edges of the cushions were worn down, as were the front tips of the arm rests. It seemed like the cardiology patients were tapping or squeezing the front of the armrests, as well as literally sitting on the edge of their seats (Friedman & Rosenman, 1974). Were cardiology patients somehow different than other types of patients? If so, how?

After researching this matter, Friedman and his colleague, Ray Rosenman, came to understand that people who are prone to heart disease tend to think, feel, and act differently than those who are not. These individuals tend to be intensively driven workaholics who are preoccupied with deadlines and always seem to be in a rush. According to Friedman and Rosenman, these individuals exhibit **Type A** behavior pattern; those who are more relaxed and laid-back were characterized as **Type B** (Figure 4). In a sample of Type As and Type Bs, Friedman and Rosenman were startled to discover that heart disease was over seven times more frequent among the Type As than the Type Bs (Friedman & Rosenman, 1959).

The major components of the Type A pattern include an aggressive and chronic struggle to achieve more and more in less and less time (Friedman & Rosenman, 1974). Specific characteristics of the Type A pattern include an excessive competitive drive, chronic sense of time urgency, impatience, and hostility toward others (particularly those who get in the person's way).



(a)

(b)

**Figure 15.** (a) Type A individuals are characterized as intensely driven, (b) while Type B people are characterized as laid-back and relaxed. (credit a: modification of work by Greg Hernandez; credit b: modification of work by Elvert Barnes)

An example of a person who exhibits Type A behavior pattern is Jeffrey. Even as a child, Jeffrey was intense and driven. He excelled

at school, was captain of the swim team, and graduated with honors from an Ivy League college. Jeffrey never seems able to relax; he is always working on something, even on the weekends. However, Jeffrey always seems to feel as though there are not enough hours in the day to accomplish all he feels he should. He volunteers to take on extra tasks at work and often brings his work home with him; he often goes to bed angry late at night because he feels that he has not done enough. Jeffrey is quick tempered with his coworkers; he often becomes noticeably agitated when dealing with those coworkers he feels work too slowly or whose work does not meet his standards. He typically reacts with hostility when interrupted at work. He has experienced problems in his marriage over his lack of time spent with family. When caught in traffic during his commute to and from work, Jeffrey incessantly pounds on his horn and swears loudly at other drivers. When Jeffrey was 52, he suffered his first heart attack.

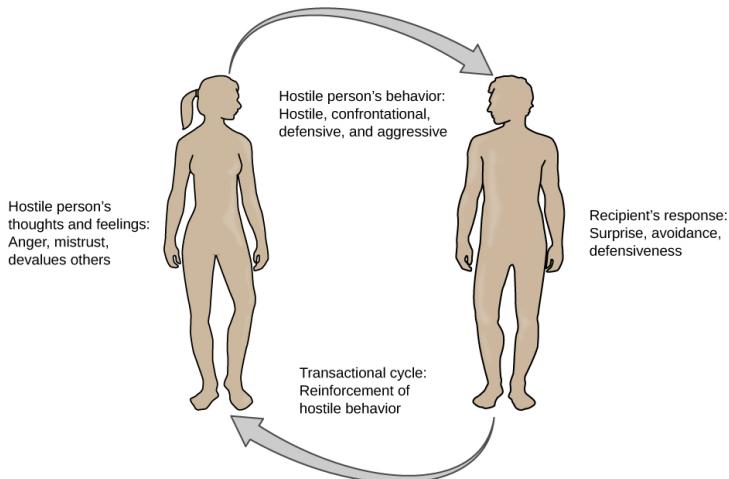
By the 1970s, a majority of practicing cardiologists believed that Type A behavior pattern was a significant risk factor for heart disease (Friedman, 1977). Indeed, a number of early longitudinal investigations demonstrated a link between Type A behavior pattern and later development of heart disease (Rosenman et al., 1975; Haynes, Feinleib, & Kannel, 1980).

Subsequent research examining the association between Type A and heart disease, however, failed to replicate these earlier findings (Glassman, 2007; Myrtek, 2001). Because Type A theory did not pan out as well as they had hoped, researchers shifted their attention toward determining if any of the specific elements of Type A predict heart disease.

Extensive research clearly suggests that the anger/hostility dimension of Type A behavior pattern may be one of the most important factors in the development of heart disease. This relationship was initially described in the Haynes et al. (1980) study mentioned above: Suppressed hostility was found to substantially elevate the risk of heart disease for both men and women. Also, one investigation followed over 1,000 male medical students from 32 to 48 years. At the beginning of the study, these men completed a

questionnaire assessing how they react to pressure; some indicated that they respond with high levels of **anger**, whereas others indicated that they respond with less anger. Decades later, researchers found that those who earlier had indicated the highest levels of anger were over 6 times more likely than those who indicated less anger to have had a heart attack by age 55, and they were 3.5 times more likely to have experienced heart disease by the same age (Chang, Ford, Meoni, Wang, & Klag, 2002). From a health standpoint, it clearly does not pay to be an angry young person.

After reviewing and statistically summarizing 35 studies from 1983 to 2006, Chida and Steptoe (2009) concluded that the bulk of the evidence suggests that anger and hostility constitute serious long-term risk factors for adverse cardiovascular outcomes among both healthy individuals and those already suffering from heart disease. One reason angry and hostile moods might contribute to cardiovascular diseases is that such moods can create social strain, mainly in the form of antagonistic social encounters with others. This strain could then lay the foundation for disease-promoting cardiovascular responses among hostile individuals (Vella, Kamarck, Flory, & Manuck, 2012). In this transactional model, hostility and social strain form a cycle (Figure 5).



**Figure 16.** According to the transactional model of hostility for predicting social interactions (Vella et al., 2012), the thoughts and feelings of a hostile person promote antagonistic behavior toward others, which in turn reinforces complimentary reactions from others, thereby intensifying ones' hostile disposition and intensifying the cyclical nature of this relationship.

For example, suppose Kaitlin has a hostile disposition; she has a cynical, distrustful attitude toward others and often thinks that other people are out to get her. She is very defensive around people, even those she has known for years, and she is always looking for signs that others are either disrespecting or belittling her. In the shower each morning before work, she often mentally rehearses what she would say to someone who said or did something that angered her, such as making a political statement that was counter to her own ideology. As Kaitlin goes through these mental rehearsals, she often grins and thinks about the retaliation on anyone who will irk her that day.

Socially, she is confrontational and tends to use a harsh tone with people, which often leads to very disagreeable and sometimes argumentative social interactions. As you might imagine, Kaitlin is not especially popular with others, including coworkers, neighbors,

and even members of her own family. They either avoid her at all costs or snap back at her, which causes Kaitlin to become even more cynical and distrustful of others, making her disposition even more hostile. Kaitlin's hostility—through her own doing—has created an antagonistic environment that cyclically causes her to become even more hostile and angry, thereby potentially setting the stage for cardiovascular problems.

In addition to anger and hostility, a number of other negative emotional states have been linked with heart disease, including negative affectivity and depression (Suls & Bunde, 2005). **Negative affectivity** is a tendency to experience distressed emotional states involving anger, contempt, disgust, guilt, fear, and nervousness (Watson, Clark, & Tellegen, 1988). It has been linked with the development of both hypertension and heart disease. For example, over 3,000 initially healthy participants in one study were tracked longitudinally, up to 22 years. Those with higher levels of negative affectivity at the time the study began were substantially more likely to develop and be treated for hypertension during the ensuing years than were those with lower levels of negative affectivity (Jonas & Lando, 2000). In addition, a study of over 10,000 middle-aged London-based civil servants who were followed an average of 12.5 years revealed that those who earlier had scored in the upper third on a test of negative affectivity were 32% more likely to have experienced heart disease, heart attack, or angina over a period of years than were those who scored in the lowest third (Nabi, Kivimaki, De Vogli, Marmot, & Singh-Manoux, 2008). Hence, negative affectivity appears to be a potentially vital risk factor for the development of cardiovascular disorders.



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## Coping with Stress



As you learned in the previous section, stress—especially if it is chronic—takes a toll on our bodies and can have enormously negative health

implications. When we experience events in our lives that we appraise as stressful, it is essential that we use effective coping strategies to manage our stress. Coping refers to mental and behavioral efforts that we use to deal with problems relating to stress, including its presumed cause and the unpleasant feelings and emotions it produces.

Happiness is conceptualized as an enduring state of mind that consists of the capacity to experience pleasure in daily life, as well as the ability to engage one's skills and talents to enrich one's life and the lives of others. Although people around the world generally report that they are happy, there are differences in average happiness levels across nations. Although people have a tendency to overestimate the extent to which their happiness set points would change for the better or for the worse following certain life events, researchers have identified a number of factors that are consistently related to happiness. In recent years, positive psychology has emerged as an area of study seeking to identify and promote qualities that lead to greater happiness and fulfillment in our lives. These components include positive affect, optimism, and flow.

## Coping Styles

Lazarus and Folkman (1984) distinguished two fundamental kinds of coping: problem-focused coping and emotion-focused coping. In problem-focused coping, one attempts to manage or alter the problem that is causing one to experience stress (i.e., the stressor). **Problem-focused coping** strategies are similar to strategies used in everyday problem-solving: they typically involve identifying the problem, considering possible solutions, weighing the costs and benefits of these solutions, and then selecting an alternative (Lazarus & Folkman, 1984). As an example, suppose Bradford receives a midterm notice that he is failing statistics class. If Bradford adopts a problem-focused coping approach to managing

his stress, he would be proactive in trying to alleviate the source of the stress. He might contact his professor to discuss what must be done to raise his grade, he might also decide to set aside two hours daily to study statistics assignments, and he may seek tutoring assistance. A problem-focused approach to managing stress means we actively try to do things to address the problem.

**Emotion-focused coping**, in contrast, consists of efforts to change or reduce the negative emotions associated with stress. These efforts may include avoiding, minimizing, or distancing oneself from the problem, or positive comparisons with others (“I’m not as bad off as she is”), or seeking something positive in a negative event (“Now that I’ve been fired, I can sleep in for a few days”). In some cases, emotion-focused coping strategies involve reappraisal, whereby the stressor is construed differently (and somewhat self-deceptively) without changing its objective level of threat (Lazarus & Folkman, 1984). For example, a person sentenced to federal prison who thinks, “This will give me a great chance to network with others,” is using reappraisal. If Bradford adopted an emotion-focused approach to managing his midterm deficiency stress, he might watch a comedy movie, play video games, or spend hours on Twitter to take his mind off the situation. In a certain sense, emotion-focused coping can be thought of as treating the symptoms rather than the actual cause.

While many stressors elicit both kinds of coping strategies, problem-focused coping is more likely to occur when encountering stressors we perceive as controllable, while emotion-focused coping is more likely to predominate when faced with stressors that we believe we are powerless to change (Folkman & Lazarus, 1980). Clearly, emotion-focused coping is more effective in dealing with uncontrollable stressors. For example, if at midnight you are stressing over a 40-page paper due in the morning that you have not yet started, you are probably better off recognizing the hopelessness of the situation and doing something to take your mind off it; taking a problem-focused approach by trying to

accomplish this task would only lead to frustration, anxiety, and even more stress.

Fortunately, most stressors we encounter can be modified and are, to varying degrees, controllable. A person who cannot stand her job can quit and look for work elsewhere; a middle-aged divorcee can find another potential partner; the freshman who fails an exam can study harder next time, and a breast lump does not necessarily mean that one is fated to die of breast cancer.

## Try It



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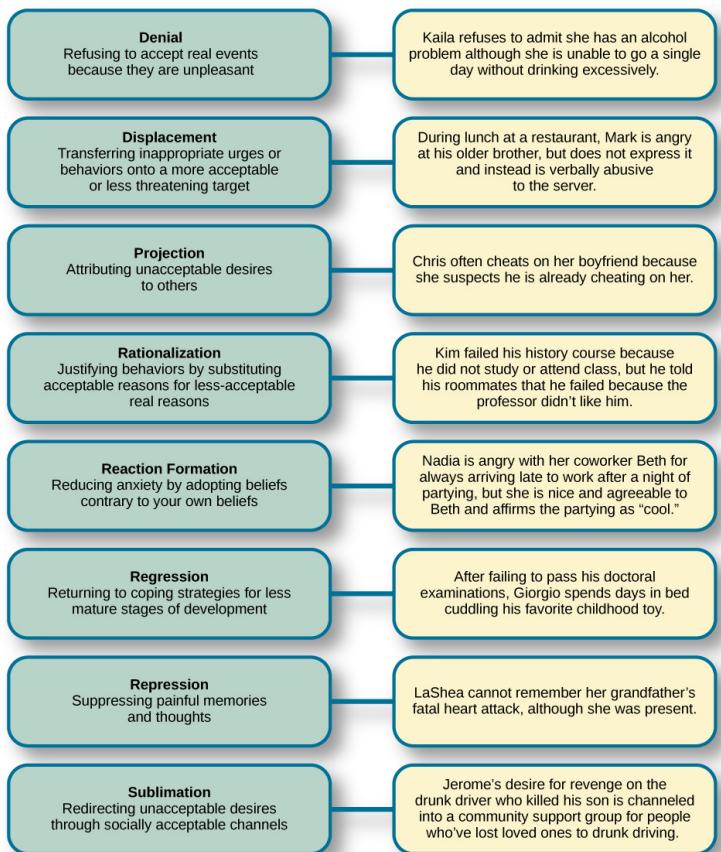


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## Defense Mechanisms

Freud believed that feelings of anxiety result from the ego's inability to mediate the conflict between the id and superego. When this happens, Freud believed that the ego seeks to restore balance through various protective measures known as **defense mechanisms** (Figure 6). When certain events, feelings, or yearnings cause an individual anxiety, the individual wishes to reduce that anxiety. To do that, the individual's unconscious mind uses ego defense mechanisms, unconscious protective behaviors that aim to reduce anxiety. The ego, usually conscious, resorts to unconscious strivings to protect the ego from being overwhelmed by anxiety. When we use defense mechanisms, we are unaware that we are using them. Further, they operate in various ways that distort reality. According to Freud, we all use ego defense mechanisms.



**Figure 17.** Defense mechanisms are unconscious protective behaviors that work to reduce anxiety.

While everyone uses defense mechanisms, Freud believed that overuse of them may be problematic. For example, let's say Joe Smith is a high school football player. Deep down, Joe feels sexually attracted to males. His conscious belief is that being gay is immoral and that if he were gay, his family would disown him and he would be ostracized by his peers. Therefore, there is a conflict between his conscious beliefs (being gay is wrong and will result in being

ostracized) and his unconscious urges (attraction to males). The idea that he might be gay causes Joe to have feelings of anxiety. How can he decrease his anxiety? Joe may find himself acting very “macho,” making gay jokes, and picking on a school peer who is gay. This way, Joe’s unconscious impulses are further submerged.

There are several different types of defense mechanisms. For instance, in repression, anxiety-causing memories from consciousness are blocked. As an analogy, let’s say your car is making a strange noise, but because you do not have the money to get it fixed, you just turn up the radio so that you no longer hear the strange noise. Eventually you forget about it. Similarly, in the human psyche, if a memory is too overwhelming to deal with, it might be **repressed** and thus removed from conscious awareness (Freud, 1920). This repressed memory might cause symptoms in other areas.

Another defense mechanism is **reaction formation**, in which someone expresses feelings, thoughts, and behaviors opposite to their inclinations. In the above example, Joe made fun of a homosexual peer while himself being attracted to males. In **regression**, an individual acts much younger than their age. For example, a four-year-old child who resents the arrival of a newborn sibling may act like a baby and revert to drinking out of a bottle. In **projection**, a person refuses to acknowledge her own unconscious feelings and instead sees those feelings in someone else. Other defense mechanisms include **rationalization**, **displacement**, and **sublimation**.

## Try It



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## Control and Stress

The desire and ability to predict events, make decisions, and affect outcomes—that is, to enact control in our lives—is a basic tenet of human behavior (Everly & Lating, 2002). Albert Bandura (1997) stated that “the intensity and chronicity of human stress is governed largely by perceived control over the demands of one’s life” (p. 262). As cogently described in his statement, our reaction to potential stressors depends to a large extent on how much control we feel we have over such things. **Perceived control** is our beliefs about our personal capacity to exert influence over and shape outcomes, and it has major implications for our health and happiness (Infurna & Gerstorf, 2014). Extensive research has demonstrated that perceptions of personal control are associated with a variety of favorable outcomes, such as better physical and mental health and

greater psychological well-being (Diehl & Hay, 2010). Greater personal control is also associated with lower reactivity to stressors in daily life. For example, researchers in one investigation found that higher levels of perceived control at one point in time were later associated with lower emotional and physical reactivity to interpersonal stressors (Neupert, Almeida, & Charles, 2007). Further, a daily diary study with 34 older widows found that their stress and anxiety levels were significantly reduced on days during which the widows felt greater perceived control (Ong, Bergeman, & Bisconti, 2005).

The link between perceived control and health may provide an explanation for the frequently observed relationship between social class and health outcomes (Kraus, Piff, Mendoza-Denton, Rheinschmidt, & Keltner, 2012). In general, research has found that more affluent individuals experience better health mainly because they tend to believe that they can personally control and manage their reactions to life's stressors (Johnson & Krueger, 2006). Perhaps buoyed by the perceived level of control, individuals of higher social class may be prone to overestimating the degree of influence they have over particular outcomes. For example, those of higher social class tend to believe that their votes have greater sway on election outcomes than do those of lower social class, which may explain higher rates of voting in more affluent communities (Krosnick, 1990). Other research has found that a sense of perceived control can protect less affluent individuals from poorer health, depression, and reduced life-satisfaction—all of which tend to accompany lower social standing (Lachman & Weaver, 1998).

Taken together, findings from these and many other studies clearly suggest that perceptions of control and coping abilities are important in managing and coping with the stressors we encounter throughout life.

## Try It



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## Social Support

The need to form and maintain strong, stable relationships with others is a powerful, pervasive, and fundamental human motive (Baumeister & Leary, 1995). Building strong interpersonal relationships with others helps us establish a network of close,

caring individuals who can provide social support in times of distress, sorrow, and fear. **Social support** can be thought of as the soothing impact of friends, family, and acquaintances (Baron & Kerr, 2003). Social support can take many forms, including advice, guidance, encouragement, acceptance, emotional comfort, and tangible assistance (such as financial help). Thus, other people can be very comforting to us when we are faced with a wide range of life stressors, and they can be extremely helpful in our efforts to manage these challenges. Even in nonhuman animals, species mates can offer social support during times of stress. For example, elephants seem to be able to sense when other elephants are stressed and will often comfort them with physical contact—such as a trunk touch—or an empathetic vocal response (Krumboltz, 2014).

Scientific interest in the importance of social support first emerged in the 1970s when health researchers developed an interest in the health consequences of being socially integrated (Stroebe & Stroebe, 1996). Interest was further fueled by longitudinal studies showing that social connectedness reduced mortality. In one classic study, nearly 7,000 Alameda County, California, residents were followed over 9 years. Those who had previously indicated that they lacked social and community ties were more likely to die during the follow-up period than those with more extensive social networks. Compared to those with the most social contacts, isolated men and women were, respectively, 2.3 and 2.8 times more likely to die. These trends persisted even after controlling for a variety of health-related variables, such as smoking, alcohol consumption, self-reported health at the beginning of the study, and physical activity (Berkman & Syme, 1979).

Since the time of that study, social support has emerged as one of the well-documented psychosocial factors affecting health outcomes (Uchino, 2009). A statistical review of 148 studies conducted between 1982 and 2007 involving over 300,000 participants concluded that individuals with stronger social relationships have a 50% greater likelihood of survival compared to those with weak or insufficient social relationships (Holt-Lunstad,

Smith, & Layton, 2010). According to the researchers, the magnitude of the effect of social support observed in this study is comparable with quitting smoking and exceeded many well-known risk factors for mortality, such as obesity and physical inactivity.



(a)

(b)

**Figure 18.** Close relationships with others, whether (a) a group of friends or (b) a family circle, provide more than happiness and fulfillment—they can help foster good health. (credit a: modification of work by Nattachai Noogure; credit b: modification of work by Christian Haugen)

A number of large-scale studies have found that individuals with low levels of social support are at greater risk of mortality, especially from cardiovascular disorders (Brummett et al., 2001). Further, higher levels of social supported have been linked to better survival rates following breast cancer (Falagas et al., 2007) and infectious diseases, especially HIV infection (Lee & Rotheram-Borus, 2001). In fact, a person with high levels of social support is less likely to contract a common cold. In one study, 334 participants completed questionnaires assessing their sociability; these individuals were subsequently exposed to a virus that causes a common cold and monitored for several weeks to see who became ill. Results showed that increased sociability was linearly associated with a decreased probability of developing a cold (Cohen, Doyle, Turner, Alper, & Skoner, 2003).

For many of us, friends are a vital source of social support. But what if you found yourself in a situation in which you lacked friends or companions? For example, suppose a popular high school

student attends a far-away college, does not know anyone, and has trouble making friends and meaningful connections with others during the first semester. What can be done? If real life social support is lacking, access to distant friends via social media may help compensate. In a study of college freshmen, those with few face-to-face friends on campus but who communicated electronically with distant friends were less distressed than those who did not (Raney & Troop-Gordon, 2012). Also, for some people, our families—especially our parents—are a major source of social support.

Social support appears to work by boosting the immune system, especially among people who are experiencing stress (Uchino, Vaughn, Carlisle, & Birmingham, 2012). In a pioneering study, spouses of cancer patients who reported high levels of social support showed indications of better immune functioning on two out of three immune functioning measures, compared to spouses who were below the median on reported social support (Baron, Cutrona, Hicklin, Russell, & Lubaroff, 1990). Studies of other populations have produced similar results, including those of spousal caregivers of dementia sufferers, medical students, elderly adults, and cancer patients (Cohen & Herbert, 1996; Kiecolt-Glaser, McGuire, Robles, & Glaser, 2002).

In addition, social support has been shown to reduce blood pressure for people performing stressful tasks, such as giving a speech or performing mental arithmetic (Lepore, 1998). In these kinds of studies, participants are usually asked to perform a stressful task either alone, with a stranger present (who may be either supportive or unsupportive), or with a friend present. Those tested with a friend present generally exhibit lower blood pressure than those tested alone or with a stranger (Fontana, Diegnan, Villeneuve, & Lepore, 1999). In one study, 112 female participants who performed stressful mental arithmetic exhibited lower blood pressure when they received support from a friend rather than a stranger, but only if the friend was a male (Phillips, Gallagher, & Carroll, 2009). Although these findings are somewhat difficult to interpret, the

authors mention that it is possible that females feel less supported and more evaluated by other females, particularly females whose opinions they value.

Taken together, the findings above suggest one of the reasons social support is connected to favorable health outcomes is because it has several beneficial physiological effects in stressful situations. However, it is also important to consider the possibility that social support may lead to better health behaviors, such as a healthy diet, exercising, smoking cessation, and cooperation with medical regimens (Uchino, 2009).

## Try It



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## Stress Reduction Techniques

Beyond having a sense of control and establishing social support networks, there are numerous other means by which we can manage stress. A common technique people use to combat stress is **exercise** (Salmon, 2001). It is well-established that exercise, both of long (aerobic) and short (anaerobic) duration, is beneficial for both physical and mental health (Everly & Lating, 2002). There is considerable evidence that physically fit individuals are more resistant to the adverse effects of stress and recover more quickly from stress than less physically fit individuals (Cotton, 1990). In a study of more than 500 Swiss police officers and emergency service personnel, increased physical fitness was associated with reduced stress, and regular exercise was reported to protect against stress-related health problems (Gerber, Kellman, Hartman, & Pühse, 2010).



**Figure 19.**  
Stress reduction techniques may include (a) exercise, (b) meditation and relaxation, or (c) biofeedback.  
(credit a: modification of work by “UNE Photos”/Flickr; credit b: modification of work by Caleb Roenigk; credit c: modification of work by Dr. Carmen Russoniello)

One reason exercise may be beneficial is because it might buffer some of the deleterious physiological mechanisms of stress. One study found rats that exercised for six weeks showed a decrease in hypothalamic-pituitary-adrenal responsiveness to mild stressors (Campeau et al., 2010). In high-stress humans, exercise has been shown to prevent telomere shortening, which may explain the common observation of a youthful appearance among those who exercise regularly (Puterman et al., 2010). Further, exercise in later adulthood appears to minimize the detrimental effects of stress on the hippocampus and memory (Head, Singh, & Bugg, 2012). Among cancer survivors, exercise has been shown to reduce anxiety (Speck, Courneya, Masse, Duval, & Schmitz, 2010) and depressive symptoms

(Craft, VanIterson, Helenowski, Rademaker, & Courneya, 2012). Clearly, exercise is a highly effective tool for regulating stress.

In the 1970s, Herbert Benson, a cardiologist, developed a stress reduction method called the **relaxation response technique** (Greenberg, 2006). The relaxation response technique combines relaxation with transcendental **meditation**, and consists of four components (Stein, 2001): sitting upright on a comfortable chair with feet on the ground and body in a relaxed position, a quiet environment with eyes closed, repeating a word or a phrase—a mantra—to oneself, such as “alert mind, calm body,” passively allowing the mind to focus on pleasant thoughts, such as nature or the warmth of your blood nourishing your body.

The relaxation response approach is conceptualized as a general approach to stress reduction that reduces sympathetic arousal, and it has been used effectively to treat people with high blood pressure (Benson & Proctor, 1994).

Another technique to combat stress, **biofeedback**, was developed by Gary Schwartz at Harvard University in the early 1970s. Biofeedback is a technique that uses electronic equipment to accurately measure a person's neuromuscular and autonomic activity—feedback is provided in the form of visual or auditory signals. The main assumption of this approach is that providing somebody biofeedback will enable the individual to develop strategies that help gain some level of voluntary control over what are normally involuntary bodily processes (Schwartz & Schwartz, 1995). A number of different bodily measures have been used in biofeedback research, including facial muscle movement, brain activity, and skin temperature, and it has been applied successfully with individuals experiencing tension headaches, high blood pressure, asthma, and phobias (Stein, 2001).

# Physical Development in Early Adulthood

In this section, we will see how young adults are often at their peak physically, sexually, and in terms of health and reproduction; yet they are also particularly at risk for injury, violence, substance abuse, sexually transmitted diseases, and more. As you read, consider whether or not you think young adults are in the prime of their lives.

Before we dive into the specific physical changes and experiences of early adulthood, let's consider the key developmental tasks during this time—the ages between 18 and 40. The beginning of early adulthood, ages 18–25, is sometimes considered its own phase, emerging adulthood, but the developmental tasks that are the focus during emerging adulthood persist throughout the early adulthood years. Look at the list below and try to think of someone you know between 18 and 40 who fits each of the descriptions.



**Figure 1.** How old do you think this group of young adults are? What clues can you use to help you estimate their age?

## Developmental Tasks of Early Adulthood

Havighurst (1972) describes some of the developmental tasks of young adults. These include:

1. Achieving autonomy: trying to establish oneself as an

- independent person with a life of one's own
2. Establishing identity: more firmly establishing likes, dislikes, preferences, and philosophies
  3. Developing emotional stability: becoming more stable emotionally which is considered a sign of maturing
  4. Establishing a career: deciding on and pursuing a career or at least an initial career direction and pursuing an education
  5. Finding intimacy: forming first close, long-term relationships
  6. Becoming part of a group or community: young adults may, for the first time, become involved with various groups in the community. They may begin voting or volunteering to be part of civic organizations (scouts, church groups, etc.). This is especially true for those who participate in organizations as parents.
  7. Establishing a residence and learning how to manage a household: learning how to budget and keep a home maintained.
  8. Becoming a parent and rearing children: learning how to manage a household with children.
  9. Making marital or relationship adjustments and learning to parent.

### TRY IT



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### Think It Over

To what extent do you think these early adulthood developmental tasks have changed in the last several years? How might these tasks vary by culture?

# Physical Development in Early Adulthood

## The Physiological Peak

People in their twenties and thirties are considered young adults. If you are in your early twenties, you are probably at the peak of your physiological development. Your body has completed its growth, though your brain is still developing (as explained in the previous module on adolescence).

Physically, you are in the “prime of your life” as your reproductive system, motor ability, strength, and lung capacity are operating at their best. However, these systems will start a slow, gradual decline so that by the time you reach your mid to late 30s, you will begin to notice signs of aging. This includes a decline in your immune system, your response time, and in your ability to recover quickly from physical exertion. For example, you may have noticed that it takes you quite some time to stop panting after running to class or taking the stairs. But, remember that both nature and nurture continue to influence development. Getting out of shape is not an inevitable part of aging; it is probably due to the fact that you have become less physically active and have experienced greater stress. The good news is that there are things you can do to combat many of these changes. So keep in mind, as we continue to discuss the lifespan, that some of the changes we associate with aging can be prevented or turned around if we adopt healthier lifestyles.

In fact, research shows that the habits we establish in our twenties are related to certain health conditions in middle age, particularly the risk of heart disease. What are healthy habits that



**Figure 2.** Early adulthood is generally a time of peak physical health.

young adults can establish now that will prove beneficial in later life? Healthy habits include maintaining a lean body mass index, moderate alcohol intake, a smoke-free lifestyle, a healthy diet, and regular physical activity. When experts were asked to name one thing they would recommend young adults do to facilitate good health, their specific responses included: weighing self often, learning to cook, reducing sugar intake, developing an active lifestyle, eating vegetables, practicing portion control, establishing an exercise routine (especially a “post-party” routine, if relevant), and finding a job you love.

Being overweight or obese is a real concern in early adulthood. Medical research shows that American men and women with moderate weight gain from early to middle adulthood have significantly increased risks of major chronic disease and mortality (Zheng, et al, 2017). Given the fact that American men and women tend to gain about one to two pounds per year from early to middle adulthood, developing healthy nutrition and exercise habits across adulthood is important (Nichols, 2017).

### Watch It

This video explains how the brain continues to develop into adulthood.



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## A Healthy, but Risky Time

Early adulthood tends to be a time of relatively good health. For instance, in the United States, adults ages 18–44 have the lowest percentage of physician office visits than any other age group, younger or older. However, early adulthood seems to be a particularly risky time for violent deaths (rates vary by gender, race, and ethnicity). The leading causes of death for both age groups 15–24 and 25–34 in the U.S. are unintentional injury, suicide, and homicide. Cancer and heart disease follow as the fourth and fifth top causes of death among young adults (Centers for Disease Control and Prevention, 2019).

## Try It



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### ***Substance Abuse***

Rates of violent death are influenced by substance abuse, which peaks during early adulthood. Some young adults use drugs and alcohol as a way of coping with stress from family, personal relationships, or concerns over being on one's own. Others "use" because they have friends who use and in the early 20s, there is still a good deal of pressure to conform. Youth transitioning into adulthood have some of the highest rates of alcohol and substance abuse. For instance, rates of binge drinking (drinking five or more drinks on a single occasion) in 2014 were: 28.5 percent for people ages 18 to 20 and 43.3 percent for people ages 21-25. Recent data from the Centers for Disease Control and Prevention show increases in drug overdose deaths between 2006 and 2016 (with higher rates among males), but with the steepest increases between

2014 and 2016 occurring among males aged 24-34 and females aged 24-34 and 35-44. Rates vary by other factors including race and geography; increased use and abuse of opioids may also play a role.

## Watch It

To learn more about opioid drugs and the current opioid crisis, please watch the following video:



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Drugs impair judgment, reduce inhibitions, and alter mood, all of which can lead to dangerous behavior. Reckless driving, violent altercations, and forced sexual encounters are some examples. College campuses are notorious for binge drinking, which is particularly concerning since alcohol plays a role in over half of all student sexual assaults. Alcohol is involved nearly 90 percent of the time in acquaintance rape (when the perpetrator knows the victim). Over 40 percent of sexual assaults involve alcohol use by the victim and almost 70 percent involve alcohol use by the perpetrator.

## *Link to Learning*

After she was the victim of an assault in London, college student Jone Wells published a letter to her attacker in a student newspaper that went viral and sparked the #NotGuilty campaign against sexual violence and victim-blaming. [Watch Jone Wells' TED talk “How We Talk About Sexual Assault Online”](#) to learn more [Note: this is a sensitive topic.]

Drug and alcohol use increase the risk of sexually transmitted infections because people are more likely to engage in risky sexual behavior when under the influence. This includes having sex with someone who has had multiple partners, having anal sex without the use of a condom, having multiple partners, or having sex with someone whose history is unknown. Such risky sexual behavior puts individuals at increased risk for both sexually transmitted diseases (STDs) and human immunodeficiency virus (HIV). STDs are especially common among young people. There are about 20 million new cases of STDs each year in the United States and about half of those infections are in people between the ages of 15 and 24. Also, young people are the most likely to be unaware of their HIV infection, with half not knowing they have the virus (Centers for Disease Control and Prevention, 2019).

## Try It



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## Sex and Fertility in Early Adulthood

### Sexual Responsiveness and Reproduction in Early Adulthood

#### *Sexual Responsiveness*

Men and women tend to reach their peak of sexual responsiveness at different ages. For men, sexual responsiveness tends to peak in the late teens and early twenties. Sexual arousal can easily occur in response to physical stimulation or fantasizing. Sexual responsiveness begins a slow decline in the late twenties and into

the thirties although a man may continue to be sexually active throughout adulthood. Over time, a man may require more intense stimulation in order to become aroused. Women often find that they become more sexually responsive throughout their 20s and 30s and may peak in the late 30s or early 40s. This is likely due to greater self-confidence and reduced inhibitions about sexuality.

There are a wide variety of factors that influence sexual relationships during emerging adulthood; this includes beliefs about certain sexual behaviors and marriage. For example, among emerging adults in the United States, it is common for oral sex to not be considered “real sex”. In the 1950s and 1960s, about 75 percent of people between the ages of 20–24 engaged in premarital sex; today, that number is 90 percent. Unintended pregnancy and sexually transmitted infections and diseases (STIs/STDs) are a central issue. As individuals move through emerging adulthood, they are more likely to engage in monogamous sexual relationships and practice safe sex.

## *Reproduction*

For many couples, early adulthood is the time for having children. However, delaying childbearing until the late 20s or early 30s has become more common in the United States. The mean age of first-time mothers in the United States increased 1.4 years, from 24.9 in 2000 to 26.3 in 2014. This shift can primarily be attributed to a larger number of first births to older women along with fewer births to mothers under age 20 (CDC, 2016).

Couples delay childbearing for a number of reasons. Women are now more likely to attend college and begin careers before starting families. And both men and women are delaying marriage until they are in their late 20s and early 30s. In 2018, the average age for a first marriage in the United States was 29.8 for men and 27.8 for women.

## *Infertility*

Infertility affects about 6.7 million women or 11 percent of the reproductive age population (American Society of Reproductive Medicine [ASRM], 2006–2010. Male factors create infertility in about a third of the cases. For men, the most common cause is a lack of sperm production or low sperm production. Female factors cause infertility in another third of cases. For women, one of the most common causes of infertility is ovulation disorder. Other causes of female infertility include blocked fallopian tubes, which can occur when a woman has had **pelvic inflammatory disease (PID)** or **endometriosis**. PID is experienced by 1 out of 7 women in the United States and leads to infertility about 20 percent of the time. One of the major causes of PID is **Chlamydia**, the most commonly diagnosed sexually transmitted infection in young women. Another cause of pelvic inflammatory disease is **gonorrhea**. Both male and female factors contribute to the remainder of cases of infertility and approximately 20 percent are unexplained.

### *Watch It*

Watch this video to learn more about the reasons for infertility and the main treatment methods available for conceiving.



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## *Fertility Treatment*

The majority of infertility cases (85-90 percent) are treated using fertility drugs to increase ovulation or with surgical procedures to repair the reproductive organs or remove scar tissue from the reproductive tract. **In vitro fertilization (IVF)** is used to treat infertility in less than 5 percent of cases. IVF is used when a woman has blocked or deformed fallopian tubes or sometimes when a man has a very low sperm count. This procedure involves removing eggs from the female and fertilizing the eggs outside the woman's body. The fertilized egg is then reinserted in the woman's uterus. The average cost of an IVF cycle in the U.S. is \$10,000-15,000 and the average live delivery rate for IVF in 2005 was 31.6 percent per retrieval. IVF makes up about 99 percent of artificial reproductive procedures. [ASRM, 2006-2010]

Less common procedures include **gamete intrafallopian tube transfer (GIFT)** which involves implanting both sperm and ova into the fallopian tube and fertilization is allowed to occur naturally. **Zygote intrafallopian tube transfer (ZIFT)** is another procedure in which sperm and ova are fertilized outside of the woman's body and the fertilized egg or zygote is then implanted in the fallopian tube. This allows the zygote to travel down the fallopian tube and embed in the lining of the uterus naturally.

Insurance coverage for infertility is required in fourteen states,

but the amount and type of coverage available vary greatly (ASRM, 2006-2010). The majority of couples seeking treatment for infertility pay much of the cost. Consequently, infertility treatment is much more accessible to couples with higher incomes. However, grants and funding sources may be available for lower-income couples seeking infertility treatment.

### *Fertility for Singles and Same-Sex Couples*

The journey to parenthood may look different for singles same-sex couples. However, there are several viable options available to them to have their own biological children. Men and women may choose to donate their sperm or eggs to help others reproduce for monetary or humanitarian reasons. Some gay couples may decide to have a surrogate pregnancy. One or both of the men would provide the sperm and choose a carrier. The chosen woman may be the source of the egg and uterus or the woman could be a third party that carries the created embryo.

Reciprocal IVF is used by couples who both possess female reproductive organs. Using in vitro fertilization, eggs are removed from one partner to be used to make embryos that the other partner will hopefully carry in a successful pregnancy.

**Artificial insemination (AI)** is the deliberate introduction of sperm into a female's cervix or uterine cavity for the purpose of achieving a pregnancy through in vivo fertilization by means other than sexual intercourse. AI is most often used by single women who desire to give birth to their own child, women who are in a lesbian relationship, or women who are in a heterosexual relationship but with a male partner who is infertile or who has a physical impairment which prevents intercourse. The sperm used could be anonymous or from a known donor.

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# Physical Development in Middle Adulthood



Hippocrates (author of the famous “Hippocratic oath”) was of the opinion that “walking is the best medicine.” This was his learned opinion in 400 BCE and there is now considerable, and increasing, evidence that he may have been correct.

As we will see, there are simple physiological changes that accompany middle adulthood. These are somewhat inevitable, but the importance of physical activity at this age range would be difficult to overstate looking at the evidence. Exercise does not necessarily mean running marathons, it may simply mean a commitment to using your legs in a brisk fashion for thirty minutes. “Use it or lose it” is a good mantra for this stage of development—the technical term for the loss of muscle tissue and function as we age is sarcopenia. From age 30, the body loses 3–8% of its muscle mass per decade, and this accelerates after the age of 60 (Volpi et al, 2010). Diet and exercise can ameliorate both the extent and lifestyle consequences of these kinds of processes. In this section, we will examine some of the changes associated with middle adulthood and consider how they impact human life.

## Physical Mobility in Middle Adulthood

The importance of not succumbing to the temptations of a sedentary lifestyle was as obvious to Hippocrates in 400 BCE as it is now. Piasecki et al (2018) are of the opinion that **sarcopenia** (loss of muscle tissue and function as we age) in legs might be the result of leg muscles becoming detached from the nervous system. Further, Piasescki et al (2018) believe that exercise encourages new nerve growth slowing the progression of sarcopenia. Persons aged 75 may have up to 30-60% fewer nerve endings in their leg muscles than they did in their early 20s.

Sarcopenia has only recently been recognized an independent disease entity since 2016 (ICD-10). In 2018 the U.S. Center for Disease Control and prevention assigned sarcopenia its own discrete medical code. Disease entities that affect mobility will become an increasingly costly phenomenon, and will affect the quality of life of millions of people as the population ages. In many ways it is a natural phenomenon, and many doctors and researchers have been reticent to overly pathologize natural changes associated with age. However, mobility is now becoming a central concern, and some researchers are now identifying some conditions like **osteosarcopenia**, which describes the decline of both muscle tissue (sarcopenia) and bone tissue (osteoporosis). Diagnoses and pharmaceuticals which deal with the central question of mobility will become ever more important, even more so as the burgeoning costs associated with caring for those with mobility issues becomes apparent.

The years between 30 and 60 can see the onset of **rheumatoid arthritis** (RA). This is the third most common form of arthritis



**Figure 1.** Exercise during middle adulthood is important not only for the body, but for the brain.

and its specific etiology is unknown at this time. RA occurs when antibodies attack normal synovial fluid in the joints mistaking them for an alien threat. **It affects women more than men by a factor of around 3 to 1.** Peak onset for women is reckoned to be sometime in the early 40s. This has led to the conclusion, albeit a preliminary one, that RA is caused by hormonal changes. Women who are pregnant, and have RA, often experience a temporary remission, again leading to the identification of hormonal changes in the body as the most likely culprit. Women also experience symptoms at an earlier age. This condition is often associated with people in their 60s, but only about a third first experience symptoms at this age, though they become more acute with the passage of time.

Human beings reach peak bone mass around 35–40. **Osteoporosis** is a “silent disease” which progresses until a fracture occurs. The sheer scale and cost of this illness is radically underestimated. It is often associated with women due to the fact that bone mass can deteriorate in women much more quickly in middle age due to menopause. After menopause women can lose 5–10% bone mass per year, rendering it advisable to monitor intakes of calcium and Vitamin D, and evaluate individual risk factors. Beginning in their 60s, though, men and women lose bone mass at roughly the same rate. The number of American men diagnosed with osteoporosis is currently around the 2 million mark, with a further 12 million reckoned to be at risk. The National Osteoporosis Foundation (NOF) estimates that 50% of women and 25% of men over the age of 50 will suffer a bone fracture due to osteoporosis. Attention at this stage of the life may bring pronounced health benefits now and later for both women and men. Fixing the damage takes a considerable amount of the Medicare budget.

The health benefits that walking and other physical activity have on the nervous system are becoming increasingly obvious to those who study aging. Adami et al (2018) found pronounced links between weight bearing exercise and neuron production. We tend to think of the brain as a central processing unit giving instructions to the body via the conduit of the central nervous system, but contemporary

science is now coalescing around the idea that muscles and nerves also communicate with the brain—it is a two-way informational and sustaining process. Many studies suggest that voluntary physical activity (VPA) extends and improves quality of life. Such studies show that even moderate physical activity can bring large gains.

In addition, there is often an increase in **chronic inflammation** at this time of life with no discernible discrete cause (as opposed to acute inflammation associated with something like an infection). Inflammation is the body's natural way of responding to injury or harmful pathogens in the body. The function of inflammation is to eliminate the initial cause of injury and initiate tissue repair, but when this happens consistently and for longer periods of time, the body's stress response systems become overworked. This can have serious effects on health, such as fatigue, fever, chest or abdominal pain, rashes, or greater susceptibility to diseases such as cancer, rheumatoid arthritis, and heart disease. Untreated acute inflammation, autoimmune disorders, or long-term exposure to irritants are some contributing factors, as is social isolation (Nersessian et al, 2018).

Chronic inflammation has been implicated as part of the cause of the muscle loss that occurs with aging. Chronic inflammatory disorder is now implicated in a whole series of chronic diseases such as dementia, and the biomedical evidence for its centrality is now emerging in the medical research literature.

Because of the aging population, health issues associated with autoimmune disease, chronic inflammation, and bone mass density will become central concerns in health and social policy in the coming decades.

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## Normal Physiological Changes in Middle Adulthood

There are a few primary biological physical changes in midlife. There are changes in vision, hearing, more joint pain, and weight gain (Lachman, 2004). Vision is affected by age. As we age, the lens of the eye gets larger but the eye loses some of the flexibility required to adjust to visual stimuli. This is known as **presbyopia**. Middle aged adults often have trouble seeing up close as a result. Night vision is also affected as the pupil loses some of its ability to open and close to accommodate drastic changes in light.

**Presbycusis** is the most common cause of hearing loss, afflicting one out of four persons between ages 65 and 74, and one out of two by age 75. This loss accumulates after years of being exposed to intense noise levels, and is generally due to the loss or damage

of nerve hair cells inside the cochlea. It is more common in men, but men are also more likely to work in noisy occupations, which may explain their nearly doubled rates of hearing loss levels. Hearing loss is also exacerbated by cigarette smoking, high blood pressure, and stroke. High frequency sounds are the first affected by such hearing loss. Hearing loss could be prevented by guarding against being exposed to extremely noisy environments.

There is new concern over hearing loss as early as childhood with the widespread use of headphones, as loud and/or prolonged listening can cause damage to the cilia, or the tiny sensory hairs, within the cochlea. Another cause of hearing loss in middle age is **otosclerosis**, a physiological condition affecting the middle ear and its bone structure. This occurs when one of the bones in the middle ear, the stapes, acquires a rigidity via abnormal bone growth which it should not have. Unable to vibrate, it induces hearing impairment. Otosclerosis is often described as a rare condition, but it afflicts a good number of Americans, with white women being more prone, though there has been some speculation that this was the origin of deafness in the composer Beethoven. Its cause is unknown, but chronic inflammation may be a risk factor. We tend to associate hearing loss with older adults, but peak onset is in the middle adulthood age bracket.

Weight gain, sometimes referred to as the middle-aged spread, or the accumulation of fat in the abdomen is one of the common complaints of midlife adults. Men tend to gain fat on their upper abdomen and back while women tend to gain more fat on their waist and upper arms. Many adults are surprised at this weight gain because their diets have not changed. However, the metabolism slows by about one-third during midlife (Berger, 2005). Consequently, midlife adults have to increase their level of exercise, eat less, and watch their nutrition to maintain their earlier physique.

Many of the changes that occur in midlife can be easily

compensated for (by buying glasses, exercising, and watching what one eats, for example.) Most midlife adults experience generally good health. However, the percentage of adults who have a disability increases through midlife; while 7 percent of people in their early 40s have a disability, the rate jumps to 30 percent by the early 60s. This increase is highest among those of lower socioeconomic status (Bumpass and Aquilino, 1995).

What can we conclude from this information? Again, lifestyle has a strong impact on the health status of midlife adults. Smoking tobacco, drinking alcohol, poor diet, stress, physical inactivity, and chronic disease such as diabetes or arthritis reduce overall health. It becomes important for midlife adults to take preventative measures to enhance physical well-being. Those midlife adults who have a strong sense of mastery and control over their lives, who engage in challenging physical and mental activity, who engage in weight bearing exercise, monitor their nutrition, and make use of social resources are most likely to enjoy a plateau of good health through these years. Not only that, but those who begin an exercise regimen in their 40s may enjoy comparable benefits to those who began in their 20s according to Saint-Maurice et al (2019), who also found that while it is never too late to begin, continuing to do as much as possible, is just as important.

## The Climacteric

One biologically based change that occurs during midlife is the **climacteric**. During midlife, men may experience a reduction in their ability to reproduce. Women, however, lose their ability to reproduce once they reach menopause.

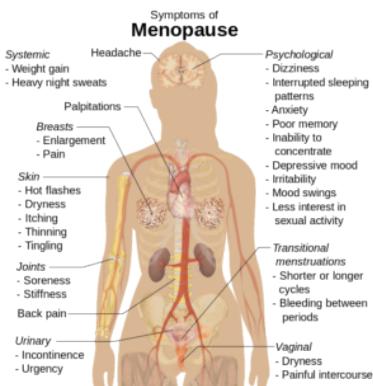
# Menopause

**Menopause** refers to a period of transition in which a woman's ovaries stop releasing eggs and the level of estrogen and progesterone production decreases. After menopause, a woman's menstruation ceases (U. S. National Library of Medicine and National Institute of Health [NLM/NIH], 2007).

Changes typically occur between the mid 40s and mid 50s. The median age range for a woman to have her last menstrual period is 50–52, but

ages vary. A woman may first begin to notice that her periods are more or less frequent than before. These changes in menstruation may last from 1 to 3 years. After a year without menstruation, a woman is considered menopausal and no longer capable of reproduction. (Keep in mind that some women, however, may experience another period even after going for a year without one.) The loss of estrogen also affects vaginal lubrication which diminishes and becomes more watery. The vaginal wall also becomes thinner, and less elastic.

Menopause is not seen as universally distressing (Lachman, 2004). Changes in hormone levels are associated with hot flashes and sweats in some women, but women vary in the extent to which these are experienced. Depression, irritability, and weight gain are not necessarily due to menopause (Avis, 1999; Rossi, 2004). Depression and mood swings are more common during menopause in women who have prior histories of these conditions rather than those who have not. The incidence of depression and mood swings



**Figure 2.** Most women experience some of these common symptoms of menopause, but the severity and experience of these symptoms is also influenced by cultural expectations.

is not greater among menopausal women than non-menopausal women.

Cultural influences seem to also play a role in the way menopause is experienced. For example, once after listing the symptoms of menopause in a psychology course, a woman from Kenya responded, “We do not have this in my country or if we do, it is not a big deal,” to which some U.S. students replied, “I want to go there!” Indeed, there are cultural variations in the experience of menopausal symptoms. Hot flashes are experienced by 75 percent of women in Western cultures, but by less than 20 percent of women in Japan (Obermeyer in Berk, 2007).

Women in the United States respond differently to menopause depending upon the expectations they have for themselves and their lives. White, career-oriented women, African-American, and Mexican-American women overall tend to think of menopause as a liberating experience. Nevertheless, there has been a popular tendency to erroneously attribute frustrations and irritations expressed by women of menopausal age to menopause and thereby not take her concerns seriously. Fortunately, many practitioners in the United States today are normalizing rather than pathologizing menopause.

Concerns about the effects of hormone replacement have changed the frequency with which estrogen replacement and hormone replacement therapies have been prescribed for menopausal women. Estrogen replacement therapy was once commonly used to treat menopausal symptoms. But more recently, hormone replacement therapy has been associated with breast cancer, stroke, and the development of blood clots (NLM/NIH, 2007). Most women do not have symptoms severe enough to warrant estrogen or hormone replacement therapy (HRT). Women who do require HRT can be treated with lower doses of estrogen and monitored with more frequent breast and pelvic exams. There are also some other ways to reduce symptoms. These include avoiding caffeine and alcohol, eating soy, remaining sexually active,

practicing relaxation techniques, and using water-based lubricants during intercourse.

Fifty million women in the USA aged 50-55 are post-menopausal. During and after menopause a majority of women will experience weight gain. Changes in estrogen levels lead to a redistribution of body fat from hips and back to stomachs. This is more dangerous to general health and wellbeing because abdominal fat is largely visceral, meaning it is contained within the abdominal cavity and may not look like typical weight gain. That is, it accumulates in the space between the liver, intestines and other vital organs. This is far more harmful to health than subcutaneous fat which is the kind of fat located under the skin. It is possible to be relatively thin and retain a high level of visceral fat, yet this type of fat is deemed especially harmful by medical research.

## Andropause

Do males experience a climacteric? Yes. While they do not lose their ability to reproduce as they age, they do tend to produce lower levels of testosterone and fewer sperm. However, men are capable of reproduction throughout life after puberty. It is natural for sex drive to diminish slightly as men age, but a lack of sex drive may be a result of extremely low levels of testosterone. About 5 million men experience low levels of testosterone that results in symptoms such as a loss of interest in sex, loss of body hair, difficulty achieving or maintaining erection, loss of muscle mass, and breast enlargement. This decrease in libido and lower testosterone (androgen) levels is known as **andropause**, although this term is somewhat controversial as this experience is not clearly delineated, as menopause is for women. Low testosterone levels may be due to glandular disease such as testicular cancer. Testosterone levels can be tested and if they are low, men can be treated with testosterone replacement therapy. This can increase sex drive, muscle mass, and

beard growth. However, long term HRT for men can increase the risk of prostate cancer (The Patient Education Institute, 2005).

The debate around declining testosterone levels in men may hide a fundamental fact. The issue is not about individual males experiencing individual hormonal change at all. We have all seen the adverts on the media promoting substances to boost testosterone: “Is it low-T?” The answer is probably in the affirmative, if somewhat relative. That is, in all likelihood they will have lower testosterone levels than their fathers. However, it is equally likely that the issue does not lie solely in their individual physiological make up, but is rather a generational transformation (Travison et al, 2007). Why this has occurred in such a dramatic fashion is still unknown. There is evidence that low testosterone may have negative health effects on men. In addition, there are studies that show evidence of rapidly decreasing sperm count and grip strength. Exactly why these changes are happening is unknown and will likely involve more than one cause.

## The Climacteric and Sexuality

Sexuality is an important part of people’s lives at any age. Midlife adults tend to have sex lives that are very similar to that of younger adults. And many women feel freer and less inhibited sexually as they age. However, a woman may notice less vaginal lubrication during arousal and men may experience changes in their erections from time to time. This is particularly true for men after age 65. Men who experience consistent problems are likely to have other medical conditions (such as diabetes or heart disease) that impact sexual functioning (National Institute on Aging, 2005).

Couples continue to enjoy physical intimacy and may engage in more foreplay, oral sex, and other forms of sexual expression rather than focusing as much on sexual intercourse. Risk of pregnancy continues until a woman has been without menstruation for at least

12 months, however, and couples should continue to use contraception. People continue to be at risk of contracting sexually transmitted infections such as genital herpes, chlamydia, and genital warts. Seventeen percent of new cases of AIDS in the United States are in people 50 and older (<https://www.cdc.gov/hiv/group/age/olderamericans/index.html>). Of all people living with HIV, 47% are aged 50 or over (<https://aidsinfo.nih.gov/understanding-hiv-aids/fact-sheets/25/80/hiv-and-older-adults>). Practicing safe sex is important at any age- safe sex is not just about avoiding an unwanted pregnancy... it is about protecting yourself from STDs as well. Hopefully, when partners understand how aging affects sexual expression, they will be less likely to misinterpret these changes as a lack of sexual interest or displeasure in the partner and be more able to continue to have satisfying and safe sexual relationships.

## Exercise, Nutrition, and Health

### The impact of exercise



**Figure 3.** Exercise has both physical and psychological benefits.

Exercise is a powerful way to combat the changes we associate with aging. Exercise builds muscle, increases metabolism, helps control blood sugar, increases bone density, and relieves stress. Unfortunately, fewer than half of midlife adults exercise and only about 20 percent exercise frequently and strenuously enough to achieve health benefits. Many stop exercising soon after they begin an

exercise program—particularly those who are very overweight. The best exercise programs are those that are engaged in regularly—regardless of the activity, but a well-rounded program that is easy to follow includes walking and weight training. Having a safe, enjoyable place to walk can make a difference in whether or not someone walks regularly. Weight lifting and stretching exercises at home can also be part of an effective program. Exercise is particularly helpful in reducing stress in midlife. Walking, jogging, cycling, or swimming can release the tension caused by stressors, and learning relaxation techniques can have healthful benefits. Exercise can be thought of as preventative health care; promoting exercise for the 78 million “baby boomers” may be one of the best ways to reduce health care costs and improve quality of life (Shure & Cahan, 1998).

## Nutrition

Aging brings about a reduction in the number of calories a person requires. Many Americans respond to weight gain by dieting. However, eating less does not necessarily mean eating right and people often suffer vitamin and mineral deficiencies as a result. Very often, physicians will recommend vitamin supplements to their middle-aged patients. As stated above, chronic inflammation is now identified as one of the so-called “pillars of aging”. The link between diet and inflammation is yet unclear, but there is now some information available on the [Diet Inflammation Index](#) (Shivappa et, 2014), which in popular parlance, supports a diet rich in plant-based foods, healthy fats, nuts, fish in moderation, and sparing use of red meat— often referred to as “the Mediterranean Diet.”

The ideal diet is one low in fat, low in sugar, high in fiber, low in sodium, and low in cholesterol. In 2005, the Food Pyramid, a set of nutritional guidelines established by the U. S. Government

was updated to accommodate new information on nutrition and to provide people with guidelines based on age, sex, and activity levels. The ideal diet is low in sodium (less than 2300 mg per day). Sodium causes fluid retention which may, in turn, exacerbate high blood pressure. The ideal diet is also low in cholesterol (less than 300 mg per day) and high in fiber. Fiber is thought to reduce the risk of certain cancers and heart disease. Finally, an ideal diet is low in sugar. Sugar is not only a problem for diabetics; it is also a problem for most people. Sugar satisfies the appetite but provides no protein, vitamins or minerals. It provides empty calories. High starch diets are also a problem because starch is converted to sugar in the body. A 1-2 ounce serving of red wine (or grape juice) may have beneficial effects on health, as red wine can increase "good cholesterol" or HDLs (high-density lipoproteins) in the blood and provide antioxidants important for combating aging. Try It



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# Physical Development in Late Adulthood

In this section, you'll learn more about physical changes in late adulthood. While late adulthood is generally a time of physical decline, there are no set rules as to when and how it happens. We are continually learning more about how to promote greater health during the aging process.

## *Watch It*

Watch this clip from Marco Pahor, a professor in the University of Florida department of aging and geriatric research, as he discusses his research about ways physical activity affects the mobility of older adults and how it may result in longer life, lower medical costs, and increased long-term independence.



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## Defining Late Adulthood

### Defining Late Adulthood: Age or Quality of Life?



**Figure 1.** 82-year old body builder Ernestine Shepard is quoted as saying, “You’re not getting old; you’re getting ready.”

We are considered in late adulthood from the time we reach our mid-sixties until death. Because we are living longer, late adulthood is getting longer. Whether we start counting at 65, as demographers may suggest, or later, there is a greater proportion of people alive in late adulthood than anytime in world history. A 10-year-old child today has a 50 percent

chance of living to age 104. Some demographers have even speculated that the first person ever to live to be 150 is alive today.

About 15.2 percent of the U.S. population or 49.2 million Americans are 65 and older. This number is expected to grow to 98.2 million by the year 2060, at which time people in this age group will comprise nearly one in four U.S. residents. Of this number, 19.7 million will be age 85 or older. Developmental changes vary considerably among this population, so it is further divided into categories of 65 plus, 85 plus, and centenarians for comparison by the census.

Demographers use chronological age categories to classify individuals in late adulthood. Developmentalists, however, divide this population into categories based on physical and psychosocial well-being, in order to describe one’s functional age. The “young-old” are healthy and active. The “old-old” experience some health problems and difficulty with daily living activities. The

“oldest old” are frail and often in need of care. A 98-year-old woman who still lives independently, has no major illnesses, and is able to take a daily walk would be considered as having a functional age of “young old”. Therefore, *optimal aging* refers to those who enjoy better health and social well-being than average.

Normal aging refers to those who seem to have the same health and social concerns as most of those in the population. However, there is still much being done to understand exactly what *normal aging* means. *Impaired aging* refers to those who experience poor health and dependence to a greater extent than would be considered normal. Aging successfully involves making adjustments as needed in order to continue living as independently and actively as possible. This is referred to as selective optimization with compensation. **Selective Optimization With Compensation** is a strategy for improving health and well-being in older adults and a model for successful aging. It is recommended that seniors select and optimize their best abilities and most intact functions while compensating for declines and losses. This means, for example, that a person who can no longer drive, is able to find alternative transportation, or a person who is compensating for having less energy, learns how to reorganize the daily routine to avoid over-exertion. Perhaps nurses and other allied health professionals working with this population will begin to focus more on helping patients remain independent by optimizing their best functions and abilities rather than on simply treating illnesses. Promoting health and independence are essential for successful aging.

### Watch It: Aging Successfully

Systematic examination of old age is a new field inspired by the unprecedented number of people living long enough

to become elderly. Developmental psychologists Paul and Margret Baltes have proposed a model of adaptive competence for the entire life span, but the emphasis here is on old age. Their model SOC (Selection, Optimization, and Compensation) is illustrated with engaging vignettes of people leading fulfilling lives, including writers Betty Friedan and Joan Erikson, and dancer Bud Mercer. Segments of the cognitive tests used by the Baltes in assessing the mental abilities of older people are shown. Although the video clip show below is old and dated, it remains an intellectually appealing video in which the Baltes discuss personality components that generally lead to positive aging experiences.

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## Age Categories

**Senescence**, or **biological aging**, is the gradual deterioration of functional characteristics.

*The Young Old—65 to 74*

These 18.3 million Americans tend to report greater health and social well-being than older adults. Having good or excellent health is reported by 41 percent of this age group (Center for Disease Control, 2004). Their lives are more similar to those of midlife adults than those who are 85 and older. This group is less likely to require long-term care, to be dependent or to be poor,



**Figure 2.**The word senescence, can be traced back to Latin senex, meaning “old.” Lots of other English words come from senex—senile, senior, senate, etc. The word senate to describe a legislative assembly dates back to ancient Rome, where the Senatus was originally a council of elders composed of the heads of patrician families. There’s also the much rarer senectitude, which, like senescence, refers to the state of being old (specifically, to the final stage of the normal life span).

and more likely to be married, working for pleasure rather than income, and living independently. About 65 percent of men and 50 percent of women between the ages of 65-69 continue to work full-time (He et al., 2005).

Physical activity tends to decrease with age, despite the dramatic health benefits enjoyed by those who exercise. People with more education and income are more likely to continue being physically active. And males are more likely to engage in physical activity than are females. The majority of the young-old continue to live independently. Only about 3 percent of those 65-74 need help with daily living skills as compared with about 22.9 percent of people over 85. (Another way to consider think of this is that 97 percent of people between 65-74 and 77 percent of people over 85 do not require assistance!) This age group is less likely to experience heart disease, cancer, or stroke than the old, but nearly as likely to experience depression (U.S. Census, 2005).

### *The Old Old—75 to 84*

This age group is more likely to experience limitations on physical activity due to chronic disease such as arthritis, heart conditions, hypertension (especially for women), and hearing or visual impairments. Rates of death due to heart disease, cancer, and cerebral vascular disease are double that experienced by people 65-74. Poverty rates are 3 percent higher (12 percent) than for those between 65 and 74. However, the majority of these 12.9 million Americans live independently or with relatives. Widowhood is more common in this group—especially among women.

### *The Oldest Old—85 plus*

The number of people 85 and older is 34 times greater than in 1900

and now includes 5.7 million Americans. This group is more likely to require long-term care and to be in nursing homes. However, of the 38.9 million American over 65, only 1.6 million require nursing home care. Sixty-eight percent live with relatives and 27 percent live alone (He et al., 2005; U. S. Census Bureau, 2011).

## The Centenarians

**Centenarians**, or people aged 100 or older, are both rare and distinct from the rest of the older population. Although uncommon, the number of people living past age 100 is on the rise; between the year 2000 and 2014, the number of centenarians increased by over 43.6%, from 50,281 in 2000 to 72,197 in 2014. In 2010, over half (62.5 percent) of the 53,364 centenarians were age 100 or 101.

This number is expected to increase to 601,000 by the year 2050 (U. S. Census Bureau, 2011). The majority is between ages 100 and 104 and eighty percent are women. Out of almost 7 billion people on the planet, about 25 are over 110. Most live in Japan, a few live in the United States and three live in France (National Institutes of Health, 2006). These “super-Centenarians” have led varied lives and probably do not give us any single answers about living longer. Jeanne Clement smoked until she was 117. She lived to be 122. She also ate a diet rich in olive oil and rode a bicycle until she was 100. Her family had a history of longevity. Pitskhelauri (in Berger, 2005) suggests that moderate diet, continued work and



**Figure 3.** Kirk Douglas, actor and filmmaker, is a centenarian.

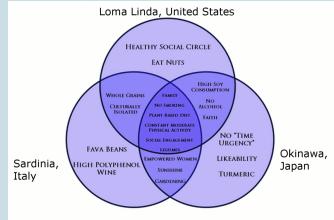
activity, inclusion in family and community life, and exercise and relaxation are important ingredients for long life.

## *Blue Zones*

Recent research on longevity reveals that people in some regions of the world live significantly longer than people elsewhere. Efforts to study the common factors between these areas and the people who live there is known as **blue zone research**. Blue zones are regions of the world where Dan Buettner claims people live much longer than average. The term first appeared in his November 2005 National Geographic magazine cover story, “The Secrets of a Long Life.” Buettner identified five regions as “Blue Zones”: Okinawa (Japan); Sardinia (Italy); Nicoya (Costa Rica); Icaria (Greece); and the Seventh-day Adventists in Loma Linda, California. He offers an explanation, based on data and first hand observations, for why these populations live healthier and longer lives than others.

The people inhabiting blue zones share common lifestyle characteristics that contribute to their longevity. The Venn diagram below highlights the following six shared characteristics among the people of Okinawa, Sardinia, and Loma Linda blue zones. Though not a lifestyle choice, they also live as isolated populations with a related gene pool.

- Family – put ahead of other concerns
- Less smoking
- Semi-vegetarianism – the majority of food consumed is derived from plants
- Constant moderate physical activity – an inseparable part of life
- Social engagement – people of all ages are socially active and integrated into their communities
- Legumes – commonly consumed



**Figure 4.** Blue zones share many common healthy habits contributing to longer lifespans.

In his book, Buettner provides a list of nine lessons, covering the lifestyle of blue zones people:

- Moderate, regular physical activity.
- Life purpose.
- Stress reduction.
- Moderate caloric intake.
- Plant-based diet.
- Moderate alcohol intake, especially wine.
- Engagement in spirituality or religion.
- Engagement in family life.
- Engagement in social life.

## Try It



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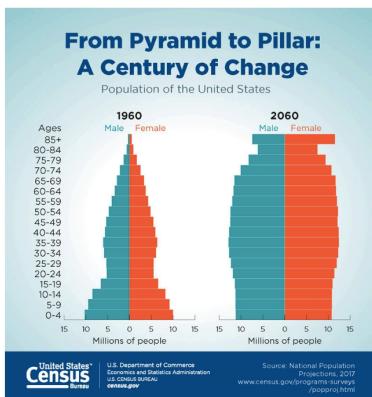
## The “Graying” Population and Life Expectancy

### The “Graying” of America

The term “graying of America” refers to the fact that the American population is steadily becoming more dominated by older people. In other words, the median age of Americans is going up.

According to the U.S. Census Bureau’s 2017 National Population Projections, the year 2030 marks an important demographic turning point in U.S. history. By 2030, all baby boomers will be older than age 65. This will expand the size of the older population so that 1 in every 5 residents will be retirement age. And by 2035, it’s projected

that there will be 76.7 million people under the age of 18 but 78 million people above the age of 65.



**Figure 5.** 2030 marks an important demographic change as international migration is expected to overtake natural increase in the United States.

The 2030s are projected to be a transformative decade for the U.S. population. The population is expected to grow at a slower pace, age considerably and become more racially and ethnically diverse. Net international migration is projected to overtake natural increase in 2030 as the primary driver of population growth in the United States, another demographic first for the United States.

Although births are projected to be nearly four times larger than the level of net international migration in coming decades, a rising number of deaths will increasingly offset how much births are able to contribute to population growth. Between 2020 and 2050, the number of deaths is projected to rise substantially as the population ages and a significant share of the population, the baby boomers, age into older adulthood. As a result, the population will naturally grow very slowly, leaving net international migration to overtake natural increase as the leading cause of population growth, even as projected levels of migration remain relatively constant.

## “Graying” Around the World

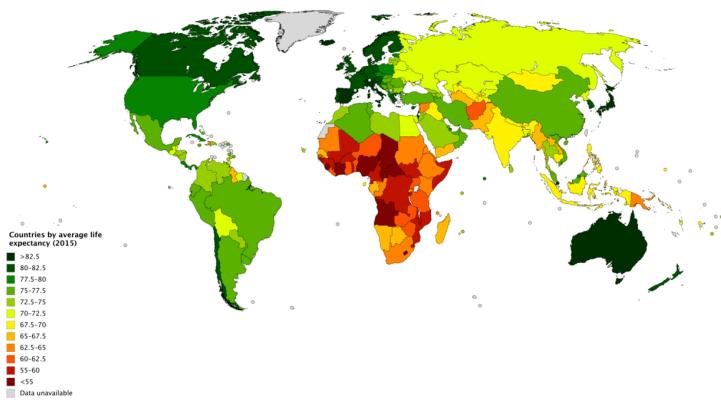
While the world’s oldest countries are mostly in Europe today, some Asian and Latin American countries are quickly catching up. The percentage of the population aged 65 and over in 2015

ranged from a high of 26.6 percent for Japan to a low of around 1 percent for Qatar and United Arab Emirates. Of the world's 25 oldest countries, 22 are in Europe, with Germany and Italy leading the ranks of European countries for many years (He, Goodkind, and Kowal, 2015).

By 2050, Slovenia and Bulgaria are projected to be the oldest European countries. Japan, however, is currently the oldest nation in the world and is projected to retain this position through at least 2050. With the rapid aging taking place in Asia, the countries of South Korea, Hong Kong, and Taiwan are projected to join Japan at the top of the list of oldest countries and areas by 2050, when more than one-third of these Asian countries' total populations are projected to be aged 65 and over.

## *Life Expectancy*

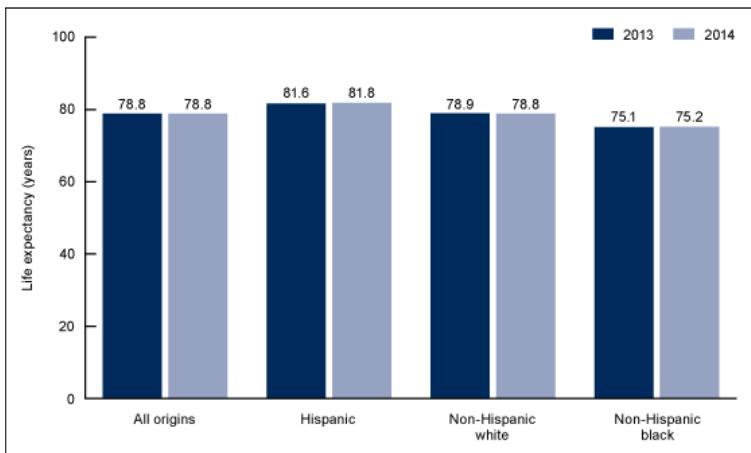
**Life expectancy** is a statistical measure of the average time an organism is expected to live, based on the year of birth, current age and other demographic factors including gender. The most commonly used measure of life expectancy is at birth (LEB). There are great variations in life expectancy in different parts of the world, mostly due to differences in public health, medical care, and diet, but also affected by education, economic circumstances, violence, mental health, and sex.



**Figure 6.** Life expectancies around the world in 2015.

## Life Expectancy in the United States

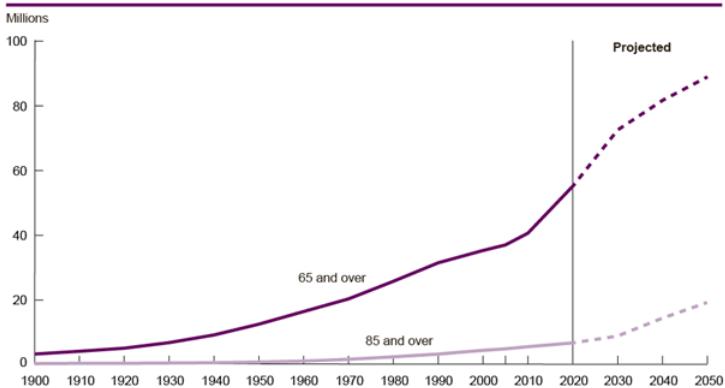
According to the CDC (Centers for Disease Control and Prevention), life expectancy in the U.S. now stands at 78.7 years. Women continue to outlive men, with life expectancy being 76.3 years for males, and 81.1 years for females. Life expectancy varies according to race and ethnicity. It is highest for Hispanics, for both males and females, and lower for blacks than for whites or Hispanics.



**Figure 7.** Life expectancy at birth, by race and Hispanic origin: United States, 2013 and 2014. From CDC/NCHS, National Vital Statistics System, Mortality.

Statistics from the U.S. Census Bureau reveal that the 85-and-over age group is the fastest-growing age group in America. According to the Census Bureau and [AgingStats.gov](#), the over-65 population grew from 3 million in 1900 to 40 million in 2010, an increase of more than 1200%. But during this same time, the over-85 population grew from just over 100,000 in 1900 to 5.5 million in 2010—an increase of 5400%!

**Population age 65 and over and age 85 and over, selected years 1900–2010 and projected 2020–2050**



NOTE: These projections are based on Census 2000 and are not consistent with the 2010 Census results. Projections based on the 2010 Census will be released in late 2012.

Reference population: These data refer to the resident population.

SOURCE: U.S. Census Bureau, 1900 to 1940, 1970, and 1980, U.S. Census Bureau, 1983, Table 42; 1950, U.S. Census Bureau, 1953, Table 38; 1960, U.S. Census Bureau, 1964, Table 155; 1990, U.S. Census Bureau, 1991, 1990 Summary Table File; 2000, U.S. Census Bureau, 2001, *Census 2000 Summary File 1*; U.S. Census Bureau, Table 1: Intercensal Estimates of the Resident Population by Sex and Age for the U.S.: April 1, 2000 to July 1, 2010 (US-ESTD00INT-01); U.S. Census Bureau, 2011, *2010 Census Summary File 1*; U.S. Census Bureau, Table 2: Projections of the population by selected age groups and sex for the United States: 2010–2050 (NP2008-12).

**Figure 8.** The elderly population is projected to grow significantly in the coming decades. Retrieved from <https://partners4prosperity.com//wp-content/uploads/2014/09/aging-85-and-over.gif>.

When calculating life expectancy, we consider all of the elements of heredity, health history, current health habits, and current life experiences which contribute to a longer life or subtract from a person's life expectancy. Recent studies concluded that cutting calorie intake by 15 percent over two years can slow aging and protect against diseases such as cancer, diabetes, and Alzheimer's.

Some life factors are beyond a person's control, and some are controllable. The rising cost of health care is a source of financial vulnerability to older adults. Vaccines are especially important for older adults. As you get older you're more likely to get diseases like the flu, pneumonia, and shingles, and to have complications that can lead to long-term illness, hospitalization, and even death.

Things that contribute to longer life expectancies include eating

a healthy diet that is rich in plants and nuts. Staying physically active, not smoking, and consuming moderate amounts of alcohol, tea, or coffee are also reported to be beneficial to leading a long life. Other recommendations include being conscientious, prioritizing your happiness, avoiding stress and anxiety, and having a strong social support network. Establishing a consistent sleep schedule and maintaining between 7-8 hours of sleep per night is also beneficial.

A major reason a person will statistically live longer once they reach an older age is simply that they have made it this far without anything killing them. Also, there appears to be several factors which may explain changes in life expectancy in the United States and around the world—health conditions are better, many diseases have been eliminated or better controlled through medicine, working conditions are better and better lifestyles choices are being made. Such factors significantly contribute to longer life expectancies.

### *Life Expectancy Tables*

Sometimes referred to mortality tables, death charts or actuarial life tables, these life expectancy tables are strictly statistical, and do not take into consideration any personal health information or lifestyle information. Take a look at [life expectancy tables on the Life Expectancy Calculators website.](#)

## Try It



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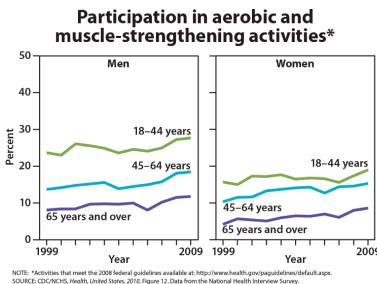
## Understanding Life Expectancy

Life expectancy is also used in describing the physical quality of life. **Quality of life** is the general well-being of individuals and societies, outlining negative and positive features of life. Quality of life considers life satisfaction, including everything from physical health, family, education, employment, wealth, safety, security, freedom, religious beliefs, and the environment.

Increased life expectancy brings concern over the health and independence of those living longer. Greater attention is now being given to the number of years a person can expect to live without disability, which is called **active life expectancy**. When this distinction is made, we see that although women live longer than men, they are more at risk of living with disability (Weitz, 2007).

What factors contribute to poor health in women? Marriage has been linked to longevity, but spending years in a stressful marriage can increase the risk of illness. This negative effect is experienced more by women than men and seems to accumulate through the years. The impact of a stressful marriage on health may not occur until a woman reaches 70 or older (Umberson, Williams, et. al., 2006). Sexism can also create chronic stress. The stress experienced by women as they work outside the home as well as care for family members can also ultimately have a negative impact on health (He et als, 2005).

The shorter life expectancy for men in general, is attributed to greater stress, poorer attention to health, more involvement in dangerous occupations, and higher rates of death due to accidents, homicide, and suicide. Social support can increase longevity. For men, life expectancy and health seems to improve with marriage. Spouses are less likely to engage in risky health practices and wives are more likely to monitor their husband's diet and health regimes. But men who live in stressful marriages can also experience poorer health as a result.



**Figure 9.** Physical activity remains low for those above age 65, although exercise can have tremendous health benefits and result in longer life expectancy.

## Health and Sexuality

It has been suggested that an active sex life can increase longevity among the elderly. Dr. Maggie Syme found in her research on sexuality in old age that, "Having a sexual partnership, with frequent sexual expression, having a good quality sex life, and being interested in sex have been found to be positively associated with health among middle-aged and older adults." Positive sexual health in older age is gradually becoming more of a common topic and less taboo. Population percentage increase among older Americans has resulted in placing more attention on the needs of this age group, including their ideas on sexual health, desires, and attitudes. This shift in attitudes and behaviors, combined with medical advances to prolong a sexually active life, has changed the landscape of aging sexuality.

There are a number of associated health benefits with practicing positive sexual health. Positive sexual health often acts as a de-stressor promoting increased relaxation. Researchers also report health benefits such as decreased pain sensitivity, improved cardiovascular health, lower levels of depression, increased self-esteem, and better relationship satisfaction. This could also imply that there are negative consequences of poor sexual health or lack of sexual activity, including depression, low self-esteem, increased frustration, and loneliness.

Key players in improving the quality of life among older adults are the adults themselves. By exercising, reducing stress, not smoking, limiting use of alcohol, consuming more fruits and vegetables, and eating less meat and dairy, older adults can expect to live longer and more active lives (He et. al., 2005). Regular exercise is also associated with a lower risk of developing neurodegenerative disorders, especially Alzheimer's disease and Parkinson's disease. Stress reduction both in late adulthood and earlier in life is also crucial. The reduction of societal stressors can promote active life expectancy. In the last 40 years, smoking rates

have decreased, but obesity has increased, and physical activity has only modestly increased.

## Try It



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## Health in Late Adulthood: Primary Aging

### Normal Aging

The Baltimore Longitudinal Study on Aging (BLSA, 2011) began in 1958 and has traced the aging process in 1,400 people from age 20 to 90. Researchers from the BLSA have found that the aging process varies significantly from individual to individual and from one organ system to another. Kidney function may deteriorate earlier in some individuals. Bone strength declines more rapidly in others. Much of

this is determined by genetics, lifestyle, and disease. However, some generalizations about the aging process have been found:

- Heart muscles thicken with age
- Arteries become less flexible
- Lung capacity diminishes
- Brain cells lose some functioning but new neurons can also be produced
- Kidneys become less efficient in removing waste from the blood
- The bladder loses its ability to store urine
- Body fat stabilizes and then declines
- Muscle mass is lost without exercise
- Bone mineral is lost. Weight bearing exercise slows this down.

### *Link to Learning*

Watch this video clip from the National Institute of Health as it explains the research involved in the Baltimore Longitudinal Study on Aging. You'll see some of the tests done on individuals, including measurements on energy expenditure, strength, proprioception, and brain imaging and scans. Watch the [The Baltimore Longitudinal Study of Aging \(BLSA\)](#) here.

## Primary and Secondary Aging

Healthcare providers need to be aware of which aspects of aging are reversible and which ones are inevitable. By keeping this distinction in mind, caregivers may be more objective and accurate when diagnosing and treating older patients. And a positive attitude can go a long way toward motivating patients to stick with a health regime. Unfortunately, stereotypes can lead to misdiagnosis. For example, it is estimated that about 10 percent of older patients diagnosed with dementia are actually depressed or suffering from some other psychological illness (Berger, 2005). The failure to recognize and treat psychological problems in older patients may be one consequence of such stereotypes.



**Figure 10.** Primary aging includes inevitable changes such as skin that becomes more wrinkled and less elastic.

### Primary Aging

Senescence is the biological aging process—the gradual deterioration of functional characteristics. It is the process by which cells irreversibly stop dividing and enter a state of permanent growth arrest without undergoing cell death. This process is also referred to as **primary aging** and thus, refers to the inevitable changes associated with aging (Busse, 1969). These changes include changes in the skin and hair, height and weight, hearing loss, and eye disease. However, some of these changes can be reduced by limiting exposure to the sun, eating a nutritious diet, and exercising.

Skin and hair change with age. The skin becomes drier, thinner, and less elastic during the aging process. Scars and imperfections

become more noticeable as fewer cells grow underneath the surface of the skin. Exposure to the sun, or photoaging, accelerates these changes. Graying hair is inevitable, and hair loss all over the body becomes more prevalent.

Height and weight vary with age. Older people are more than an inch shorter than they were during early adulthood (Masoro in Berger, 2005). This is thought to be due to a settling of the vertebrae and a lack of muscle strength in the back. Older people weigh less than they did in mid-life. Bones lose density and can become brittle. This is especially prevalent in women. However, weight training can help increase bone density after just a few weeks of training.

Muscle loss occurs in late adulthood and is most noticeable in men as they lose muscle mass. Maintaining strong leg and heart muscles is important for independence. Weight-lifting, walking, swimming, or engaging in other cardiovascular and weight bearing exercises can help strengthen the muscles and prevent atrophy.

## ***Vision***

Some typical vision issues that arise along with aging include:

- Lens becomes less transparent and the pupils shrink.
- The optic nerve becomes less efficient.
- Distant objects become less acute.
- Loss of peripheral vision (the size of the visual field decreases by approximately one to three degrees per decade of life.)
- More light is needed to see and it takes longer to adjust to a change from light to darkness and vice versa.
- Driving at night becomes more challenging.
- Reading becomes more of a strain and eye strain occurs more easily.

The majority of people over 65 have some difficulty with vision, but most is easily corrected with prescriptive lenses. Three percent of those 65 to 74 and 8 percent of those 75 and older have hearing or vision limitations that hinder activity. The most common causes of vision loss or impairment are glaucoma, cataracts, age-related macular degeneration, and diabetic retinopathy (He et al., 2005).

- **Glaucoma** occurs when pressure in the fluid of the eye increases, either because the fluid cannot drain properly or because too much fluid is produced. Glaucoma can be corrected with drugs or surgery. It must be detected early enough.
- **Cataracts** are cloudy or opaque areas of the lens of the eye that interfere with passing light, frequently develop. Cataracts can be surgically removed or intraocular lens implants can replace old lenses.
- **Macular degeneration** is the most common cause of blindness in people over the age of 60. Age-related macular degeneration (AMD) affects the macula, a yellowish area of the eye located near the retina at which visual perception is most acute. A diet rich in antioxidant vitamins (C, E, and A) can reduce the risk of this disease.
- **Diabetic retinopathy**, also known as diabetic eye disease, is a medical condition in which damage occurs to the retina due to diabetes mellitus. It is a leading cause of blindness. There are three major treatments for diabetic retinopathy, which are very effective in reducing vision loss from this disease: laser photocoagulation, medications, surgery.

## *Hearing*

**Hearing Loss**, is experienced by 25% of people between ages 65 and 74, then by 50% of people above age 75. Among those who are in nursing homes, rates are even higher. Older adults are more likely to seek help with vision impairment than with hearing loss, perhaps due to the stereotype that older people who have difficulty hearing are also less mentally alert.

**Conductive hearing loss** may occur because of age, genetic predisposition, or environmental effects, including persistent exposure to extreme noise over the course of our lifetime, certain illnesses, or damage due to toxins. Conductive hearing loss involves structural damage to the ear such as failure in the vibration of the eardrum and/or movement of the ossicles (the three bones in our middle ear). Given the mechanical nature by which the sound wave stimulus is transmitted from the eardrum through the ossicles to the oval window of the cochlea, some degree of hearing loss is inevitable. These problems are often dealt with through devices like hearing aids that amplify incoming sound waves to make vibration of the eardrum and movement of the ossicles more likely to occur.

When the hearing problem is associated with a failure to transmit neural signals from the cochlea to the brain, it is called **sensorineural hearing loss**. This type of loss accelerates with age and can be caused by prolonged exposure to loud noises, which causes damage to the hair cells within the cochlea. **Presbycusis** is age-related sensorineural hearing loss resulting from degeneration of the cochlea or associated structures of the inner ear or auditory nerves. The hearing loss is most marked at higher frequencies. Presbycusis is the second most common illness next to arthritis in aged people.

One disease that results in sensorineural hearing loss is **Ménière's disease**. Although not well understood, Ménière's disease results in a degeneration of inner ear structures that can lead to hearing loss, tinnitus (constant ringing or buzzing), **vertigo** (a sense of spinning), and an increase in pressure within the inner ear (Semaan &

Megerian, 2011). This kind of loss cannot be treated with hearing aids, but some individuals might be candidates for a cochlear implant as a treatment option. **Cochlear implants** are electronic devices consisting of a microphone, a speech processor, and an electrode array. The device receives incoming sound information and directly stimulates the auditory nerve to transmit information to the brain.

Being unable to hear causes people to withdraw from conversation and others to ignore them or shout. Unfortunately, shouting is usually high pitched and can be harder to hear than lower tones. The speaker may also begin to use a patronizing form of ‘baby talk’ known as **elderspeak** (See et al., 1999). This language reflects the stereotypes of older adults as being dependent, demented, and childlike. Hearing loss is more prevalent in men than women. And it is experienced by more white, non-Hispanics than by Black men and women. Smoking, middle ear infections, and exposure to loud noises increase hearing loss.

### *Nutrition and Aging Research*

The Jean Mayer Human Nutrition Research Center on Aging (HNRCA), located in Boston, Massachusetts, is one of six human nutrition research centers in the United States supported by the United States Department of Agriculture and Agricultural Research Service. The goal of the HNRCA, which is managed by Tufts University, is to explore the relationship between nutrition, physical activity, and healthy and active aging.

The HNRCA has made significant contributions to U.S. and international nutritional and physical activity recommendations, public policy, and clinical

healthcare. These contributions include advancements in the knowledge of the role of dietary calcium and vitamin D in promoting nutrition and bone health, the role of nutrients in maintaining the optimal immune response, the prevention of infectious diseases, the role of diet in prevention of cancer, obesity research, modifications to the Food Guide Pyramid, contribution to USDA nutrient data bank, advancements in the study of sarcopenia, heart disease, vision, brain and cognitive function, front of packaging food labeling initiatives, and research of how genetic factors impact predisposition to weight gain and various health indicators. Research clusters within the HNRCA address four specific strategic areas: 1) cancer, 2) cardiovascular disease, 3) inflammation, immunity, and infectious disease and 4) obesity.

## WAch IT

Research done by T. Colin Campbell M.D., Michael Greger M.D., Neal Bernard M.D. and others have demonstrated the impact of diet upon longevity and quality of life. As discussed in the video below, consumption of less animal based protein has been linked with the slowing of degradation of function which was traditionally seen as part of the normal aging process.



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[https://topicaldevelopment.pressbooks.sunycREATE.cloud  
/?p=119#oembed-6](https://topicaldevelopment.pressbooks.sunycREATE.cloud/?p=119#oembed-6)

Primary aging can be compensated for through exercise, corrective lenses, nutrition, and hearing aids. Just as important, by reducing stereotypes about aging, people of age can maintain self-respect, recognize their own strengths, and count on receiving the respect and social inclusion they deserve.

### Try It



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<https://topicaldevelopment.pressbooks.sunycREATE.cloud/?p=119#oembed-7>

## Health in Late Adulthood: Secondary Aging

### Secondary Aging

**Secondary aging** refers to changes that are caused by illness or disease. These illnesses reduce independence, impact quality of life, affect family members and other caregivers, and bring financial burden. The major difference between primary aging and secondary aging is that primary aging is irreversible and is due to genetic predisposition; secondary aging is potentially reversible and is a result of illness, health habits, and other individual differences.

## Chronic Illnesses



**Figure 11.** Secondary aging refers to the aspects of aging that are not universally shared by everyone, but are brought about by disease or chronic illness.

blood pressure, arthritis, respiratory diseases like emphysema, and high cholesterol.

According to research by the Centers for Disease Control and Prevention, chronic disease is also especially a concern in the elderly population in America. Chronic diseases like stroke, heart disease, and cancer are among the leading causes of death among Americans aged 65 or older. While the majority of chronic conditions are found in individuals between the ages of 18 and 64, it is estimated that at least 80% of older Americans are currently living with some form of a chronic condition, with 50% of this population having two or more chronic conditions. The two most common chronic conditions in the elderly are high blood pressure and arthritis, with diabetes, coronary heart disease, and cancer also being reported at high rates among the elderly population. The presence of type 2 diabetes, high blood pressure, and obesity, is termed “metabolic syndrome” and impacts 50% of individuals over the age of 60.

Heart disease is the leading cause of death from chronic disease for adults older than 65, followed by cancer, stroke, diabetes, chronic lower respiratory diseases, influenza and pneumonia, and,

In the United States, nearly one in two Americans (133 million) has at least one chronic medical condition, with most subjects (58%) between the ages of 18 and 64. The number is projected to increase by more than one percent per year by 2030, resulting in an estimated chronically ill population of 171 million. The most common chronic conditions are high

finally, Alzheimer's disease (which we'll examine further when we talk about cognitive decline). Though the rates of chronic disease differ by race for those living with chronic illness, the statistics for leading causes of death among elderly are nearly identical across racial/ethnic groups.

### *Heart Disease*

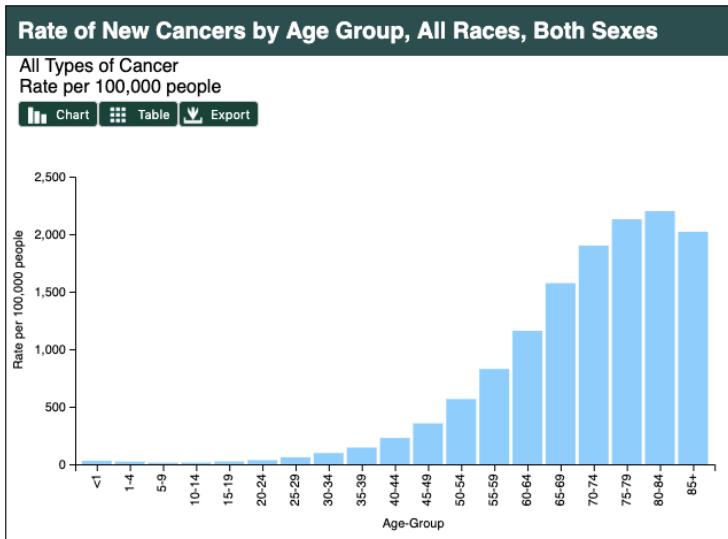
As stated above, heart disease is the leading cause of death from chronic disease for adults older than 65. Cardiovascular disease (CVD) is a class of diseases that involve the heart or blood vessels. CVD includes coronary artery diseases (CAD) such as angina and myocardial infarction (commonly known as a heart attack). Other CVDs include stroke, heart failure, hypertensive heart disease, rheumatic heart disease, cardiomyopathy, heart arrhythmia, congenital heart disease, valvular heart disease, carditis, aortic aneurysms, peripheral artery disease, thromboembolic disease, and venous thrombosis.

The underlying mechanisms vary depending on the disease. Coronary artery disease, stroke, and peripheral artery disease involve atherosclerosis. This may be caused by high blood pressure, smoking, diabetes mellitus, lack of exercise, obesity, high blood cholesterol, poor diet, and excessive alcohol consumption, among others. High blood pressure is estimated to account for approximately 13% of CVD deaths, while tobacco accounts for 9%, diabetes 6%, lack of exercise 6% and obesity 5%.

It is estimated that up to 90% of CVD may be preventable. Prevention of CVD involves improving risk factors through: healthy eating, exercise, avoidance of tobacco smoke and limiting alcohol intake. Treating risk factors, such as high blood pressure, blood lipids and diabetes is also beneficial. The use of aspirin in people, who are otherwise healthy, is of unclear benefit.

## Cancer

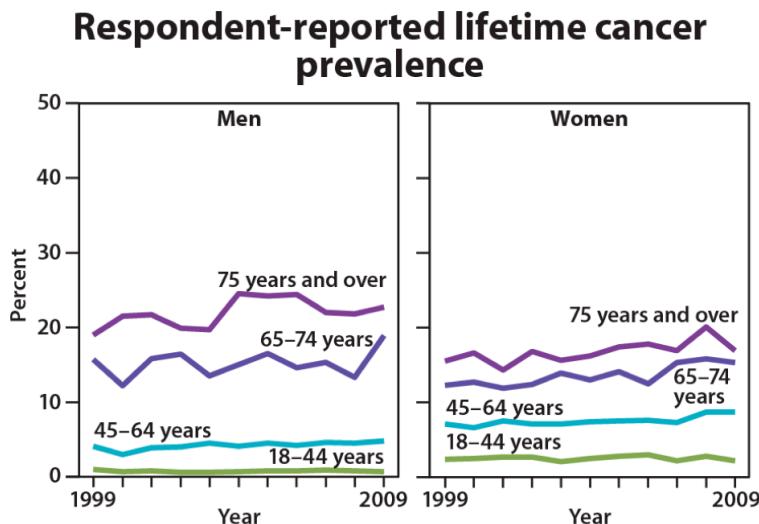
Age in itself is one of the most important risk factors for developing cancer. Currently, 60% of newly diagnosed malignant tumors and 70% of cancer deaths occur in people aged 65 years or older. Many cancers are linked to aging; these include breast, colorectal, prostate, pancreatic, lung, bladder and stomach cancers. Men over 75 have the highest rates of cancer at 28 percent. Women 65 and older have rates of 17 percent. Rates for older non-Hispanic Whites are twice as high as for Hispanics and non-Hispanic Blacks. The most common types of cancer found in men are prostate and lung cancer. Breast and lung cancer are the most common forms in women.



**Figure 12.** Age is a risk factor for cancer development. Source: <https://gis.cdc.gov/Cancer/USCS/DataViz.html>.

For many reasons, older adults with cancer have different needs than younger adults with the disease. For example, older adults:

- May be less able to tolerate certain cancer treatments.
- Have a decreased reserve (the capacity to respond to disease and treatment).
- May have other medical problems in addition to cancer.
- May have functional problems, such as the ability to do basic activities (dressing, bathing, eating) or more advanced activities (such as using transportation, going shopping or handling finances), and have less available family support to assist them as they go through treatment.
- May not always have access to transportation, social support or financial resources.
- May have different views of quality versus quantity of life



SOURCE: CDC/NCHS, *Health, United States, 2010*, Figure 4. Data from the National Health Interview Survey.

**Figure 13.** Cancer rates are significantly higher for those above age 65, and is more common in men than in women.

## *Hypertension and Stroke*

**Hypertension** or high blood pressure and associated heart disease and circulatory conditions increase with age. Stroke is a leading cause of death and severe, long-term disability. Most people who've had a first stroke also had high blood pressure (HBP or hypertension). High blood pressure damages arteries throughout the body, creating conditions where they can burst or clog more easily. Weakened arteries in the brain, resulting from high blood pressure, increase the risk for stroke—which is why managing high blood pressure is critical to reduce the chance of having a stroke. Hypertension disables 11.1 percent of 65 to 74 year olds and 17.1 percent of people over 75. Rates are higher among women and blacks. Rates are highest for women over 75. Coronary disease and stroke are higher among older men than women. The incidence of stroke is lower than that of coronary disease, but it is the No. 5 cause of death and a leading cause of disability in the United States.

## *Arthritis*

While **arthritis** can affect children, it is predominantly a disease of the elderly. Arthritis is more common in women than men at all ages and affects all races, ethnic groups and cultures. In the United States a CDC survey based on data from 2007–2009 showed 22.2% (49.9 million) of adults aged  $\geq 18$  years had self-reported doctor-diagnosed arthritis, and 9.4% (21.1 million or 42.4% of those with arthritis) had arthritis-attributable activity limitation (AAAL). With an aging population, this number is expected to increase.

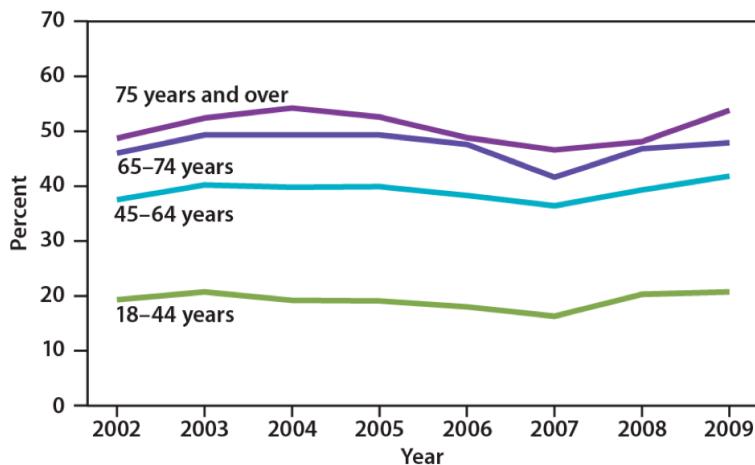
Arthritis is a term often used to mean any disorder that affects joints. Symptoms generally include joint pain and stiffness. Other symptoms may include redness, warmth, swelling, and decreased range of motion of the affected joints. In some

types of arthritis, other organs are also affected. Onset can be gradual or sudden.

There are over 100 types of arthritis. The most common forms are osteoarthritis (degenerative joint disease) and rheumatoid arthritis. Osteoarthritis usually increases in frequency with age and affects the fingers, knees, and hips. Rheumatoid arthritis is an autoimmune disorder that often affects the hands and feet. Other types include gout, lupus, fibromyalgia, and septic arthritis. They are all types of rheumatic disease

Treatment may include resting the joint and alternating between applying ice and heat. Weight loss and exercise may also be useful. Pain medications such as ibuprofen and paracetamol (acetaminophen) may be used. In some a joint replacement may be useful.

### Joint pain in past 30 days



SOURCE: CDC/NCHS, *Health, United States, 2010*, Figure 7. Data from the National Health Interview Survey.

**Figure 14.** Joint pain increases with age.

## Older Americans & Cardiovascular Diseases

Visit this [statistical fact sheet from the American Heart Association](#) to learn more about some facts and figures related to heart disease.

### *Diabetes*

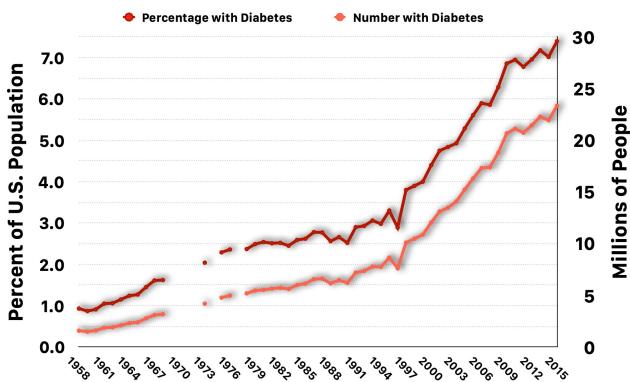
**Type 2 diabetes (T2D)**, formerly known as adult-onset diabetes, is a form of diabetes characterized by high blood sugar, insulin resistance, and relative lack of insulin. Common symptoms include increased thirst, frequent urination, and unexplained weight loss. Symptoms may also include increased hunger, feeling tired, and sores that do not heal. Often symptoms come on slowly. Long-term complications from high blood sugar include heart disease, strokes, diabetic retinopathy which can result in blindness, kidney failure, and poor blood flow in the limbs which may lead to amputations.

Type 2 diabetes primarily occurs as a result of obesity and lack of exercise. Some people are more genetically at risk than others. Type 2 diabetes makes up about 90% of cases of diabetes, with the other 10% due primarily to type 1 diabetes and gestational diabetes. In type 1 diabetes there is a lower total level of insulin to control blood glucose, due to an autoimmune induced loss of insulin-producing beta cells in the pancreas. Diagnosis of diabetes is by blood tests such as fasting plasma glucose, oral glucose tolerance test, or glycated hemoglobin (A1C).

Type 2 diabetes is partly preventable by staying a normal weight, exercising regularly, and eating properly. Treatment involves exercise and dietary changes. If blood sugar levels are not adequately lowered, the medication metformin is typically recommended. Many people may eventually also require insulin injections. In those on insulin, routinely checking blood sugar levels is advised; however, this may not be needed in those taking pills. Bariatric surgery often improves diabetes in those who are obese.

Rates of type 2 diabetes have increased markedly since 1960 in parallel with obesity. As of 2015 there were approximately 392 million people diagnosed with the disease compared to around 30 million in 1985. Typically it begins in middle or older age, although rates of type 2 diabetes are increasing in young people. Type 2 diabetes is associated with a ten-year-shorter life expectancy.

### Number and Percentage of U.S. Population with Diagnosed Diabetes, 1958 - 2015



Source: CDC's Division of Diabetes Translation. United States Diabetes Surveillance System available at <http://www.cdc.gov/diabetes/data>

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Ted Eytan, MD, MS, MPH  
@tedeytan revised 10.24.2018

**Figure 15.** In 1990, 2.52% of the total population had diabetes. It's now 9% of total, 12% of adults. It's estimated that 25% of adults will have diabetes in the US by 2030, 33% by 2050.

## *Osteoporosis*

**Osteoporosis** comes from the Greek word for “porous bones” and is a disease in which bone weakening increases the risk of a broken bone. It is defined as having a bone density of 2.5 standard deviations below that of a healthy young adult. Osteoporosis increases with age as bones become brittle and lose minerals. It is the most common reason for a broken bone among the elderly.

Osteoporosis becomes more common with age. About 15% of white people in their 50s and 70% of those over 80 are affected. It is four times more likely to affect women than men—in the developed world, depending on the method of diagnosis, 2% to 8% of males and 9% to 38% of females are affected. In the United States in 2010, about eight million women and one to two million men had osteoporosis. White and Asian people are at greater risk are more likely to have osteoporosis than non-Hispanic blacks.

## *Parkinson's Disease*

**Parkinson's disease** (PD) is a long-term degenerative disorder of the central nervous system which mainly affects the motor system, although as the disease worsens, non-motor symptoms become increasingly common. Early in the disease, the most obvious symptoms are shaking, rigidity, slowness of movement, and difficulty with walking, but thinking and behavioral problems may also occur. Dementia becomes common in the advanced stages of the disease, and depression and anxiety also occur in more than a third of people with PD.

The cause of Parkinson's disease is generally unknown, but believed to involve both genetic and environmental factors. Those with a family member affected are more likely to get the disease themselves. There is also an increased risk in people exposed to certain pesticides and among those who have had prior head

injuries, while there is a reduced risk in tobacco smokers (though smokers are at a substantially greater risk of stroke) and those who drink coffee or tea. The motor symptoms of the disease result from the death of cells in the substantia nigra, a region of the midbrain, which results in not enough dopamine in these areas. The reason for this cell death is poorly understood, but involves the build-up of proteins into Lewy bodies in the neurons.

In 2015, PD affected 6.2 million people and resulted in about 117,400 deaths globally. Parkinson's disease typically occurs in people over the age of 60, of which about one percent are affected. Males are more often affected than females at a ratio of around 3:2. The average life expectancy following diagnosis is between 7 and 14 years. People with Parkinson's who have increased the public's awareness of the condition include actor Michael J. Fox, Olympic cyclist Davis Phinney, and professional boxer Muhammad Ali.

### Try It



One or more interactive elements has been excluded from this version of the text. You can view them online here:

<https://topicaldevelopment.pressbooks.sunycREATE.cLoud/?p=119#oembed-8>

# Theories on Aging

Why do we age?

There are a number of attempts to explain why we age and many factors that contribute to aging. The **peripheral slowing hypothesis** suggests that overall processing speed declines

in the peripheral nervous system, affecting the brain's ability to communicate with muscles and organs. Some of the peripheral nervous system (PNS) is under a person's voluntary control, such as the nerves carrying instructions from the brain to the limbs. As well as controlling muscles and joints, the PNS sends all the information from the senses back to the brain.

The **generalized slowing hypothesis** theory suggests that processing in all parts of the nervous system, including the brain, are less efficient with age. This may be why older people have more accidents. Genetics, diet, lifestyle, activity, and exposure to pollutants all play a role in the aging process.



**Figure 16.** There are several plausible theories as to why aging happens

## Cell Life

Cells divide a limited number of times and then stop. This phenomenon, known as the **Hayflick limit**, is evidenced in cells studied in test tubes which divide about 50 times before becoming senescent. In 1961, Dr. Hayflick theorized that the human cell's ability to divide is limited to approximately 50-times, after which they simply stop dividing (the Hayflick limit theory of aging).

According to telomere theory, telomeres have experimentally been shown to shorten with each successive cell division.

Senescent cells do not die. They simply stop replicating. Senescent cells can help limit the growth of other cells which may reduce risk of developing tumors when younger, but can alter genes later in life and result in promoting the growth of tumors as we age (Dollemore, 2006). Limited cell growth is attributed to telomeres which are the tips of the protective coating around chromosomes. Each time cells replicate, the telomere is shortened. Eventually, loss of telomere length is thought to create damage to chromosomes and produce cell senescence.

### *Link to Learning*

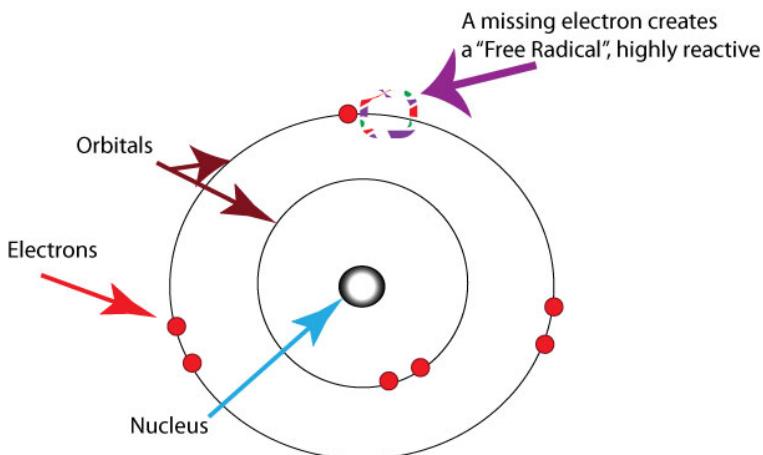
Watch this Ted talk by molecular biologist Elizabeth Blackburn on “[The Science of Cells That Never Get Old](#).” Blackburn won a Nobel Prize for her pioneering work on telomeres and telomerase, which may play central roles in how we age.

## Biochemistry and Aging

### *Free Radical Theory of Aging*

The **free radical theory of aging (FRTA)** states that organisms age because cells accumulate free radical damage over time. A free radical is any atom or molecule which has a single unpaired electron in an outer shell. This means that as oxygen is metabolized, mitochondria in the cells convert the oxygen to

adenosine triphosphate (ATP) which provides energy to the cell. Unpaired electrons are a byproduct of this process and these unstable electrons cause cellular damage as they find other electrons with which to bond. These free radicals have some benefits and are used by the immune system to destroy bacteria. However, cellular damage accumulates and eventually reduces functioning of organs and systems. Many food products and vitamin supplements are promoted as age-reducing. Antioxidant drugs have been shown to increase the longevity in nematodes (small worms), but the ability to slow the aging process by introducing antioxidants in the diet is still controversial.



**Figure 17.** In chemistry, a free radical is any atom, molecule, or ion with an unpaired valence electron

## *Protein Crosslinking*

This theory focuses on the role blood sugar, or glucose, plays in the aging of cells. Glucose molecules attach themselves to proteins and form chains or crosslinks. These crosslinks reduce the flexibility of tissue and thus it becomes stiff and loses functioning. The circulatory system becomes less efficient as the tissue of the heart, arteries and lungs lose flexibility. Joints grow stiff as glucose combines with collagen.

## *DNA Damage*

Through the normal growth and aging process, DNA is damaged by environmental factors such as toxic agents, pollutants, and sun exposure (Dollemore, 2006). This results in deletions of genetic material, and mutations in the DNA duplicated in new cells. The accumulation of these errors results in reduced functioning in cells and tissues. Theories that suggest that the body's DNA genetic code contains a built-in time limit for the reproduction of human cells are called the genetic programming theories of aging. These theories promote the view that the cells of the body can only duplicate a certain number of times and that the genetic instructions for running the body can be read only a certain number of times before they become illegible. Such theories also promote the existence of a "death gene" which is programmed to direct the body to deteriorate and die, and the idea that a long life after the reproductive years is unnecessary for the survival of the species.

As we age, B-lymphocytes and T-lymphocytes become less active. These cells are crucial to the immune system as they secrete antibodies and directly attack infected cells. The thymus, where T-cells are manufactured, shrinks as aging progresses. This reduces our body's ability to fight infection (Berger, 2005).

## Try It



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# Glossary

active life expectancy: the number of years a person can expect to live without disability

alarm reaction: first stage of the general adaptation syndrome; characterized as the body's immediate physiological reaction to a threatening situation or some other emergency; analogous to the fight-or-flight response

andropause: age-related hormone changes in men due to lower testosterone levels

arthritis: arthritis is inflammation of one or more of the joints, characterized by joint pain and stiffness, which typically worsen with age

artificial insemination: the deliberate introduction of sperm into a female's cervix in order to become pregnant by means other than sexual intercourse

biofeedback: stress-reduction technique using electronic equipment to measure a person's involuntary (neuromuscular and autonomic) activity and provide feedback to help the person gain a level of voluntary control over these processes

blue zones: regions of the world where Dan Buettner claims people live much longer than average

cardiovascular disorders: disorders that involve the heart and blood circulation system  
stage of exhaustion: third stage of the general adaptation syndrome; the body's ability to resist stress becomes depleted; illness, disease, and even death may occur

centenarians: people aged 100 or older

chlamydia: a sexually transmitted infection caused by the bacterium chlamydia trachomatis

chronic inflammation: when the body's immune system is working

to fight off infections and toxins for prolonged periods of time, having a negative impact on tissues and organs

climacteric: term used to describe the menopausal period and hormonal changes associated with the gradual change in ovarian production

cochlear implant: electronic device that consists of a microphone, a speech processor, and an electrode array to directly stimulate the auditory nerve to transmit information to the brain

conductive hearing loss: failure in the vibration of the eardrum and/or movement of the ossicles

coping: mental or behavioral efforts used to manage problems relating to stress, including its cause and the unpleasant feelings and emotions it produces

cortisol: stress hormone released by the adrenal glands when encountering a stressor; helps to provide a boost of energy, thereby preparing the individual to take action

daily hassles: minor irritations and annoyances that are part of our everyday lives and are capable of producing stress

distress: bad form of stress; usually high in intensity; often leads to exhaustion, fatigue, feeling burned out; associated with erosions in performance and health

endometriosis: a condition in which the layer of tissue that normally covers the inside of the uterus, grows outside of it

eustress: good form of stress; low to moderate in intensity; associated with positive feelings, as well as optimal health and performance

fight-or-flight response: set of physiological reactions (increases in blood pressure, heart rate, respiration rate, and sweat) that occur when an individual encounters a perceived threat; these reactions are produced by activation of the sympathetic nervous system and the endocrine system

free radical theory of aging (FRTA): theory that organisms age because cells accumulate free radical damage over time

gamete intrafallopian tube transfer: involves implanting both sperm and ova into the fallopian tube which allows fertilization to occur naturally

general adaptation syndrome: Hans Selye's three-stage model of the body's physiological reactions to stress and the process of stress adaptation: alarm reaction, stage of resistance, and stage of exhaustion

generalized slowing hypothesis: the theory that processing in all parts of the nervous system, including the brain, is less efficient

gonorrhea: a sexually transmitted infection (STI) caused by the bacterium *neisseria gonorrhoeae*

Hayflick limit: the number of times a normal human cell population will divide before cell division stops

health psychology: subfield of psychology devoted to studying psychological influences on health, illness, and how people respond when they become ill

heart disease: several types of adverse heart conditions, including those that involve the heart's arteries or valves or those involving the inability of the heart to pump enough blood to meet the body's needs; can include heart attack and stroke

hypertension: high blood pressure that can lead to severe complications and increases the risk of heart disease, stroke, and death

hypothalamic-pituitary-adrenal (HPA) axis: set of structures found in both the limbic system (hypothalamus) and the endocrine system (pituitary gland and adrenal glands) that regulate many of the body's physiological reactions to stress through the release of hormones

immune system: various structures, cells, and mechanisms that protect the body from foreign substances that can damage the body's tissues and organs

immunosuppression: decreased effectiveness of the immune system

in vitro fertilization: this procedure involves removing eggs from

the female, fertilizing the eggs outside the woman's body, and then reinserting into the woman's uterus

life expectancy: a statistical measure of the average time an organism is expected to live, based on the year of its birth, its current age and other demographic factors including gender

job burnout: general sense of emotional exhaustion and cynicism in relation to one's job; consists of three dimensions: exhaustion, depersonalization, and sense of diminished personal accomplishment

job strain: work situation involving the combination of excessive job demands and workload with little decision making latitude or job control

lymphocytes: white blood cells that circulate in the body's fluids and are especially important in the body's immune response

Ménière's disease: results in a degeneration of inner ear structures that can lead to hearing loss, tinnitus, vertigo, and an increase in pressure within the inner ear

menopause: period of transition in which a woman's ovaries stop releasing eggs and the level of estrogen and progesterone production decreases

osteoporosis: a condition in which the bones become brittle, fragile, and thin, often brought about by a lack of calcium in the diet

primary aging: aging that is irreversible and is due to genetic predisposition

primary appraisal: judgment about the degree of potential harm or threat to well-being that a stressor might entail

psychoneuroimmunology: field that studies how psychophysiological disorders: physical disorders or diseases in which symptoms are brought about or worsened by stress and emotional factors psychological factors (such as stress) influence the immune system and immune functioning

osteosarcopenia: when someone has both sarcopenia and osteoporosis, or both muscle and bone tissue loss

Parkinson's disease: long-term degenerative disorder of the central nervous system which mainly affects the motor system,

first characterized by shaking, rigidity, slowness of movement, and difficulty with walking, but thinking and behavioral problems may also occur

perceived control: peoples' beliefs concerning their capacity to influence and shape outcomes in their lives

pelvic inflammatory disease: an infection of the upper part of the female reproductive system, namely the uterus, fallopian tubes, and ovaries, and inside of the pelvis

peripheral slowing hypothesis: the theory that overall processing speed declines with age in the peripheral nervous system

presbycusis: age-related sensorineural hearing loss resulting from degeneration of the cochlea or associated structures of the inner ear or auditory nerves

presbyopia: farsightedness caused by loss of flexibility of the lens of the eye as a result of aging

quality of life: the general well-being of individuals and societies, including life satisfaction, physical health, family, education, employment, wealth, safety, security, freedom, religious beliefs, and the environment

relaxation response technique: stress reduction technique combining elements of relaxation and meditation

sarcopenia: the technical term for the loss of muscle tissue and function as we age

secondary aging: refers to changes that are caused by illness or disease

secondary appraisal: judgment of options available to cope with a stressor and their potential effectiveness

Selective Optimization with Compensation (SOC): a strategy for improving health and well being in older adults and a model for successful aging

senescence: biological aging and the gradual deterioration of functional abilities

sensorineural hearing loss: failure to transmit neural signals from the cochlea to the brain

Social Readjustment Rating Scale (SRRS): popular scale designed

to measure stress; consists of 43 potentially stressful events, each of which has a numerical value quantifying how much readjustment is associated with the event

social support: soothing and often beneficial support of others; can take different forms, such as advice, guidance, encouragement, acceptance, emotional comfort, and tangible assistance

stage of resistance: second stage of the general adaptation syndrome; the body adapts to a stressor for a period of time

stress: process whereby an individual perceives and responds to events that one appraises as overwhelming or threatening to one's well-being

stressors: environmental events that may be judged as threatening or demanding; stimuli that initiate the stress process

temporal theory of pitch perception: sound's frequency is coded by the activity level of a sensory neuron

Type A: psychological and behavior pattern exhibited by individuals who tend to be extremely competitive, impatient, rushed, and hostile toward others

Type B: psychological and behavior pattern exhibited by a person who is relaxed and laid back

type 2 diabetes (T2D): diabetes characterized by high blood sugar, insulin resistance, and relative lack of insulin primarily from obesity or lack of exercise

vertigo: spinning sensation

zygote intrafallopian tube transfer: sperm and ova are fertilized outside of the woman's body and the zygote is then implanted in the fallopian tube to allow the zygote to travel and embed in the lining of the uterus naturally

# COGNITIVE DEVELOPMENT IN ADULTHOOD

## *Learning outcomes*

- Distinguish between formal and postformal thought
- Describe cognitive development and dialectical thought during early adulthood
- Describe educational trends in early adulthood
- Explain the relationship between education and work in early adulthood
- Outline cognitive gains/deficits typically associated with middle adulthood
- Explain changes in fluid and crystallized intelligence during adulthood
- Discuss the impact of aging on memory
- Explain how age impacts cognitive functioning
- Describe abnormal memory loss due to Alzheimer's disease, delirium, and dementia



# Cognitive Development in Early Adulthood



We have learned about cognitive development from infancy through adolescence, ending with Piaget's stage of formal operations. Does that mean that cognitive development stops with adolescence? Couldn't there be different ways of thinking in adulthood that come after (or "post") formal operations?

In this section, we will learn about these types of postformal operational thought and consider research done by William Perry related to types of thought and advanced thinking. We will also look at education in early adulthood, the relationship between education and work, and some tools used by young adults to choose their careers.

# Cognitive Development in Early Adulthood

## Beyond Formal Operational Thought: Postformal Thought

In the adolescence module, we discussed Piaget's formal operational thought. The hallmark of this type of thinking is the ability to think abstractly or to consider possibilities and ideas about circumstances never directly experienced. Thinking abstractly is only one characteristic of adult thought, however. If you compare a 14-year-old with someone in their late 30s, you would probably find that the later considers not only what is possible, but also what is likely. Why the change? The young adult has gained experience and understands why possibilities do not always become realities. This difference in adult and adolescent thought can spark arguments between the generations.

Here is an example. A student in her late 30s relayed such an argument she was having with her 14-year-old son. The son had saved a considerable amount of money and wanted to buy an old car and store it in the garage until he was old enough to drive. He could sit in it, pretend he was driving, clean it up, and show it to his friends. It sounded like a perfect opportunity. The mother, however, had practical objections. The car would just sit for several years while deteriorating. The son would probably change his mind about the type of car he wanted by the time he was old enough to drive and they would be stuck with a car that would not run. She was also



**Figure 1.** As young adults gain more experience, they think increasingly more in the abstract and are able to understand different perspectives and complexities.

concerned that having a car nearby would be too much temptation and the son might decide to sneak it out for a quick ride before he had a permit or license.

Piaget's theory of cognitive development ended with formal operations, but it is possible that other ways of thinking may develop after (or "post") formal operations in adulthood (even if this thinking does not constitute a separate "stage" of development).

**Postformal thought** is practical, realistic and more individualistic, but also characterized by understanding the complexities of various perspectives. As a person approaches the late 30s, chances are they make decisions out of necessity or because of prior experience and are less influenced by what others think. Of course, this is particularly true in individualistic cultures such as the United States. Postformal thought is often described as more flexible, logical, willing to accept moral and intellectual complexities, and dialectical than previous stages in development.

## Try It



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## Perry's Scheme

One of the first theories of cognitive development in early adulthood originated with William Perry (1970), who studied undergraduate students at Harvard University. Perry noted that over the course of students' college years, cognition tended to shift from **dualism** (absolute, black and white, right and wrong type of thinking) to **multiplicity** (recognizing that some problems are solvable and some answers are not yet known) to **relativism** (understanding the importance of the specific context of knowledge—it's all relative to other factors). Similar to Piaget's formal operational thinking in adolescence, this change in thinking in early adulthood is affected by educational experiences.



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**Video 1.** Perry's Scheme of Intellectual Development.

**Table 1. Stages of Perry's Scheme**

	<b>Summary of Position in Perry's Scheme</b>	<b>Basic Example</b>
Dualism	The authorities know  The true authorities are right, the others are frauds	"the tutor knows what is right"  "my tutor doesn't know what is right"
Multiplicity	There are some uncertainties and the authorities are working on them to find the truth  (a) Everyone has the right to their own opinion (b) The authorities don't want the right answers. They want us to think in a certain way	"my tutors don't know, but they are trying to figure it out"  "different tutors think different things" "there is an answer that is not clear"
Relativism	Everything is relative but not equally valid  You have to make your own decisions  First commitment  Several Commitments  Believe own values, respect others, be ready to learn	"there are no right and wrong answers, there might be better than others"  "what is important is not what is taught" "for this particular topic I believe in X" "for these topics I think Y is better"  "I know what I believe in and I am prepared to reconsider my position"

## Dialectical Thought

In addition to moving toward more practical considerations, thinking in early adulthood may also become more flexible and balanced. Abstract ideas that the adolescent believes in firmly may become standards by which the individual evaluates reality. As Perry's research pointed out, adolescents tend to think in dichotomies or absolute terms; ideas are true or false; good or bad; right or wrong and there is no middle ground. However, with education and experience, the young adult comes to recognize that there is some right and some wrong in each position. Such thinking is more realistic because very few positions, ideas, situations, or people are completely right or wrong.

Some adults may move even beyond the relativistic or contextual thinking described by Perry; they may be able to bring together

important aspects of two opposing viewpoints or positions, synthesize them, and come up with new ideas. This is referred to as **dialectical thought** and is considered one of the most advanced aspects of postformal thinking (Basseches, 1984). There isn't just one theory of postformal thought; there are variations, with emphasis on adults' ability to tolerate ambiguity or to accept contradictions or find new problems, rather than solve problems, etc. (as well as relativism and dialecticism that we just learned about). What they all have in common is the proposition that the way we think may change during adulthood with education and experience.

### Try It



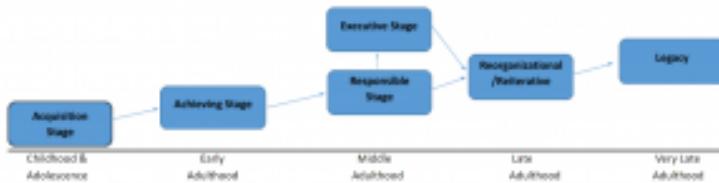
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## Schaie and Willis' Stage Theory of Cognition

Another perspective on post-formal cognitive development focuses less on the development of cognitive skills and instead discerns the

changes in the use of intellect. Shaike and Willis' stage theory of cognition proposed several stages of adult cognitive development.



**Figure 2.** Shaike & Willis' Stage Theory of Cognition.

During childhood and adolescence, cognition is about the acquisition of new knowledge and skills. These young people may not yet know how they will use these acquired skills. In early adulthood, people switch their focus from the acquisition to the application of knowledge, as they use what they know to pursue careers and develop their families. This is called the *achieving stage*. It represents most prominently the application of intelligence in situations that have

profound consequences for achieving long-term goals. The kind of intelligence exhibited in such situations is similar to that employed in educational tasks, but it requires careful attention to the possible consequences of the problem-solving process.

Adults who have mastered the cognitive skills required for monitoring their own behavior and, as a consequence, have attained a certain degree of personal independence will next move into a stage that requires the application of cognitive skills in situations involving social responsibility. Typically, the *responsible stage* occurs when a family is established and the needs of a spouse and offspring must be met. Similar extensions of adult cognitive skills are required as responsibilities for others are acquired on the job and in the community.

Some individuals' responsibilities become exceedingly complex. Such individuals♦presidents of business firms, deans of academic institutions, officials of churches, and a number of other positions♦need to understand the structure and the dynamic forces of organizations. They must monitor organizational activities not only on a temporal dimension (past, present, and future), but also up and down the hierarchy that defines the organization. They need to know not only the future plans of the organization but also whether policy decisions are being adequately translated into action at lower levels of responsibility. Attainment of the *executive stage*, as a variation on the responsibility stage, depends on exposure to opportunities that allow the development and practice of the relevant skills (Avolio, 1991; Smith, Staudinger, & Baltes, 1994).

In the later years of life, beyond the age of 60 or 65, the need to acquire knowledge declines even more, and executive monitoring is less important because frequently the individual has retired from the position that required such an application of intelligence. This stage, *reintegration*, corresponds in its position in the life course to Erikson's stage of ego integrity. The information that elderly people acquire and the knowledge they apply becomes a function of their interests, attitudes, and values. It requires, in fact, the reintegration of all of these. The elderly are less likely to "waste time" on tasks that are meaningless to them. They are unlikely to expend much effort to solve a problem unless that problem is one that they face frequently in their lives. This stage frequently includes a selective reduction of interpersonal networks in the interest of reintegrating one's concern in a more self-directed and supportive manner (cf. Carstensen, 1993; Carstensen, Gross, & Fung, 1997). In addition, efforts must be directed towards planning how one's resources will last for the remaining 15 to 30 years of post-retirement life that are

now characteristic for most individuals in industrialized societies. These efforts include active planning for that time when dependence upon others may be required to maintain a high quality of life in the face of increasing frailty. Such efforts may involve changes in one's housing arrangements, or even one's place of residence, as well as making certain of the eventual availability of both familial and extra-familial support systems. The activities involved in this context include making or changing one's will, drawing up advanced medical directives and durable powers of attorney, as well as creating trusts or other financial arrangements that will protect resources for use during the final years of life or for the needs of other family members.

Although some of these activities involve the same cognitive characteristics of the responsible stage, these objectives involved are far more centered upon current and future needs of the individual rather than the needs of their family or of an organizational entity. Efforts must now be initiated to reorganize one's time and resources to substitute a meaningful environment, often found in leisure activities, volunteerism, and involvement with a larger kinship network. Eventually, however, activities are also engaged in maximizing the quality of life during the final years, often with the additional objective of not becoming a burden for the next generation. The unique objective of these demands upon the individual represent an almost universal process occurring at least in the industrialized societies, and designation of a separate reorganizational stage is therefore warranted. The skills required for the reorganizational stage require the maintenance of reasonably high levels of cognitive competence. In addition, maintenance of flexible cognitive styles are needed to be able to restructure the context and content of life after retirement, to relinquish control of resources to others and to accept the partial surrender of one's independence (Schaie, 1984; 2005).

Many older persons reach advanced old age in relative comfort and often with a clear mind albeit a frail body. Once the

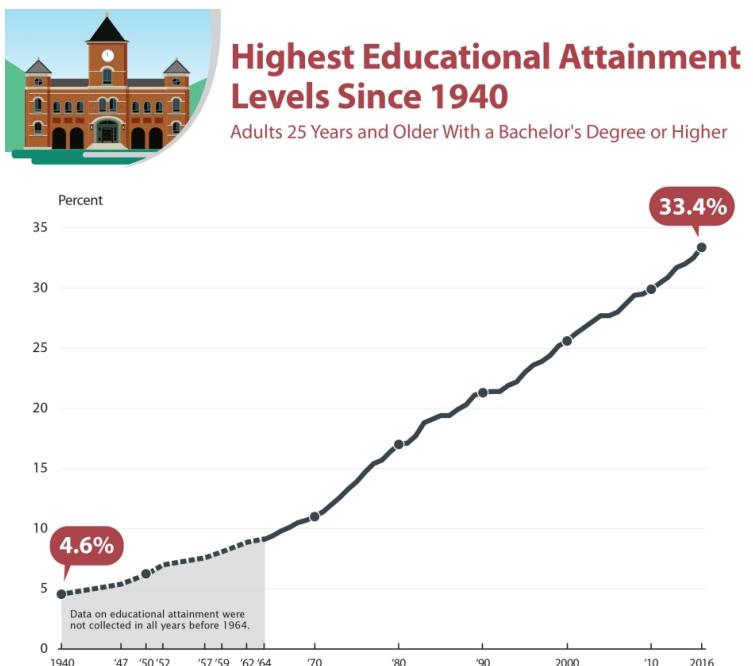
reintegrative efforts described above have been successfully completed, yet one other stage is frequently observed. This last stage is concerned with cognitive activities by many of the very old that occur in anticipation of the end of their life. This is a *legacy stage* that is part of the cognitive development of many, if not all, older persons. This stage often begins by the effort to conduct a life review (Butler, Lewis, & Sunderland, 1998). For the highly literate and those successful in public or professional life this will often include writing or revising an autobiography (Birren, Kenyon, Ruth, Schroots, & Swensson, 1995; Birren & Schroots, 2006). There are also many other more mundane legacies to be left. Women, in particular, often wish to put their remaining effects in order and often distribute many of their prized possessions to friends and relatives, or create elaborate instructions for distributing them. It is not uncommon for many very old people to make a renewed effort at providing an oral history or to explain family pictures and heirloom to the next generation. Last, but not least, directions may be given for funeral arrangements, occasionally including the donation of one's body for scientific research, and there may be a final revision of one's will.

## **Education and Work**

### **Education in Early Adulthood**

According to the U.S. Census Bureau (2017), 90 percent of the American population 25 and older have completed high school or higher level of education—compare this to just 24 percent in 1940! Each generation tends to earn (and perhaps need) increased levels of formal education. As we can see in the graph, approximately one-third of the American adult population has a bachelor's degree or

higher, as compared with less than 5 percent in 1940. Educational attainment rates vary by gender and race. All races combined, women are slightly more likely to have graduated from college than men; that gap widens with graduate and professional degrees. However, wide racial disparities still exist. For example, 23 percent of African-Americans have a college degree and only 16.4 percent of Hispanic Americans have a college degree, compared to 37 percent of non-Hispanic white Americans. The college graduation rates of African-Americans and Hispanic Americans have been growing in recent years, however (the rate has doubled since 1991 for African-Americans and it has increased 60 percent in the last two decades for Hispanic-Americans).



**Figure 2.** Since 1940, there has been a significant rise in educational attainment for adults over age 25.

What about those young or emerging adults graduating high school today—is the majority of that group going to college? According to the U.S. Bureau of Labor Statistics (2017), 66.7 percent of youth ages 16–24 who graduated high school between January and October 2017 were enrolled in colleges or universities in October 2017. There were gender differences (71.7 percent of females vs. 61.1 percent of males) and racial differences (83 percent of Asians, 67.1 percent of non-Hispanic whites, 61 percent Hispanics, and 59.4 percent Blacks). Not all of these students will persist and earn college degrees, however.

### Try It



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## Education and the Workplace

With the rising costs of higher education, various news headlines have asked if a college education is worth the cost. One way to

address this question is in terms of the earning potential associated with various levels of educational achievement. In 2016, the average earnings for Americans 25 and older with only a high school education was \$35,615, compared with \$65,482 for those with a bachelor's degree, compared with \$92,525 for those with more advanced degrees. Average earnings vary by gender, race, and geographical location in the United States.

Of concern in recent years is the relationship between higher education and the workplace. In 2005, American educator and then Harvard University President, Derek Bok, called for a closer alignment between the goals of educators and the demands of the economy. Companies outsource much of their work, not only to save costs but to find workers with the skills they need. What is required to do well in today's economy? Colleges and universities, he argued, need to promote global awareness, critical thinking skills, the ability to communicate, moral reasoning, and responsibility in their students. Regional accrediting agencies and state organizations provide similar guidelines for educators. Workers need skills in listening, reading, writing, speaking, global awareness, critical thinking, civility, and computer literacy—all skills that enhance success in the workplace.

More than a decade later, the question remains: does formal education prepare young adults for the workplace? It depends on whom you ask. In an article referring to information from the National Association of Colleges and Employers' 2018 Job Outlook Survey, Bauer-Wolf (2018) explains that employers perceive gaps in students' competencies but many graduating college seniors are overly confident. The biggest difference was in perceived professionalism and work ethic (only 43 percent of employers thought that students are competent in this area compared to 90 percent of the students). Similar differences were also found in terms of oral communication, written communication, and critical thinking skills. Only in terms of digital technology skills were more employers confident about students' competencies than were the students (66 percent compared to 60 percent).

It appears that students need to learn what some call “soft skills,” as well as the particular knowledge and skills within their college major. As education researcher Loni Bordoloi Pazich (2018) noted, most American college students today are enrolling in business or other pre-professional programs and to be effective and successful workers and leaders, they would benefit from the communication, teamwork, and critical thinking skills, as well as the content knowledge, gained from liberal arts education. In fact, two-thirds of children starting primary school now will be employed in jobs in the future that currently do not exist. Therefore, students cannot learn every single skill or fact that they may need to know, but they can learn how to learn, think, research, and communicate well so that they are prepared to continually learn new things and adapt effectively in their careers and lives since the economy, technology, and global markets will continue to evolve.

## Career Choices in Early Adulthood

Hopefully, we are each becoming lifelong learners, particularly since we are living longer and will most likely change jobs multiple times during our lives. However, for many, our job changes will be within the same general occupational field, so our initial career choice is still significant. We've seen with Erikson that identity largely involves occupation and, as we will learn in the next section, Levinson found that young adults typically form a dream about work (though females may have to choose to focus relatively more on work or family initially with “split” dreams). The American School Counselor Association recommends that school counselors aid students in their career development beginning as early as kindergarten and continue this development throughout their education.

One of the most well-known theories about career choice is from John Holland (1985), who proposed that there are six personality

types (realistic, investigative, artistic, social, enterprising, and conventional), as well as varying types of work environments. The better matched one's personality is to the workplace characteristics, the more satisfied and successful one is predicted to be with that career or vocational choice. Research support has been mixed and we should note that there is more to satisfaction and success in a career than one's personality traits or likes and dislikes. For instance, education, training, and abilities need to match the expectations and demands of the job, plus the state of the economy, availability of positions, and salary rates may play practical roles in choices about work.

### *Link to Learning: What's Your Right Career?*

To complete a free online career questionnaire and identify potential careers based on your preferences, go to:

#### Career One Stop Questionnaire

Did you find out anything interesting? Think of this activity as a starting point to your career exploration. Other great ways for young adults to research careers include informational interviewing, job shadowing, volunteering, practicums, and internships. Once you have a few careers in mind that you want to find out more about, go to the Occupational Outlook Handbook from the U.S. Bureau of Labor Statistics to learn about job tasks, required education, average pay, and projected outlook for the future.

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# Cognitive Development in Middle Adulthood

While we sometimes associate aging with cognitive decline (often due to the way it is portrayed in the media), aging does not necessarily mean a decrease in cognitive function. In fact, tacit knowledge, verbal memory, vocabulary, inductive reasoning, and other types of practical thought skills *increase* with age. We'll learn about these advances as well as some neurological changes that happen in middle adulthood in the section that follows.

## Cognition in Middle Adulthood



**Figure 1.** Remaining cognitively active can reduce cognitive decline.

One of the most influential perspectives on cognition during middle adulthood has been that of the Seattle Longitudinal Study (SLS) of adult cognition, which began in 1956. Schaie & Willis (2010) summarized the general findings from this series of studies as follows: “We have

generally shown that reliably replicable average age decrements in psychometric abilities do not occur prior to age 60, but that such reliable decrement can be found for all abilities by 74 years of age.” In short, decreases in cognitive abilities begin in the sixth decade and gain increasing significance from that point on. However, Singh-Maoux et al (2012) argue for small but significant cognitive declines beginning as early as age 45. There is some evidence that

adults should be as aggressive in maintaining their cognitive health as they are their physical health during this time as the two are intimately related.

A second source of longitudinal research data on this part of the lifespan has been The Midlife in the United States Studies (MIDUS), which began in 1994. The MIDUS data supports the view that this period of life is something of a trade-off, with some cognitive and physical decreases of varying degrees. The cognitive mechanics of processing speed, often referred to as fluid intelligence, physiological lung capacity, and muscle mass, are in relative decline. However, knowledge, experience and the increased ability to regulate our emotions can compensate for these losses. Continuing cognitive focus and exercise can also reduce the extent and effects of cognitive decline.

## Control Beliefs

Central to all of this is personal **control beliefs**, which have a long history in psychology. Beginning with the work of Julian Rotter (1954), a fundamental distinction is drawn between those who believe that they are the fundamental agent of what happens in their life, and those who believe that they are largely at the mercy of external circumstances. Those who believe that life outcomes are dependent on what they say and do are said to have a strong internal locus of control. Those who believe that they have little control over their life outcomes are said to have an external locus of control.

Empirical research has shown that those with an internal locus of control enjoy better results in psychological tests across the board; behavioral, motivational, and cognitive. It is reported that this belief in control declines with age, but again, there is a great deal of individual variation. This raises another issue: directional causality. Does my belief in my ability to retain my intellectual skills

and abilities at this time of life ensure better performance on a cognitive test compared to those who believe in their inexorable decline? Or, does the fact that I enjoy that intellectual competence or facility instill or reinforce that belief in control and controllable outcomes? It is not clear which factor is influencing the other. The exact nature of the connection between control beliefs and cognitive performance remains unclear.

Brain science is developing exponentially and will unquestionably deliver new insights on a whole range of issues related to cognition in midlife. One of them will surely be on the brain's capacity to renew, or at least replenish itself, at this time of life. The capacity to renew is called neurogenesis; the capacity to replenish what is there is called neuroplasticity. At this stage it is impossible to ascertain exactly what effect future pharmacological interventions may have on possible cognitive decline at this, and later, stages of life.

### Try It



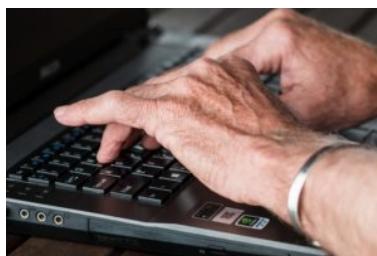
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## Cognitive Aging

Researchers have identified areas of loss and gain in cognition in older age. Cognitive ability and intelligence are often measured using standardized tests and validated measures. The psychometric approach has identified two categories of intelligence that show different rates of change across the life span (Schaie & Willis, 1996). Fluid and crystallized intelligence were first identified by Cattell in 1971. **Fluid intelligence** refers to information processing abilities, such as logical reasoning, remembering lists, spatial ability, and reaction time. **Crystallized intelligence** encompasses abilities that draw upon experience and knowledge. Measures of crystallized intelligence include vocabulary tests, solving number problems, and understanding texts. There is a general acceptance that fluid intelligence decreases continually from the 20s, but that crystallized intelligence continues to accumulate. One might expect to complete the NY Times crossword more quickly at 48 than 22, but the capacity to deal with novel information declines.

With age, systematic declines are observed on cognitive tasks requiring self-initiated, effortful processing, without the aid of supportive memory cues (Park, 2000). Older adults tend to perform poorer than young adults on memory tasks that involve recall of information, where individuals must retrieve information they learned previously without the help of a list of possible choices. For example, older adults may have more difficulty recalling facts such as names or contextual details about where or when something happened (Craik, 2000). What might explain these deficits as we age?



**Figure 2.** While typing speed and reaction time slow with age, older typists can compensate in other ways, by looking farther ahead at printed text.

As we age, working memory, or our ability to simultaneously store and use information, becomes less efficient (Craik & Bialystok, 2006). The ability to process information quickly also decreases with age. This slowing of processing speed may explain age differences on many different cognitive tasks (Salthouse, 2004). Some researchers have argued that inhibitory functioning, or the ability to focus on certain information while suppressing attention to less pertinent information, declines with age and may explain age differences in performance on cognitive tasks (Hasher & Zacks, 1988).

Fewer age differences are observed when memory cues are available, such as for recognition memory tasks, or when individuals can draw upon acquired knowledge or experience. For example, older adults often perform as well if not better than young adults on tests of word knowledge or vocabulary. With age often comes expertise, and research has pointed to areas where aging experts perform as well or better than younger individuals. For example, older typists were found to compensate for age-related declines in speed by looking farther ahead at printed text (Salthouse, 1984). Compared to younger players, older chess experts are able to focus on a smaller set of possible moves, leading to greater cognitive efficiency (Charness, 1981). Accrued knowledge of everyday tasks, such as grocery prices, can help older adults to make better decisions than young adults (Tentori, Osheron, Hasher, & May, 2001).

We began with Schaie and Willis (2010) observing that no discernible general cognitive decline could be observed before 60, but other studies contradict this notion. How do we explain this contradiction? In a thought-provoking article, Ramscar et al (2014) argued that an emphasis on information processing speed ignored the effect of the process of learning/experience itself; that is, that such tests ignore the fact that more information to process leads to slower processing in both computers and humans. We are more complex cognitive systems at 55 than 25.

## Watch It

This video highlights some of the cognitive changes during adulthood as well as the characteristics that either decline, improve, or remain stable.



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## Performance in Middle Adulthood

Research on interpersonal problem solving suggests that older adults use more effective strategies than younger adults to navigate through social and emotional problems (Blanchard-Fields, 2007). In the context of work, researchers rarely find that older individuals perform less well on the job (Park & Gutchess, 2000). Similar to everyday problem solving, older workers may develop more efficient strategies and rely on expertise to compensate for cognitive decline.

Empirical studies of cognitive aging are often difficult, and quite technical, given their nature. Similarly, experiments focused on one kind of task may tell you very little in terms of general capacities. Memory and attention as psychological constructs are now divided into very specific subsets which can be confusing and difficult to compare.

However, one study does show with relative clarity the issues involved. In the USA, The Federal Aviation Authority insists that all air traffic controllers retire at 56 and that they cannot begin until age 31 unless they have previous military experience. However, in Canada controllers are allowed to work until aged 65 and are allowed to train at a much earlier age. Nunes and Kramer (2009)

studied four groups: a younger group of controllers (20–27), an older group of controllers aged 53 to 64, and two other groups of the same age who were not air traffic controllers. On simple cognitive tasks, not related to their occupational lives as controllers, older controllers were slower than their younger peers. However, when it came to job-related tasks their results were largely identical. This was not true of the older group of non-controllers who had significant deficits in comparison. Specific knowledge or expertise in a domain acquired over time (crystallized intelligence), can offset a decline in fluid intelligence.

## Tacit Knowledge

The idea of **tacit knowledge** was first introduced by Michael Polanyi (1954). He argued that each individual had a huge store of knowledge based on life experience, but that it was often difficult to describe, codify, and thus transfer, as stated in his famous formulation, “we always know more than we can tell.” Organizational theorists have spent a great deal of time thinking about the problem of tacit knowledge in this setting. Think of someone you have encountered who is extremely good at what they do. They may have no more (or less) education, formal training, and even experience, than others who are supposedly at an equivalent level. What is the “something” that they have? Tacit knowledge is highly prized and older workers often have the greatest amount, even if they are not conscious of that fact.

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# Cognitive Development in Late Adulthood

There are numerous stereotypes regarding older adults as being forgetful and confused, but what does the research on memory and cognition in late adulthood actually reveal? In this section, we will focus upon the impact of aging on memory, how age impacts cognitive functioning, and abnormal memory loss due to Alzheimer's disease, delirium, and dementia.

## Cognitive Development and Memory in Late Adulthood

How does aging affect memory?

### The Sensory Register

Aging may create small decrements in the sensitivity of the senses. And, to the extent that a person has a more difficult time hearing or seeing, that information will not be stored in memory. This is an important point, because many older people assume that if they cannot remember something, it is



**Figure 1.** During late adulthood, memory and attention decline, but continued efforts to learn and engage in cognitive activities can minimize aging effects on cognitive development.

because their memory is poor. In fact, it may be that the information was never seen or heard.

## The Working Memory

Older people have more difficulty using memory strategies to recall details (Berk, 2007). **Working memory** is a cognitive system with a limited capacity responsible for temporarily holding information available for processing. As we age, the working memory loses some of its capacity. This makes it more difficult to concentrate on more than one thing at a time or to remember details of an event. However, people often compensate for this by writing down information and avoiding situations where there is too much going on at once to focus on a particular cognitive task.

When an elderly person demonstrates difficulty with multi-step verbal information presented quickly, the person is exhibiting problems with working memory. Working memory is among the cognitive functions most sensitive to decline in old age. Several explanations have been offered for this decline in memory functioning; one is the processing speed theory of cognitive aging by Tim Salthouse. Drawing on the findings of general slowing of cognitive processes as people grow older, Salthouse argues that slower processing causes working-memory contents to decay, thus reducing effective capacity. For example, if an elderly person is watching a complicated action movie, they may not process the events quickly enough before the scene changes, or they may be processing the events of the second scene, which causes them to forget the first scene. The decline of working-memory capacity cannot be entirely attributed to cognitive slowing, however, because capacity declines more in old age than speed.

Another proposal is the inhibition hypothesis advanced by Lynn Hasher and Rose Zacks. This theory assumes a general deficit in old age in the ability to inhibit irrelevant, or no-longer relevant,

information. Therefore, working memory tends to be cluttered with irrelevant contents which reduce the effective capacity for relevant content. The assumption of an inhibition deficit in old age has received much empirical support but, so far, it is not clear whether the decline in inhibitory ability fully explains the decline of working-memory capacity.

An explanation on the neural level of the decline of working memory and other cognitive functions in old age was been proposed by Robert West. He argued that working memory depends to a large degree on the pre-frontal cortex, which deteriorates more than other brain regions as we grow old. Age related decline in working memory can be briefly reversed using low intensity transcranial stimulation, synchronizing rhythms in bilateral frontal and left temporal lobe areas.

## The Long-Term Memory

**Long-term memory** involves the storage of information for long periods of time. Retrieving such information depends on how well it was learned in the first place rather than how long it has been stored. If information is stored effectively, an older person may remember facts, events, names and other types of information stored in long-term memory throughout life. The memory of adults of all ages seems to be similar when they are asked to recall names of teachers or classmates. And older adults remember more about their early adulthood and adolescence than about middle adulthood (Berk, 2007). Older adults retain semantic memory or the ability to remember vocabulary.

Younger adults rely more on mental rehearsal strategies to store and retrieve information. Older adults focus rely more on external cues such as familiarity and context to recall information (Berk, 2007). And they are more likely to report the main idea of a story rather than all of the details (Jepson & Labouvie-Vief, in Berk, 2007).

A positive attitude about being able to learn and remember plays an important role in memory. When people are under stress (perhaps feeling stressed about memory loss), they have a more difficult time taking in information because they are preoccupied with anxieties. Many of the laboratory memory tests require comparing the performance of older and younger adults on timed memory tests in which older adults do not perform as well. However, few real life situations require speedy responses to memory tasks. Older adults rely on more meaningful cues to remember facts and events without any impairment to everyday living.

### Try It



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## New Research on Aging and Cognition

Can the brain be trained in order to build cognitive reserve to

reduce the effects of normal aging? ACTIVE (Advanced Cognitive Training for Independent and Vital Elderly), a study conducted between 1999 and 2001 in which 2,802 individuals age 65 to 94, suggests that the answer is “yes.” These participants received 10 group training sessions and 4 follow up sessions to work on tasks of memory, reasoning, and speed of processing. These mental workouts improved cognitive functioning even 5 years later. Many of the participants believed that this improvement could be seen in everyday tasks as well (Tennstedt, Morris, et al, 2006). Learning new things, engaging in activities that are considered challenging, and being physically active at any age may build a reserve to minimize the effects of primary aging of the brain.

### WAch It

Watch this video from SciShow Psych to learn about ways to keep the mind young and active.



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## Wisdom

Wisdom is the ability to use common sense and good judgment in making decisions. A wise person is insightful and has knowledge that can be used to overcome obstacles they encounter in their daily lives. Does aging bring wisdom? While living longer brings experience, it does not always bring wisdom. Those who have had experience helping others resolve problems in living and those who have served in leadership positions seem to have more wisdom. So it is age combined with a certain type of experience that brings wisdom. However, older adults generally have greater emotional wisdom or the ability to empathize with and understand others.

## Changes in Attention in Late Adulthood

Divided attention has usually been associated with significant age-related declines in performing complex tasks. For example, older adults show significant impairments on attentional tasks such as looking at a visual cue at the same time as listening to an auditory cue because it requires dividing or switching of attention among multiple inputs. Deficits found in many tasks, such as the Stroop task which measures selective attention, can be largely attributed to a general slowing of information processing in older adults rather than to selective attention deficits per se. They also are able to maintain concentration for an extended period of time. In general, older adults are not impaired on tasks that test sustained attention, such as watching a screen for an infrequent beep or symbol.

The tasks on which older adults show impairments tend to be those that require flexible control of attention, a cognitive function

associated with the frontal lobes. Importantly, these types of tasks appear to improve with training and can be strengthened.

An important conclusion from research on changes in cognitive function as we age is that attentional deficits can have a significant impact on an older person's ability to function adequately and independently in everyday life. One important aspect of daily functioning impacted by attentional problems is driving. This is an activity that, for many older people, is essential to independence. Driving requires a constant switching of attention in response to environmental contingencies. Attention must be divided between driving, monitoring the environment, and sorting out relevant from irrelevant stimuli in a cluttered visual array. Research has shown that divided attention impairments are significantly associated with increased automobile accidents in older adults. Therefore, practice and extended training on driving simulators under divided attention conditions may be an important remedial activity for older people.

## Problem Solving

Problem solving tasks that require processing non-meaningful information quickly (a kind of task which might be part of a laboratory experiment on mental processes) declines with age. However, real life challenges facing older adults do not rely on speed of processing or making choices on one's own. Older adults are able to resolve everyday problems by relying on input from others such as family and friends. They are also less likely than younger adults to delay making decisions on important matters such as medical care (Strough et al., 2003; Meegan & Berg, 2002).

## Try It



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## Cognitive Function in Late Adulthood

### Abnormal Loss of Cognitive Functioning During Late Adulthood

**Dementia** is the umbrella category used to describe the general long-term and often gradual decrease in the ability to think and remember that affects a person's daily functioning. The manual used to help classify and diagnose mental disorders, the Diagnostic and Statistical Manual of Mental Disorders, or DSM-V, classifies dementia as "major neurocognitive disorder, with milder symptoms classified as "mild cognitive impairment," although the term dementia is still in common use. Common symptoms of dementia

include emotional problems, difficulties with language, and a decrease in motivation. A person's consciousness is usually not affected. Globally, dementia affected about 46 million people in 2015. About 10% of people develop the disorder at some point in their lives, and it becomes more common with age. About 3% of people between the ages of 65–74 have dementia, 19% between 75 and 84, and nearly half of those over 85 years of age. In 2015, dementia resulted in about 1.9 million deaths, up from 0.8 million in 1990. As more people are living longer, dementia is becoming more common in the population as a whole.

Dementia generally refers to severely impaired judgment, memory or problem-solving ability. It can occur before old age and is not an inevitable development even among the very old. Dementia can be caused by numerous diseases and circumstances, all of which result in similar general symptoms of impaired judgment, etc. Alzheimer's disease is the most common form of dementia and is incurable, but there are also nonorganic causes of dementia which can be prevented. Malnutrition, alcoholism, depression, and mixing medications can also result in symptoms of dementia. If these causes are properly identified, they can be treated. Cerebral vascular disease can also reduce cognitive functioning.

**Delirium**, also known as acute confusional state, is an organically caused decline from a previous baseline level of mental function that develops over a short period of time, typically hours to days. It is more common in older adults, but can easily be confused with a number of psychiatric disorders or chronic organic brain syndromes because of many overlapping signs and symptoms in common with dementia, depression, psychosis, etc. Delirium may manifest from a baseline of existing mental illness, baseline intellectual disability, or dementia, without being due to any of these problems.

Delirium is a syndrome encompassing disturbances in attention, consciousness, and cognition. It may also involve other neurological deficits, such as psychomotor disturbances (e.g. hyperactive,

hypoactive, or mixed), impaired sleep-wake cycle, emotional disturbances, and perceptual disturbances (e.g. hallucinations and delusions), although these features are not required for diagnosis. Among older adults, delirium occurs in 15–53% of post-surgical patients, 70–87% of those in the ICU, and up to 60% of those in nursing homes or post-acute care settings. Among those requiring critical care, delirium is a risk for death within the next year.

## *Alzheimer's Disease*

**Alzheimer's disease (AD)**, also referred to simply as Alzheimer's, is the most common cause of dementia, accounting for 60–70% of its cases. Alzheimer's is a progressive disease causing problems with memory, thinking and behavior. Symptoms usually develop slowly and get worse over time, becoming severe enough to interfere with daily tasks.



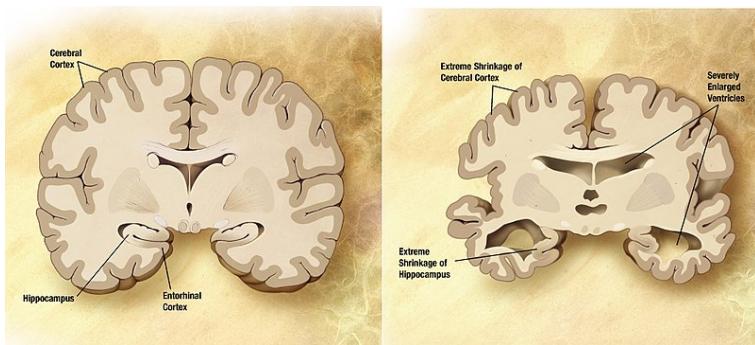
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### **Video 1. What is Alzheimer's Disease?**

The most common early symptom is difficulty in remembering recent events. As the disease advances, symptoms can include problems with language, disorientation (including easily getting lost), mood swings, loss of motivation, not managing self care, and behavioral issues. In the early stages, memory loss is mild, but with

late-stage Alzheimer's, individuals lose the ability to carry on a conversation and respond to their environment.



**Figure 2.** Alzheimer's disease is not simply part of the aging process. It is a disease with physiological symptoms and decay in the brain.

Alzheimer's is the sixth leading cause of death in the United States. On average, a person with Alzheimer's lives four to eight years after diagnosis, but can live as long as 20 years, depending on other factors. Alzheimer's is not a normal part of aging. The greatest known risk factor is increasing age, and the majority of people with Alzheimer's are 65 and older. But Alzheimer's is not just a disease of old age. Approximately 200,000 Americans under the age of 65 have younger-onset Alzheimer's disease (also known as early-onset Alzheimer's).

The cause of Alzheimer's disease is poorly understood. About 70% of the risk is believed to be inherited from a person's parents with many genes usually involved. Other risk factors include a history of head injuries, depression, and hypertension. The disease process is associated with plaques and neurofibrillary tangles in the brain. A probable diagnosis is based on the history of the illness and cognitive testing with medical imaging and blood tests to rule out other possible causes. Initial symptoms are often mistaken for normal aging, but examination of brain tissue, specifically of structures called plaques and tangles, is needed for a definite

diagnosis. Though qualified physicians can be up to 90% certain of a correct diagnosis of Alzheimer's, currently, the only way to make a 100% definitive diagnosis is by performing and autopsy of the person and examining the brain tissue. In 2015, there were approximately 29.8 million people worldwide with AD. In developed countries, AD is one of the most financially costly diseases.

## Watch It

**Video 2.** This new report demonstrates an Alzheimer's simulation meant to help families better understand what a person with the disease may experience in their day-to-day lives.



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# Glossary

**dialectical thought:** the ability to reason from multiple perspectives and synthesize various viewpoints in order to come up with new ideas

**dualism:** absolute, black and white, right and wrong type of thinking

**multiplicity:** recognizing that some problems are solvable and some answers are not yet known

**postformal thought:** a more individualistic and realistic type of thinking that occurs after Piaget's last stage of formal operations

**relativism:** understanding the importance of the specific context of knowledge—it's all relative to other factors

**control beliefs:** the belief that an individual can influence life outcomes, encompassing estimations of relevant external constraints and our own capabilities

**crystallized intelligence:** knowledge, skills, and experience acquired over a lifetime, accessible via memory and expressible in word/number form

**fluid intelligence:** the ability to recognize patterns and solve problems, irrespective of any past experience of the context in which these patterns or problems arise

**tacit knowledge:** pragmatic or practical and learned through experience rather than explicitly taught

**Alzheimer's disease:** an irreversible, progressive brain disorder that slowly destroys memory and thinking skills, and eventually the ability to carry out the simplest tasks

**delirium:** an abrupt change in the brain that causes mental confusion and emotional disruption. It makes it difficult to think, remember, sleep, pay attention, and more

**dementia:** a cause of neurocognitive disorder, characterized by progressive and gradual cognitive deficits due to severe cerebral atrophy

long-term memory: the storage of information over an extended period[/glossary-definition]

working memory: a cognitive system with a limited capacity that is responsible for temporarily holding information available for processing

# PSYCHOSOCIAL DEVELOPMENT IN ADULTHOOD

## *Learning Objectives*

- Describe Erikson's stage of intimacy vs. isolation
- Summarize Levinson's theory of early adulthood transitions
- Describe some of the factors related to attraction in relationships
- Apply Sternberg's theory of love to relationships
- Summarize attachment theory in adulthood
- Describe trends and norms in dating, cohabitation, and marriage in the United States
- Describe challenges, transitions, and factors associated with parenthood
- Describe Erikson's stage of generativity vs. stagnation
- Evaluate Levinson's notion of the midlife crisis
- Examine key theories on aging, including socio-emotional selectivity theory (SSC) and selection, optimization, and compensation (SOC)
- Describe personality and work-related issues in midlife
- Describe the link between intimacy and subjective well-being

- Discuss issues related to family life in middle adulthood
- Discuss divorce and recoupling during middle adulthood
- Describe theories related to late adulthood, including Erikson's psychosocial stage of integrity vs. despair
- Describe examples of productivity in late adulthood
- Describe attitudes about aging
- Examine family relationships during late adulthood (grandparenting, marriage, divorce, widowhood, traditional and non-traditional roles; co-habitation, LGBTQ+)

When we are children and teens, we eagerly anticipate each and every birthday, waiting for the next big one...when we'll finally be grown up and have all the freedoms and rights enjoyed by those who are older than us. Indeed, there are opportunities to drive, buy a car, vote, go to college, join the military, drink, move out on our own, date, live together, get married, work, have children, buy a house, and more. This can be an awesome time in our lives, as we tend to be physically and cognitively strong and healthy, we dream and make plans for the future, find people to share our experiences, and try out new roles. It can also be challenging, stressful, and scary as we realize that a lot of responsibility comes with such freedom. We have probably all seen the coffee mugs that proclaim, "Adulting is hard," or the t-shirts that announce, "I can't adult today" (typically worn by young adults!).

Development is a process, and we aren't suddenly adults at a certain age. In fact, we may even take longer to grow up these days. In this module, we'll learn about norms, trends, and theories about why certain patterns are forming. It's even been proposed

that there is a new stage of development between adolescence and early adulthood, called “emerging adulthood,” when young people don’t quite feel like they are adults yet and wait longer to join the workforce, move out on their own, get married, and have children. Yet by the end of early adulthood, most of us will have accomplished the important developmental tasks of becoming more autonomous, taking care of ourselves and even others, committing to relationships and jobs/careers, getting married, raising families, and becoming part of our communities. There are, of course, many individual and cultural differences.

Think of your own life. When will you feel like an adult? Or do you already feel like an adult? Why or why not? Did your parents become adults earlier or later in their lives, compared to you?



# Theories of Adult Psychosocial Development

From a lifespan developmental perspective, growth and development do not stop in childhood or adolescence; they continue throughout adulthood. In this section, we will build on Erikson's psychosocial stages, then be introduced to theories about transitions that occur during adulthood. According to Levinson, we alternate between periods of change and periods of stability. More recently, Arnett notes that transitions to adulthood happen at later ages than in the past and he proposes that there is a new stage between adolescence and early adulthood called, "emerging adulthood." Let's see what you think.



# Erikson's Theory

## Intimacy vs. Isolation



**Figure 1.** Young adulthood is a time to connect with others in both friendships and romantic relationships.

Erikson (1950) believed that the main task of early adulthood is to establish intimate relationships and not feel isolated from others. Intimacy does not necessarily involve romance; it involves caring about another and sharing one's self without losing one's self. This developmental crisis of

"intimacy versus isolation" is affected by how the adolescent crisis of "identity versus role confusion" was resolved (in addition to how the earlier developmental crises in infancy and childhood were resolved). The young adult might be afraid to get too close to someone else and lose her or his sense of self, or the young adult might define her or himself in terms of another person. Intimate relationships are more difficult if one is still struggling with identity. Achieving a sense of identity is a life-long process, but there are periods of identity crisis and stability. And, according to Erikson, having some sense of identity is essential for intimate relationships. Although, consider what that would mean for previous generations of women who may have defined themselves through their husbands and marriages, or for Eastern cultures today that value interdependence rather than independence.

## Friendships as a source of intimacy

In our twenties, intimacy needs may be met in friendships rather than with partners. This is especially true in the United States today as many young adults postpone making long-term commitments to partners either in marriage or in cohabitation. The kinds of friendships shared by women tend to differ from those shared by men

(Tannen,1990). Friendships between men are more likely to involve sharing information, providing solutions, or focusing on activities rather than discussing problems or emotions. Men tend to discuss opinions or factual information or spend time together in an activity of mutual interest. Friendships between women are more likely to focus on sharing weaknesses, emotions, or problems. Women talk about difficulties they are having in other relationships and express their sadness, frustrations, and joys. These differences in approaches could lead to problems when men and women come together. She may want to vent about a problem she is having; he may want to provide a solution and move on to some activity. But when he offers a solution, she thinks he does not care! Effective communication is the key to good relationships.

Many argue that other-sex friendships become more difficult for heterosexual men and women because of the unspoken question about whether the friendships will lead to a romantic involvement. Although common during adolescence and early adulthood, these friendships may be considered threatening once a person is in a long-term relationship or marriage. Consequently, friendships may



**Figure 2.** Many young adulthoods find intimacy through friendships rather than through committed romantic relationships. The increase of young adults attending college has contributed to this trend.

diminish once a person has a partner or single friends may be replaced with couple friends.

## Gaining Adult Status

Many of the developmental tasks of early adulthood involve becoming part of the adult world and gaining independence. Young adults sometimes complain that they are not treated with respect, especially if they are put in positions of authority over older workers. Consequently, young adults may emphasize their age to gain credibility from those who are even slightly younger. "You're only 23? I'm 27!" a young adult might exclaim. [Note: This kind of statement is much less likely to come from someone in their 40s!]

The focus of early adulthood is often on the future. Many aspects of life are on hold while people go to school, go to work, and prepare for a brighter future. There may be a belief that the hurried life now lived will improve 'as soon as I finish school' or 'as soon as I get promoted' or 'as soon as the children get a little older.' As a result, time may seem to pass rather quickly. The day consists of meeting many demands that these tasks bring. The incentive for working so hard is that it will all result in a better future.

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## Levinson's Theory

In 1978, Daniel Levinson published a book entitled, *The Seasons of a Man's Life* in which he presented a theory of development in adulthood. Levinson's work was based on in-depth interviews with 40 men between the ages of 35-45. According to Levinson, young adults have an image of the future that motivates them. This image is called "the dream" and for the men interviewed, it was a dream of how their career paths would progress and where they would be at midlife. Dreams are very motivating. Dreams of a home bring excitement to couples as they look, save, and fantasize about how life will be. Dreams of careers motivate students to continue in school as they fantasize about how much their hard work will pay off. Dreams of playgrounds on a summer day inspire would-be parents. A dream is perfect and retains that perfection as long as

it remains in the future. But as the realization of it moves closer, it may or may not measure up to its image. If it does, all is well. But if it does not, the image must be replaced or modified. And so, in adulthood, plans are made, efforts follow, and plans are reevaluated. This creating and recreating characterizes Levinson's theory. (The shift from idealistic dreams to more realistic experiences might remind us of the cognitive development progression from formal to postformal thought in adulthood.)

Levinson's stages (at least up to midlife) are presented below (Levinson, 1978). He suggested that periods of transition last about five years and periods of stability last about seven years. The ages presented below are based on life in the middle-class several decades ago. Think about how these ages and transitions might be different today, or in other cultures, or for women compared to men.

- Early adult transition (17-22): Leaving home, leaving family; making first choices about career and education
- Entering the adult world (22-28): Committing to an occupation, defining goals, finding intimate relationships
- Age 30 transition (28-33): Reevaluating those choices and perhaps making modifications or changing one's attitude toward love and work
- Settling down (33 to 40): Reinvesting in work and family commitments; becoming involved in the community
- Midlife transition (40-45): Reevaluating previous commitments; making dramatic changes if necessary; giving expression to previously ignored talents or aspirations; feeling more of a sense of urgency about life and its meaning
- Entering middle adulthood (45-50): Committing to new choices made and placing one's energies into these commitments

Nearly twenty years after his original research, Levinson interviewed 45 women ages 35-45 and published the book, *The seasons of a woman's life*. He reported similar patterns with women,

although women held a “split dream”—an image of the future in both work and family life and a concern with the timing and coordination of the two. Traditionally, by working outside the home, men were seen as taking care of their families. However, for women, working outside the home and taking care of their families were perceived as separate and competing for their time and attention. Hence, one aspect of the women’s dreams was focused on one goal for several years and then their time and attention shifted towards the other, often resulting in delays in women’s career dreams.



**Figure 3.** Women are often torn between caring for their families and advancing their careers outside of the home.

Adulthood, then, is a period of building and rebuilding one’s life. Many of the decisions that are made in early adulthood are made before a person has had enough experience to really understand the consequences of such decisions. And, perhaps, many of these initial decisions are made with one goal in mind – to be seen as an adult. As a result, early decisions may be driven more by the expectations of others. For example, imagine someone who chose a career path based on other’s advice but now finds that the job is not what was expected.

The age 30 transition may involve recommitting to the same job,

not because it's stimulating, but because it pays well; or the person may decide to go back to school and change careers. Settling down may involve settling down with a new set of expectations. As the adult gains status, he or she may be freer to make more independent choices. And sometimes these are very different from those previously made. The midlife transition differs from the age 30 transition in that the person is more aware of how much time has gone by and how much time is left. This brings a sense of urgency and impatience about making changes. The future focus of early adulthood gives way to an emphasis on the present in midlife—we will explore this in our next module. Overall, Levinson calls our attention to the dynamic nature of adulthood.

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## Arnett's Theory of Emerging Adulthood

Have you noticed that many young adults in our society today are taking longer to accomplish the early adulthood developmental tasks of becoming independent? If so, you're not alone. Jeffrey Arnett (2000) pointed out this prolonged transitional period and described it as "emerging adulthood."

The theory of **emerging adulthood** proposes that a new life stage has arisen between adolescence and young adulthood over the past half-century in industrialized countries. Fifty years ago, most young people in these countries had entered stable adult roles in love and work by their late teens or early twenties. Relatively few people pursued education or training beyond secondary school, and, consequently, most young men were full-time workers by the end of their teens. Relatively few women worked in occupations outside the home, and the median marriage age for women in the United States and in most other industrialized countries in 1960 was around 20 (Arnett & Taber, 1994; Douglass, 2005). The median marriage age for men was around 22, and married couples usually had their first child about one year after their wedding day. All told, for most young people half a century ago, their teenage adolescence led quickly and directly to stable adult roles in love and work by their late teens or early twenties. These roles would form the structure of their adult lives for decades to come.

Now all that has changed. A higher proportion of young people



**Figure 4.** The years of emerging adulthood are often times of identity exploration through work, fashion, music, education, and other venues.  
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than ever before—about 70% in the United States—pursue education and training beyond secondary school (National Center for Education Statistics, 2012). The early twenties are not a time of entering stable adult work but a time of immense job instability: In the United States, the average number of job changes from ages 20 to 29 is seven. The median age of entering marriage in the United States is now 27 for women and 29 for men (U.S. Bureau of the Census, 2011). Consequently, a new stage of the life span, emerging adulthood, has been created, lasting from the late teens through the mid-twenties, roughly ages 18 to 25.

Five features make emerging adulthood distinctive:

- identity exploration,
- instability,
- self-focus,
- feeling in-between adolescence and adulthood,
- a sense of broad possibilities for the future.

If the years 18–25 are classified as “young adulthood,” Arnett believes it is then difficult to find an appropriate term for the thirties. Emerging adults are still in the process of obtaining an education, are unmarried, and are childless. By age thirty, most of these individuals do see themselves as adults, based on the belief that they have more fully formed “individualistic qualities of character” such as self-responsibility, financial independence, and independence in decision-making. Arnett suggests that many of the individualistic characteristics associated with adult status correlate to, but are not dependent upon the role responsibilities with a career, marriage, and/or parenthood.

Whether or not “emerging adulthood” is considered to be a distinct developmental stage, it can be a useful concept in discussing developmental patterns in early adulthood in our culture today.

## Watch It

To hear about emerging adulthood and why it takes longer to reach adulthood today, view this video clip of Dr. Jeffrey Arnett. In the first 6 1/2 minutes, he describes four societal revolutions that may have caused emerging adulthood. In the second half of the clip, Arnett discusses how “30 is the new 20,” as twenty-somethings today enjoy unparalleled freedoms when compared with other generations.



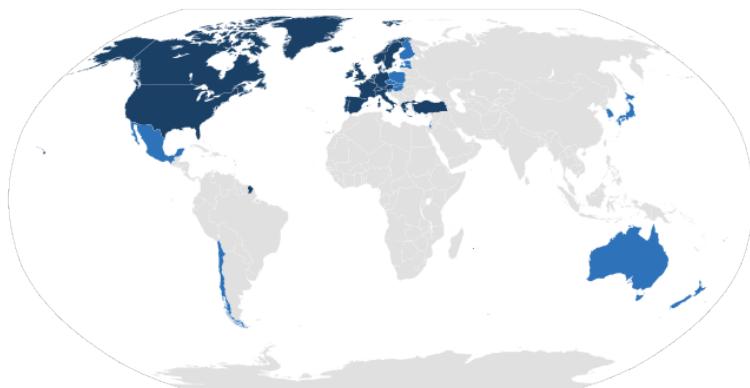
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## Is Emerging Adulthood a Global Phenomenon?

The five features proposed in the theory of emerging adulthood originally were based on research involving about 300 Americans between ages 18 and 29 from various ethnic groups, social classes, and geographical regions (Arnett, 2004). To what extent does the theory of emerging adulthood apply internationally?

The answer to this question depends greatly on what part of the world is considered. Demographers make a useful distinction between the developing countries that comprise the majority of the world's population and the economically developed countries that are part of the Organization for Economic Co-operation and Development (OECD), including the United States, Canada, western Europe, Japan, South Korea, Australia, and New Zealand. The current population of OECD countries (also called developed countries) is 1.2 billion, about 18% of the total world population (UNDP, 2011). The rest of the human population resides in developing countries, which have much lower median incomes; much lower median educational attainment; and much higher incidence of illness, disease, and early death. Let us consider emerging adulthood in OECD countries first, then in developing countries.



**Figure 5.** Map of OECD countries. Darker shaded countries are original members. [Image: Parastscilveks, <https://goo.gl/Mlvm0Y>, CC BY-SA 2.0, <https://goo.gl/eH69he>]

The same demographic changes as described above for the United States have taken place in other OECD countries as well. This is true of participation in postsecondary education as well as median ages for entering marriage and parenthood (UNdata, 2010). However,

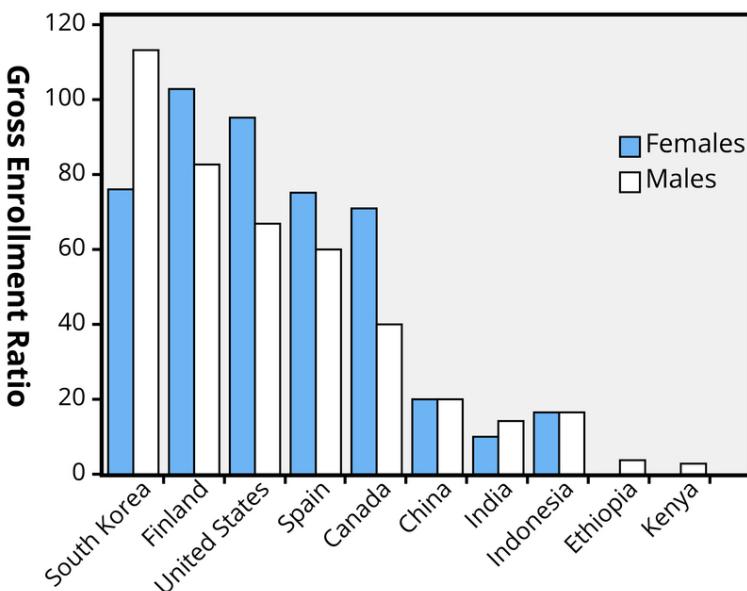
there is also substantial variability in how emerging adulthood is experienced across OECD countries. Europe is the region where emerging adulthood is longest and most leisurely. The median ages for entering marriage and parenthood are near 30 in most European countries (Douglass, 2007). Europe today is the location of the most affluent, generous, and egalitarian societies in the world—in fact, in human history (Arnett, 2007). Governments pay for tertiary education, assist young people in finding jobs, and provide generous unemployment benefits for those who cannot find work. In northern Europe, many governments also provide housing support. Emerging adults in European societies make the most of these advantages, gradually making their way to adulthood during their twenties while enjoying travel and leisure with friends.

The lives of Asian emerging adults in developed countries such as Japan and South Korea are in some ways similar to the lives of emerging adults in Europe and in some ways strikingly different. Like European emerging adults, Asian emerging adults tend to enter marriage and parenthood around age 30 (Arnett, 2011). Like European emerging adults, Asian emerging adults in Japan and South Korea enjoy the benefits of living in affluent societies with generous social welfare systems that provide support for them in making the transition to adulthood—for example, free university education and substantial unemployment benefits.

However, in other ways, the experience of emerging adulthood in Asian OECD countries is markedly different than in Europe. Europe has a long history of individualism, and today's emerging adults carry that legacy with them in their focus on self-development and leisure during emerging adulthood. In contrast, Asian cultures have a shared cultural history emphasizing collectivism and family obligations. Although Asian cultures have become more individualistic in recent decades as a consequence of globalization, the legacy of collectivism persists in the lives of emerging adults. They pursue identity explorations and self-development during emerging adulthood, like their American and European counterparts, but within narrower boundaries set by their sense

of obligations to others, especially their parents (Phinney & Baldelomar, 2011). For example, in their views of the most important criteria for becoming an adult, emerging adults in the United States and Europe consistently rank financial independence among the most important markers of adulthood. In contrast, emerging adults with an Asian cultural background especially emphasize becoming capable of supporting parents financially as among the most important criteria (Arnett, 2003; Nelson, Badger, & Wu, 2004). This sense of family obligation may curtail their identity explorations in emerging adulthood to some extent, as they pay more heed to their parents' wishes about what they should study, what job they should take, and where they should live than emerging adults do in the West (Rosenberger, 2007).

Another notable contrast between Western and Asian emerging adults is in their sexuality. In the West, premarital sex is normative by the late teens, more than a decade before most people enter marriage. In the United States and Canada, and in northern and eastern Europe, cohabitation is also normative; most people have at least one cohabiting partnership before marriage. In southern Europe, cohabiting is still taboo, but premarital sex is tolerated in emerging adulthood. In contrast, both premarital sex and cohabitation remain rare and forbidden throughout Asia. Even dating is discouraged until the late twenties when it would be a prelude to a serious relationship leading to marriage. In cross-cultural comparisons, about three-fourths of emerging adults in the United States and Europe report having had premarital sexual relations by age 20, versus less than one-fifth in Japan and South Korea (Hatfield and Rapson, 2006).



**Figure 6.** Gross tertiary enrollment, selected countries, 2007. Source: UNdata (2010). Note. Gross enrollment ratio is the total enrollment in a specific level of education, regardless of age, expressed as a percentage of the eligible official school-age population corresponding to the same level of education in a given school year. For the tertiary level, the population used is that of the five-year age group following the end of secondary schooling.

For young people in developing countries, emerging adulthood exists only for the wealthier segment of society, mainly the urban middle class, whereas the rural and urban poor—the majority of the population—have no emerging adulthood and may even have no adolescence because they enter adult-like work at an early age and also begin marriage and parenthood relatively early. What Saraswathi and Larson (2002) observed about adolescence applies to emerging adulthood as well: “In many ways, the lives of middle-class youth in India, South East Asia, and Europe have more in common with each other than they do with those of poor youth in their own countries.” However, as globalization proceeds, and economic development along with it, the proportion of young

people who experience emerging adulthood will increase as the middle class expands. By the end of the 21st century, emerging adulthood is likely to be normative worldwide.

## Try It



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# Relationships in Early Adulthood

We have learned from Erikson that the psychosocial developmental task of early adulthood is “intimacy versus isolation” and if resolved relatively positively, it can lead to the virtue of “love.” In this section, we will look more closely at relationships in early adulthood, particularly in terms of love, dating, cohabitation, marriage, and parenting.



## Attraction

Why do some people hit it off immediately? Or decide that the friend of a friend was not likable? Using scientific methods, psychologists have investigated factors influencing attraction and have identified a number of variables, such as similarity, proximity (physical or functional), familiarity, and reciprocity, that influence with whom we develop relationships.

## Proximity

Often we “stumble upon” friends or romantic partners; this happens partly due to how close in proximity we are to those people. Specifically, **proximity** or physical nearness has been found to be a significant factor in the development of relationships. For example, when college students go away to a new school, they will make friends consisting of classmates, roommates, and teammates (i.e., people close in proximity). Proximity allows people the opportunity to get to know one other and discover their similarities—all of which can result in a friendship or intimate relationship. Proximity is not just about geographic distance, but rather functional distance, or the frequency with which we cross paths with others. For example, college students are more likely to become closer and develop relationships with people on their dorm-room floors because they see them (i.e., cross paths) more often than they see people on a different floor. How does the notion of proximity apply in terms of online relationships? Deb Levine (2000) argues that in terms of developing online relationships and attraction, functional distance refers to being at the same place at the same time in a virtual world (i.e., a chat room or Internet forum)—crossing virtual paths.



**Figure 1.** Great and important relationships can develop by chance and physical proximity helps. For example, seeing someone regularly on your daily bus commute to work or school may be all that's necessary to spark a genuine friendship. [Image: Cheri Lucas Rowlands, <https://goo.gl/crCc0Q>, CC BY-SA 2.0, <https://goo.gl/rxiUsF>]

## Familiarity

One of the reasons why proximity matters to attraction is that it breeds *familiarity*; people are more attracted to that which is familiar. Just being around someone or being repeatedly exposed to them increases the likelihood that we will be attracted to them. We also tend to feel safe with familiar people, as it is likely we know what to expect from them. Dr. Robert Zajonc (1968) labeled this phenomenon the mere-exposure effect. More specifically, he argued that the more often we are exposed to a stimulus (e.g., sound, person) the more likely we are to view that stimulus positively. Moreland and Beach (1992) demonstrated this by exposing a college class to four women (similar in appearance and age) who attended different numbers of classes, revealing that the more classes a woman attended, the more familiar, similar, and attractive she was considered by the other students.

There is a certain comfort in knowing what to expect from others; consequently, research suggests that we like what is familiar. While this is often on a subconscious level, research has found this to be one of the most basic principles of attraction (Zajonc, 1980). For example, a young man growing up with an overbearing mother may be attracted to other overbearing women not because he likes being dominated but rather because it is what he considers normal (i.e., familiar).

## Similarity

When you hear about celebrity couples such as Kim Kardashian and Kanye West, do you shake your head thinking “this won’t last”? It is probably because they seem so different. While many make the argument that opposites attract, research has found that is generally not true; *similarity* is key. Sure, there are times when

couples can appear fairly different, but overall we like others who are like us. Ingram and Morris (2007) examined this phenomenon by inviting business executives to a cocktail mixer, 95% of whom reported that they wanted to meet new people. Using electronic name tag tracking, researchers revealed that the executives did not mingle or meet new people; instead, they only spoke with those they already knew well (i.e., people who were similar).

When it comes to marriage, research has found that couples tend to be very similar, particularly when it comes to age, social class, race, education, physical attractiveness, values, and attitudes (McCann Hamilton, 2007; Taylor, Fiore, Mendelsohn, & Cheshire, 2011). This phenomenon is known as the **matching hypothesis** (Feingold, 1988; Mckillip & Redel, 1983). We like others who validate our points of view and who are similar in thoughts, desires, and attitudes.

## Reciprocity

Another key component in attraction is **reciprocity**; this principle is based on the notion that we are more likely to like someone if they feel the same way toward us. In other words, it is hard to be friends with someone who is not friendly in return. Another way to think of it is that relationships are built on give and take; if one side is not reciprocating, then the relationship is doomed. Basically, we feel obliged to give what we get and to maintain equity in relationships. Researchers have found that this is true across cultures (Gouldner, 1960).

## Try It



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# Love



**Figure 2.** Romantic relationships are so central to psychological health that most people in the world are or will be in a romantic relationship in their lifetime. [Image: CC0 Public Domain, <https://goo.gl/m25gce>]

Is all love the same? Are there different types of love? Examining these questions more closely, Robert Sternberg's (2004; 2007) work has focused on the notion that all types of love are comprised of three distinct areas: intimacy, passion, and commitment. Intimacy includes caring, closeness, and emotional support. The passion component of love is comprised of physiological and emotional arousal; these can include physical attraction, emotional

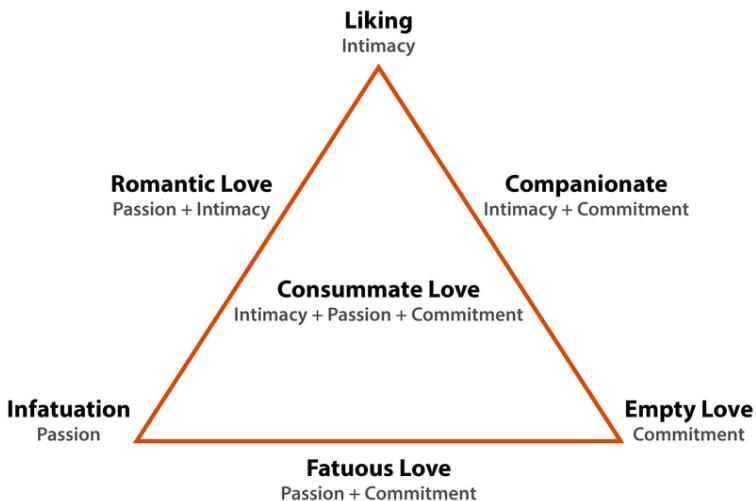
responses that promote physiological changes, and sexual arousal. Lastly, commitment refers to the cognitive process and decision to commit to love another person and the willingness to work to keep that love over the course of your life. The elements involved in intimacy (caring, closeness, and emotional support) are generally found in all types of close relationships—for example, a mother's love for a child or the love that friends share. Interestingly, this is not true for passion. Passion is unique to romantic love, differentiating friends from lovers. In sum, depending on the type of love and the stage of the relationship (i.e., newly in love), different combinations of these elements are present.

Taking this theory a step further, anthropologist Helen Fisher explained that she scanned the brains (using fMRI) of people who had just fallen in love and observed that their brain chemistry was "going crazy," similar to the brain of an addict on a drug high (Cohen, 2007). Specifically, serotonin production increased by as much as

40% in newly-in-love individuals. Further, those newly in love tended to show obsessive-compulsive tendencies. Conversely, when a person experiences a breakup, the brain processes it in a similar way to quitting a heroin habit (Fisher, Brown, Aron, Strong, & Mashek, 2009). Thus, those who believe that breakups are physically painful are correct! Another interesting point is that long-term love and sexual desire activate different areas of the brain. More specifically, sexual needs activate the part of the brain that is particularly sensitive to innately pleasurable things such as food, sex, and drugs (i.e., the striatum—a rather simplistic reward system), whereas love requires conditioning—it is more like a habit. When sexual needs are rewarded consistently, then love can develop. In other words, love grows out of positive rewards, expectancies, and habit (Cacioppo, Bianchi-Demicheli, Hatfield & Rapson, 2012).

### *Link to Learning*

Dive deeper into Helen Fisher's research by watching her TED talk [The Brain in Love.](#)



**Figure 3.** The Triangular Theory of Love. Adapted from Wikipedia Creative Commons, 2013.

## Try It



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## *Attachment Theory in Adulthood*

The need for intimacy, or close relationships with others, is universal and persistent across the lifespan. What our adult intimate relationships look like actually stems from infancy and our relationship with our primary caregiver (historically our mother)—a process of development described by attachment theory, which you learned about in the module on infancy. Recall that according to attachment theory, different styles of caregiving result in different relationship “attachments.”

For example, responsive mothers—mothers who soothe their crying infants—produce infants who have secure attachments (Ainsworth, 1973; Bowlby, 1969). About 60% of all children are securely attached. As adults, secure individuals rely on their working models—concepts of how relationships operate—that were created in infancy, as a result of their interactions with their primary caregiver (mother), to foster happy and healthy adult intimate

relationships. Securely attached adults feel comfortable being depended on and depending on others.

As you might imagine, inconsistent or dismissive parents also impact the attachment style of their infants (Ainsworth, 1973), but in a different direction. In early studies on attachment style, infants were observed interacting with their caregivers, followed by being separated from them, then finally reunited. About 20% of the observed children were “resistant,” meaning they were anxious even before, and especially during, the separation; and 20% were “avoidant,” meaning they actively avoided their caregiver after separation (i.e., ignoring the mother when they were reunited). These early attachment patterns can affect the way people relate to one another in adulthood. Anxious-resistant adults worry that others don’t love them, and they often become frustrated or angry when their needs go unmet. Anxious-avoidant adults will appear not to care much about their intimate relationships and are uncomfortable being depended on or depending on others themselves.

**Table 1. Types of Early Attachment and Adult Intimacy**

Secure	"I find it relatively easy to get close to others and am comfortable depending on them and having them depend on me. I don't often worry about being abandoned or about someone getting too close to me."
Anxious-avoidant	"I am somewhat uncomfortable being close to others; I find it difficult to trust them completely, difficult to allow myself to depend on them. I am nervous when anyone gets too close, and often, love partners want me to be more intimate than I feel comfortable being."
Anxious-resistant	"I find that others are reluctant to get as close as I would like. I often worry that my partner doesn't really love me or won't want to stay with me. I want to merge completely with another person, and this desire sometimes scares people away."

The good news is that our attachment can be changed. It isn't easy, but it is possible for anyone to "recover" a secure attachment. The process often requires the help of a supportive and dependable other, and for the insecure person to achieve coherence—the realization that his or her upbringing is not a permanent reflection of character or a reflection of the world at large, nor does it bar him or her from being worthy of love or others of being trustworthy (Treboux, Crowell, & Waters, 2004).

You can watch this video "[What is Your Attachment Style?](#)" from [The School of Life](#) to learn more.

## Try It



One or more interactive elements has been excluded from this version of the text. You can view them online here:

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### *Applications of Sternberg's Theory*

Click through the following interactive to review and apply Sternberg's theory.

<https://h5p.org/h5p/embed/554153>

# Trends in Dating, Cohabitation, and Marriage

## Dating

In general, traditional dating among teens and those in their early twenties has been replaced with more varied and flexible ways of getting together (and technology with social media, no doubt, plays a key role). The Friday night date with dinner and a movie that may still be enjoyed by those in their 30s gives way to less formal, more spontaneous meetings that may include several couples or a group of friends. Two people may get to know each other and go somewhere alone. How would you describe a “typical” date? Who calls, texts, or face times? Who pays? Who decides where to go? What is the purpose of the date? In general, greater planning is required for people who have additional family and work responsibilities.

## Dating and the Internet

The ways people are finding love has changed with the advent of the Internet. In a poll, 49% of all American adults reported that either themselves or someone they knew had dated a person they met online (Madden & Lenhart, 2006). As Finkel and colleagues (2007) found, social networking sites, and the Internet generally, perform three important tasks. Specifically, sites provide individuals with access to a database of other individuals who are interested in meeting someone. Dating sites generally reduce issues of proximity, as individuals do not have to be close in proximity to meet. Also, they provide a medium in which individuals can communicate with others. Finally, some Internet dating websites advertise special matching strategies, based on factors such as personality, hobbies,

and interests, to identify the “perfect match” for people looking for love online. In general, scientific questions about the effectiveness of Internet matching or online dating compared to face-to-face dating remain to be answered.

It is important to note that social networking sites have opened the doors for many to meet people that they might not have ever had the opportunity to meet; unfortunately, it now appears that the social networking sites can be forums for unsuspecting people to be duped. In 2010 a documentary, *Catfish*, focused on the personal experience of a man who met a woman online and carried on an emotional relationship with this person for months. As he later came to discover, though, the person he thought he was talking and writing with did not exist. As Dr. Aaron Ben-Zéév stated, online relationships leave room for deception; thus, people have to be cautious.

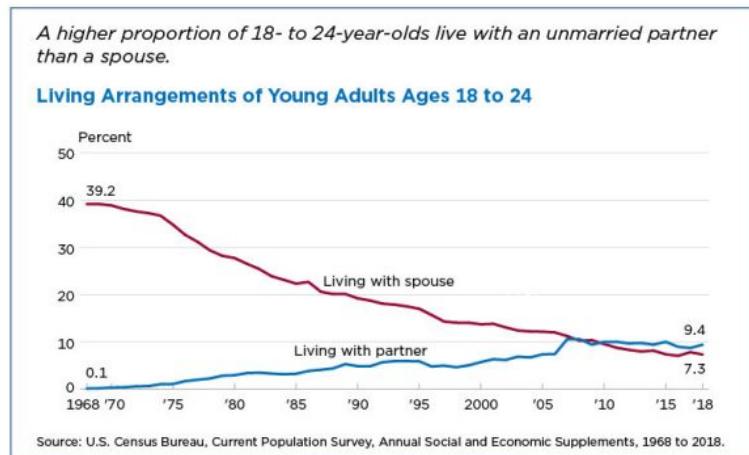
## Cohabitation

**Cohabitation** is an arrangement where two people who are not married live together. They often involve a romantic or sexually intimate relationship on a long-term or permanent basis. Such arrangements have become increasingly common in Western countries during the past few decades, being led by changing social views, especially regarding marriage, gender roles and religion. Today, cohabitation is a common pattern among people in the Western world. In Europe, the Scandinavian countries have been the first to start this leading trend, although many countries have since followed. Mediterranean Europe has traditionally been very conservative, with religion playing a strong role. Until the mid-1990s, cohabitation levels remained low in this region, but have since increased. Cohabitation is common in many countries, with the Scandinavian nations of Iceland, Sweden, and Norway reporting

the highest percentages, and more traditional countries like India, China, and Japan reporting low percentages (DeRose, 2011).

In countries where cohabitation is increasingly common, there has been speculation as to whether or not cohabitation is now part of the natural developmental progression of romantic relationships: dating and courtship, then cohabitation, engagement, and finally marriage. Though, while many cohabitating arrangements ultimately lead to marriage, many do not.

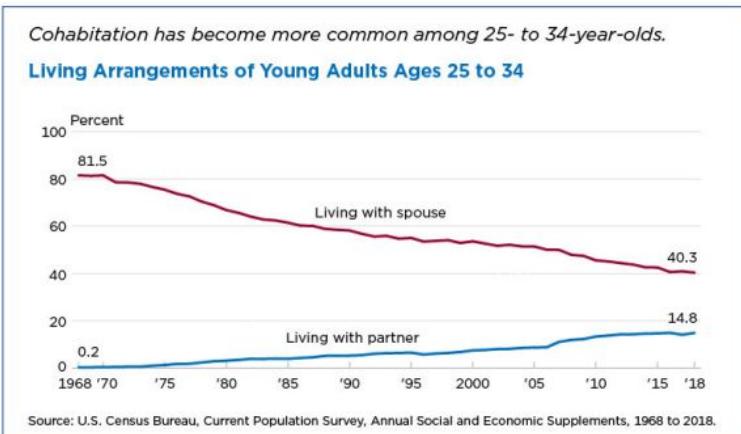
How prevalent is cohabitation today in the United States? According to the U.S. Census Bureau (2018), cohabitation has been increasing, while marriage has been decreasing in young adulthood. As seen in the graph below, over the past 50 years, the percentage of 18-24 year olds in the U.S. living with an unmarried partner has gone from 0.1 percent to 9.4 percent, while living with a spouse has gone from 39.2 percent to 7 percent. More 18-24 year olds live with an unmarried partner now than with a married partner.



**Figure 4.** The rates of those between ages 18-24 living with a spouse have gone down dramatically, while rates of those living with a partner are gradually on the rise.

While the percent living with a spouse is still higher than the

percent living with an unmarried partner among 25 to 34-year-olds today, the next graph clearly shows a similar pattern of decline in marriage and increase in cohabitation over the last five decades. The percent living with a spouse in this age group today is only half of what it was in 1968 (40.3 percent vs. 81.5 percent), while the percent living with an unmarried partner rose from 0.2 percent to 14.8 percent in this age group. Another way to look at some of the data is that only 30% of today's 18 to 34-year-olds in the U.S. are married, compared with almost double that, 59 percent forty years ago (1978). The marriage rates for less-educated young adults (who tend to have lower income) have fallen at faster rates than those of better educated young adults since the 1970s. Past and present economic climate are key factors; perhaps more couples are waiting until they can afford to get married, financially. Gurrentz (2018) does caution that there are limitations of the measures of cohabitation, particularly in the past.



**Figure 5.** Rates of those living with spouses between the ages of 25 and 34 has been declining, while those cohabitating is on the rise.

## How long do cohabiting relationships last?

Cohabitation tends to last longer in European countries than in the United States. Half of cohabiting relationships in the U. S. end within a year; only 10 percent last more than 5 years. These short-term cohabiting relationships are more characteristics of people in their early 20s. Many of these couples eventually marry. Those who cohabit more than five years tend to be older and more committed to the relationship. Cohabitation may be preferable to marriage for a number of reasons. For partners over 65, cohabitation is preferable to marriage for practical reasons. For many of them, marriage would result in a loss of Social Security benefits and consequently is not an option. Others may believe that their relationship is more satisfying because they are not bound by marriage.

### *Learning Outcomes*

Do you think that you will cohabit before marriage? Or did you cohabit? Why or why not? Does your culture play a role in your decision? Does what you learned in this module change your thoughts on this practice?



## Same-Sex Couples

As of 2019, same-sex marriage is legal in 28 countries, and counting. Many other countries either recognize same-sex couples for the purpose of immigration, grant rights for domestic partnerships or grant common law marriage status to same-sex couples.

**Figure 6.** While marriage is common across cultures, the details such as “How” and “When” are often quite different. Now the “Who” of marriage is experiencing an important change as laws are updated in a growing number of countries and states to give same-sex couples the same rights and benefits through marriage as heterosexual couples. [Image: Bart Vis, <http://goo.gl/liSy9P>, CC BY 2.0, <http://goo.gl/T4qgSp>]

couples have to live with the added stress that comes from social disapproval and discrimination. And continued contact with an ex-partner may be more likely among homosexuals and bisexuals because of the closeness of the circle of friends and acquaintances.

The number of adults who remain single has increased dramatically in the last 30 years. We have more people who never marry, more widows and more divorcees driving up the number of singles. Singles represent about 25 percent of American households. Singlehood has become a more acceptable lifestyle than it was in the past and many singles are very happy with their status. Whether or not a single person is happy depends on the circumstances of their remaining single.

## Stein's Typology of Singles

Many of the research findings about singles reveal that they are not all alike. Happiness with one's status depends on whether the person is single by choice and whether the situation is permanent. Let's look at Stein's (1981) four categories of singles for a better understanding of this.

- **Voluntary temporary singles:** These are younger people who have never been married and divorced people who are postponing marriage and remarriage. They may be more involved in careers or getting an education or just wanting to have fun without making a commitment to any one person. They are not quite ready for that kind of relationship. These people tend to report being very happy with their single status.
- **Voluntary permanent singles:** These individuals do not want to marry and aren't intending to marry. This might include cohabiting couples who don't want to marry, priests, nuns, or others who are not considering marriage. Again, this group is typically single by choice and understandably more contented with this decision.
- **Involuntary temporary:** These are people who are actively seeking mates. They hope to marry or remarry and may be involved in going on blind dates, seeking a partner on the internet or placing "getting personal" aids in search of a mate. They tend to be more anxious about being single.
- **Involuntary permanent:** These are older divorced, widowed, or never-married people who wanted to marry but have not found a mate and are coming to accept singlehood as a probable permanent situation. Some are bitter about not having married while others are more accepting of how their life has developed.

## Engagement and Marriage

Most people will marry in their lifetime. In the majority of countries, 80% of men and women have been married by the age of 49 (United Nations, 2013). Despite how common marriage remains, it has undergone some interesting shifts in recent times. Around the world, people are tending to get married later in life or, increasingly, not at all. People in more developed countries (e.g., Nordic and Western Europe), for instance, marry later in life—at an average age of 30 years. This is very different than, for example, the economically developing country of Afghanistan, which has one of the lowest average-age statistics for marriage—at 20.2 years (United Nations, 2013). Another shift seen around the world is a gender gap in terms of age when people get married. In every country, men marry later than women. Since the 1970's, the average age of marriage has increased for both women and men.

As illustrated, the courtship process can vary greatly around the world. So too can an engagement—a formal agreement to get married. Some of these differences are small, such as on which hand an engagement ring is worn. In many countries, it is worn on the left, but in Russia, Germany, Norway, and India, women wear their ring on their right. There are also more overt differences, such as who makes the proposal. In India and Pakistan, it is not uncommon for the family of the groom to propose to the family of the bride, with little to no involvement from the bride and groom themselves. In most Western industrialized countries, it is traditional for the male to propose to the female. What types of engagement traditions, practices, and rituals are common where you are from? How are they changing?

Contemporary young adults in the United States are waiting longer than before to marry. The median age of entering marriage in the United States is 27 for women and 29 for men (U.S. Bureau of the Census, 2011). This trend in delays of young adults taking on adult roles and responsibilities is discussed in our earlier section

about “emerging adulthood” or the transition from adolescence to adulthood identified by Arnett (2000).

## Social Exchange Theory

**Social exchange theory** suggests that people try to maximize rewards and minimize costs in social relationships. Each person entering the marriage market comes equipped with assets and liabilities or a certain amount of social currency with which to attract a prospective mate. For men, assets might include earning potential and status while for women, assets might include physical attractiveness and youth.

Customers in the “marriage market” do not look for a “good deal,” however. Rather, most look for a relationship that is mutually beneficial or equitable. One of the reasons for this is because most a relationship in which one partner has far more assets than the other will result if power disparities and a difference in the level of commitment from each partner. According to Waller’s principle of least interest, the partner who has the most to lose without the relationship (or is the most dependent on the relationship) will have the least amount of power and is in danger of being exploited. A greater balance of power, then, may add stability to the relationship.

Societies specify through both formal and informal rules who is an appropriate mate. Consequently, mate selection is not completely left to the individual. Rules of endogamy indicate within which groups we should marry. For example, many cultures specify that people marry within their own race, social class, age group, or religion. These rules encourage **homogamy** or marriage between people who share social characteristics (the opposite is known as **heterogamy**). The majority of marriages in the U.S. are homogamous with respect to race, social class, age and to a lesser extent, religion.

In a comparison of educational homogamy in 55 countries, Smits (2003) found strong support for higher-educated people marrying

other highly educated people. As such, education appears to be a strong filter people use to help them select a mate. The most common filters we use—or, put another way, the characteristics we focus on most in potential mates—are age, race, social status, and religion (Regan, 2008). Other filters we use include compatibility, physical attractiveness (we tend to pick people who are as attractive as we are), and proximity (for practical reasons, we often pick people close to us) (Klenke-Hamel & Janda, 1980).

According to the **filter theory of mate selection**, the pool of eligible partners becomes narrower as it passes through filters used to eliminate members of the pool (Kerckhoff & Davis, 1962). One such filter is propinquity or geographic proximity. Mate selection in the United States typically involves meeting eligible partners face to face. Those with whom one does not come into contact are simply not contenders (though this has been changing with the Internet). Race and ethnicity is another filter used to eliminate partners. Although interracial dating has increased in recent years and interracial marriage rates are higher than before, interracial marriage still represents only 5.4 percent of all marriages in the United States. Physical appearance is another feature considered when selecting a mate. Age, social class, and religion are also criteria used to narrow the field of eligibles. Thus, the field of eligibles becomes significantly smaller before those things we are most conscious of such as preferences, values, goals, and interests, are even considered.



**Figure 7.** In some countries, many people are coupled and committed to marriage through arrangements made by parents or professional marriage brokers. [Image: Ananabana, <http://goo.gl/gzCR0x>, CC BY-NC-SA 2.0, <http://goo.gl/iF4hmM>]

## Arranged Marriages

In some cultures, however, it is not uncommon for the families of young people to do the work of finding a mate for them. For example, the Shanghai Marriage Market refers to the People's Park in Shanghai, China—a place where parents of unmarried adults meet on weekends to trade information about their children in attempts to find suitable spouses for them (Bolsover, 2011). In India, the marriage market refers to the use of marriage brokers or marriage bureaus to pair eligible singles together (Trivedi, 2013). To many Westerners, the idea of arranged marriage can seem puzzling. It can appear to take the romance out of the equation and violate values about personal freedom. On the other hand, some people in favor of arranged marriage argue that parents are able to make more mature decisions than young people.

While such intrusions may seem inappropriate based on your upbringing, for many people of the world such help is expected, even appreciated. In India for example, “parental arranged marriages are largely preferred to other forms of marital choices” (Ramsheena & Gundemeda, 2015, p. 138). Of course, one’s religious and social caste plays a role in determining how involved family may be.

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## Parenting

### Having Children

Do you want children? Do you already have children? Increasingly, families are postponing or not having children. Families that choose to forego having children are known as childfree families, while families that want but are unable to conceive are referred to as childless families. As more young people pursue their education and careers, age at first marriage has increased; similarly, so has the age at which people become parents. With a college degree, the average age for women to have their first child is 30.3, but without a college degree, the average age is 23.8. Marital status is also related,

as the average age for married women to have their first child is 28.8, while the average age for unmarried women is 23.1. Overall, the average age of first-time mothers has increased to 26, up from 21 in 1972, and the average age of first-time fathers has increased to 31, up from 27 in 1972 in the United States. The age of first-time parents in the U.S. increased sharply in the 1970s after abortion was legalized. Since the age of first-time parents varies by geographic region in the U.S. and women's rights to abortion are being challenged in some states, it will be interesting to follow the norms and trends for first-time parents in the future.

The decision to become a parent should not be taken lightly. There are positives and negatives associated with parenting that should be considered. Many parents report that having children increases their well-being (White & Dolan, 2009). Researchers have also found that parents, compared to their non-parent peers, are more positive about their lives (Nelson, Kushlev, English, Dunn, & Lyubomirsky, 2013). On the other hand, researchers have also found that parents, compared to non-parents, are more likely to be depressed, report lower levels of marital quality, and feel like their relationship with their partner is more businesslike than intimate (Walker, 2011).

If you do become a parent, your parenting style will impact your child's future success in romantic and parenting relationships. Recall from the module on early childhood that there are several different parenting styles. **Authoritative** parenting, arguably the best parenting style, is both demanding and supportive of the child (Maccoby & Martin, 1983). Support refers to the amount of affection, acceptance, and warmth a parent provides. **Demandingness** refers to the degree a parent controls their child's behavior. Children who have authoritative parents are generally happy, capable, and successful (Maccoby, 1992).

		Support	
		Low	High
Demandingness	Low	<b>Uninvolved</b>	<b>Permissive</b>
	High	<b>Authoritarian</b>	<b>Authoritative</b>

**Figure 8.** Authoritative parenting, or those parents who give high levels of support but also have high demands and expectations, are associated with the best outcomes for children,

vindictive stepmother. Children who receive authoritarian parenting are more likely to be obedient and proficient but score lower in happiness, social competence, and self-esteem. **Permissive** parents are high in support and low in demandingness. Their children rank low in happiness and self-regulation and are more likely to have problems with authority. **Uninvolved** parents are low in both support and demandingness. Children of these parents tend to rank lowest across all life domains, lack self-control, have low self-esteem, and are less competent than their peers.

Support for the benefits of authoritative parenting has been found in countries as diverse as the Czech Republic (Dmitrieva, Chen, Greenberger, & Gil-Rivas, 2004), India (Carson, Chowdhurry, Perry, & Pati, 1999), China (Pilgrim, Luo, Urberg, & Fang, 1999), Israel (Mayseless, Scharf, & Sholt, 2003), and Palestine (Punamaki, Qouta, & Sarraj, 1997). In fact, authoritative parenting appears to be superior in Western, individualistic societies—so much so that some people have argued that there is no longer a need to study it (Steinberg, 2001). Other researchers are less certain about the superiority of authoritative parenting and point to differences in cultural values and beliefs. For example, while many European-American children do poorly with too much strictness

Other, less advantageous parenting styles include authoritarian (in contrast to authoritative), permissive, and uninvolved (Tavassolie, Dudding, Madigan, Thorvardarson, & Winsler, 2016). **Authoritarian** parents are low in support and high in demandingness. Arguably, this is the parenting style used by Harry Potter's harsh aunt and uncle, and Cinderella's

(authoritarian parenting), Chinese children often do well, especially academically. The reason for this likely stems from Chinese culture viewing strictness in parenting as related to training, which is not central to American parenting (Chao, 1994).

## The Development of Parents

Think back to an emotional event you experienced as a child. How did your parents react to you? Did your parents get frustrated or criticize you, or did they act patiently and provide support and guidance? Did your parents provide lots of rules for you or let you make decisions on your own? Why do you think your parents behaved the way they did?

Psychologists have attempted to answer these questions about the influences on parents and understand why parents behave the way they do. Because parents are critical to a child's development, a great deal of research has been focused on the impact that parents have on children. Less is known, however, about the development of parents themselves and the impact of children on parents. Nonetheless, parenting is a major role in an adult's life.

Parenthood is often considered a normative developmental task of adulthood. Cross-cultural studies show that adolescents around the world plan to have children. In fact, most men and women in the



**Figure 9.** Parenthood has a huge impact on a person's identity, emotions, daily behaviors, and many other aspects of their lives. [Image: Kim881231, CC0 Public Domain, <https://goo.gl/m25gce>]

United States will become parents by the age of 40 years (Martinez, Daniels, & Chandra, 2012).

People have children for many reasons, including emotional reasons (e.g., the emotional bond with children and the gratification the parent-child relationship brings), economic and utilitarian reasons (e.g., children provide help in the family and support in old age), and social-normative reasons (e.g., adults are expected to have children; children provide status) (Nauck, 2007).

## The Changing Face of Parenthood

Parenthood is undergoing changes in the United States and elsewhere in the world. Children are less likely to be living with both parents, and women in the United States have fewer children than they did previously. The average fertility rate of women in the United States was about seven children in the early 1900s and has remained relatively stable at 2.1 since the 1970s (Hamilton, Martin, & Ventura, 2011; Martinez, Daniels, & Chandra, 2012). Not only are parents having fewer children, but the context of parenthood has also changed. Parenting outside of marriage has increased dramatically among most socioeconomic, racial, and ethnic groups, although college-educated women are substantially more likely to be married at the birth of a child than are mothers with less education (Dye, 2010). Parenting is occurring outside of marriage for many reasons, both economic and social. People are having children at older ages, too. Despite the fact that young people are more often delaying childbearing, most 18- to 29-year-olds want to have children and say that being a good parent is one of the most important things in life (Wang & Taylor, 2011).

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**Table 2. Demographic Changes in Parenthood in the United States**

	1960	2012
Average number of children (fertility rate)	3.6	2.1
Percent of births to unmarried women	5%	41%
Median age at first marriage for women	20.8	26.5
Percent of adults ages 18 to 29 married	59%	20%

---

Galinsky (1987) was one of the first to emphasize the development of parents themselves, how they respond to their children's development, and how they grow as parents. Parenthood is an experience that transforms one's identity as parents take on new roles. Children's growth and development force parents to change their roles. They must develop new skills and abilities in response to children's development. Galinsky identified six stages of parenthood that focus on different tasks and goals (see Table 2).

---

**Table 3. Galinsky's Stages of Parenthood**

	Age of Child	Main Tasks and Goals
Stage 1: The Image-Making Stage	Planning for a child; pregnancy	Consider what it means to be a parent and plan for changes to accommodate a child
Stage 2: The Nurturing Stage	Infancy	Develop an attachment relationship with child and adapt to the new baby
Stage 3: The Authority Stage	Toddler and preschool	Parents create rules and figure out how to effectively guide their children's behavior
Stage 4: The Interpretative Stage	Middle childhood	Parents help their children interpret their experiences with the social world beyond the family
Stage 5: The Interdependent Stage	Adolescence	Parents renegotiate their relationship with their adolescent children to allow for shared power in decision-making.
Stage 6: The Departure Stage	Early Adulthood	Parents evaluate their successes and failures as parents

---

## *1. The Image-Making Stage*

As prospective parents think about and form images about their roles as parents and what parenthood will bring, and prepare for the changes an infant will bring, they enter the image-making stage. Future parents develop their ideas about what it will be like to be a parent and the type of parent they want to be. Individuals may evaluate their relationships with their own parents as a model of their roles as parents.

## *2. The Nurturing Stage*

The second stage, the nurturing stage, occurs at the birth of the baby. A parent's main goal during this stage is to develop an attachment relationship with their baby. Parents must adapt their romantic relationships, their relationships with their other children, and with their own parents to include the new infant. Some parents feel attached to the baby immediately, but for other parents, this occurs more gradually. Parents may have imagined their infant in specific ways, but they now have to reconcile those images with their actual baby. In incorporating their relationship with their child into their other relationships, parents often have to reshape their conceptions of themselves and their identity. Parenting responsibilities are the most demanding during infancy because infants are completely dependent on caregiving.

## *3. The Authority Stage*

The authority stage occurs when children are 2 years old until about 4 or 5 years old. In this stage, parents make decisions about how much authority to exert over their children's behavior. Parents must establish rules to guide their child's behavior and development.

They have to decide how strictly they should enforce rules and what to do when rules are broken.

#### *4. The Interpretive Stage*

The interpretive stage occurs when children enter school (preschool or kindergarten) to the beginning of adolescence. Parents interpret their children's experiences as children are increasingly exposed to the world outside the family. Parents answer their children's questions, provide explanations, and determine what behaviors and values to teach. They decide what experiences to provide their children, in terms of schooling, neighborhood, and extracurricular activities. By this time, parents have experience in the parenting role and often reflect on their strengths and weaknesses as parents, review their images of parenthood, and determine how realistic they have been. Parents have to negotiate how involved to be with their children, when to step in, and when to encourage children to make choices independently.

#### *5. The Interdependent Stage*

Parents of teenagers are in the interdependent stage. They must redefine their authority and renegotiate their relationship with their adolescent as the children increasingly make decisions independent of parental control and authority. On the other hand, parents do not permit their adolescent children to have complete autonomy over their decision-making and behavior, and thus adolescents and parents must adapt their relationship to allow for greater negotiation and discussion about rules and limits.



## 6. The Departure Stage

During the departure stage of parenting, parents evaluate the entire experience of parenting. They prepare for their child's departure, redefine their identity as the parent of an adult child, and assess their parenting accomplishments and failures. This stage forms a transition to a new era in

**Figure 10.** When a child achieves a new level of independence and leaves the home it marks another turning point in the identity of a parent.  
[Image: State Farm, <https://goo.gl/Npw2fb>, CC BY 2.0, <https://goo.gl/BRvSA7>]

parents' lives. This stage usually spans a long time period from when the oldest child moves away (and often returns) until the youngest child leaves. The parenting role must be redefined as a less central role in a parent's identity.

Despite the interest in the development of parents among laypeople and helping professionals, little research has examined developmental changes in parents' experience and behaviors over time. Thus, it is not clear whether these theoretical stages are generalizable to parents of different races, ages, and religions, nor do we have empirical data on the factors that influence individual differences in these stages. On a practical note, how-to books and websites geared toward parental development should be evaluated with caution, as not all advice provided is supported by research.

## Influences on Parenting

Parenting is a complex process in which parents and children influence one another. There are many reasons that parents behave the way they do. The multiple influences on parenting are still being explored. Proposed influences on parental behavior include 1)

parent characteristics, 2) child characteristics, and 3) contextual and sociocultural characteristics (Belsky, 1984; Demick, 1999).

## Parent Characteristics

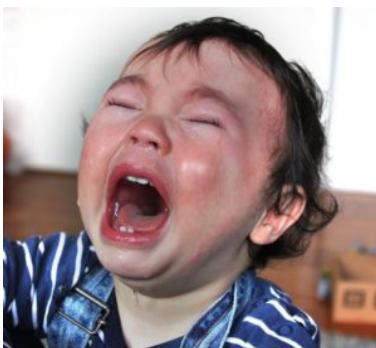
Parents bring unique traits and qualities to the parenting relationship that affect their decisions as parents. These characteristics include the age of the parent, gender, beliefs, personality, developmental history, knowledge about parenting and child development, and mental and physical health. Parents' personalities affect parenting behaviors. Mothers and fathers who are more agreeable, conscientious, and outgoing are warmer and provide more structure to their children. Parents who are more agreeable, less anxious, and less negative also support their children's autonomy more than parents who are anxious and less agreeable (Prinzie, Stams, Dekovic, Reijntjes, & Belsky, 2009). Parents who have these personality traits appear to be better able to respond to their children positively and provide a more consistent, structured environment for their children.

Parents' developmental histories, or their experiences as children, also affect their parenting strategies. Parents may learn parenting practices from their own parents. Fathers whose own parents provided monitoring, consistent and age-appropriate discipline, and warmth were more likely to provide this constructive parenting to their own children (Kerr, Capaldi, Pears, & Owen, 2009). Patterns of negative parenting and ineffective discipline also appear from one generation to the next. However, parents who are dissatisfied with their own parents' approach may be more likely to change their parenting methods with their own children.

## Child Characteristics

Parenting is bidirectional. Not only do parents affect their children, but children also influence their parents. Child characteristics, such as gender, birth order, temperament, and health status, affect parenting behaviors and roles. For example, an infant with an easy temperament may enable parents to feel more effective, as they are easily able to soothe the child and elicit smiling and cooing. On the other hand, a cranky or fussy infant elicits fewer positive reactions from his or her parents and may result in parents feeling less effective in the parenting role (Eisenberg et al., 2008). Over time, parents of more difficult children may become more punitive and less patient with their children (Clark, Kochanska, & Ready, 2000; Eisenberg et al., 1999; Kiff, Lengua, & Zalewski, 2011). Parents who have a fussy, difficult child are less satisfied with their marriages and have greater challenges in balancing work and family roles (Hyde, Else-Quest, & Goldsmith, 2004). Thus, child temperament is one of the child characteristics that influence how parents behave with their children.

Another child characteristic is the gender of the child. Parents respond differently to boys and girls. Parents often assign different household chores to their sons and daughters. Girls are more often responsible for caring for younger siblings and household chores, whereas boys are more likely to be asked to perform chores outside the home, such as mowing the lawn (Grusec, Goodnow, & Cohen, 1996). Parents also talk differently with their sons and daughters,

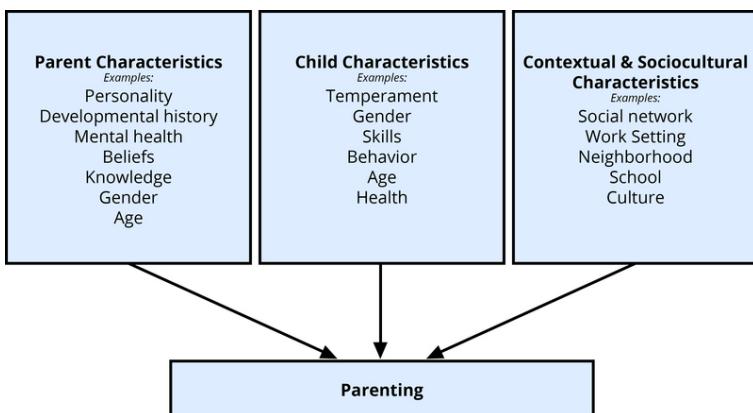


**Figure 11.** A child with a difficult temperament can have a significant impact on a parent. [Image: Harald Groven, <https://goo.gl/cwemLg>, CC BY-SA 2.0, <https://goo.gl/eH69he>]

providing more scientific explanations to their sons and using more emotional words with their daughters (Crowley, Callanan, Tenenbaum, & Allen, 2001).

## Contextual Factors and Sociocultural Characteristics

The parent-child relationship does not occur in isolation. Sociocultural characteristics, including economic hardship, religion, politics, neighborhoods, schools, and social support, also influence parenting. Parents who experience economic hardship are more easily frustrated, depressed, and sad, and these emotional characteristics affect their parenting skills (Conger & Conger, 2002). Culture also influences parenting behaviors in fundamental ways. Although promoting the development of skills necessary to function effectively in one's community is a universal goal of parenting, the specific skills necessary vary widely from culture to culture. Thus, parents have different goals for their children that partially depend on their culture (Tamis-LeMonda et al., 2008). For example, parents vary in how much they emphasize goals for independence and individual achievements, and goals involving maintaining harmonious relationships and being embedded in a strong network of social relationships. These differences in parental goals are influenced by culture and by immigration status. Other important contextual characteristics, such as the neighborhood, school, and social networks, also affect parenting, even though these settings don't always include both the child and the parent (Brofenbrenner, 1989). For example, Latina mothers who perceived their neighborhood as more dangerous showed less warmth with their children, perhaps because of the greater stress associated with living a threatening environment (Gonzales et al., 2011). Many contextual factors influence parenting.



**Figure 12.** Influences on parenting include characteristics of the parent and child, as well as the context and world around them.

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# Emotional and Social Development in Middle Adulthood



Traditionally, middle adulthood has been regarded as a period of reflection and change. In the popular imagination (and academic press) there has been a reference to a “mid-life crisis.” There is an emerging view that

this may have been an overstatement—certainly, the evidence on which it is based has been seriously questioned. However, there is some support for the view that people do undertake a sort of emotional audit, reevaluate their priorities, and emerge with a slightly different orientation to emotional regulation and personal interaction in this time period. Why, and the mechanisms through which this change is affected, are a matter of some debate. We will examine the ideas of Erikson, Baltes, and Carstensen, and how they might inform a more nuanced understanding of this vital part of the lifespan.

## Psychosocial Development in Midlife

What do you think is the happiest stage of life? What about the saddest stages? Perhaps surprisingly, Blanchflower & Oswald (2008) found that reported levels of unhappiness and depressive symptoms peak in the early 50s for men in the U.S., and interestingly, the late

30s for women. In Western Europe, minimum happiness is reported around the mid-40s for both men and women, albeit with some significant national differences. Stone, Schneider, and Bradoch (2017), reported a precipitous drop in perceived stress in men in the U.S. from their early 50s. There is now a view that “older people” (50+) may be “happier” than younger people, despite some cognitive and functional losses. This is often referred to as “the paradox of aging.” Positive attitudes to the continuance of cognitive and behavioral activities, interpersonal engagement, and their vitalizing effect on human neural plasticity, may lead not only to more life, but to an extended period of both self-satisfaction and continued communal engagement.

## Erikson's Theory

As you know by now, Erikson's theory is based on an idea called epigenesis, meaning that development is progressive and that each individual must pass through the eight different stages of life—all while being influenced by context and environment. Each stage forms the basis for the following stage, and each transition to the next is marked by a crisis that must be resolved. The sense of self, each “season”, was wrested, from and by, that conflict. The ages 40-65 are no different. The individual is still driven to engage productively, but the nurturing of children and income generation assume lesser functional importance. From where will the individual derive their sense of self and self-worth?

Generativity versus Stagnation is Erikson's characterization of the fundamental conflict of adulthood. It is the seventh conflict of his famous “8 seasons of man” (1950) and negotiating this conflict results in the virtue of care. **Generativity** is “primarily the concern in establishing and guiding the next generation” (Erikson, 1950 p.267). Generativity is a concern for a generalized other (as well as those close to an individual) and occurs when a person can

shift their energy to care for and mentor the next generation. One obvious motive for this generative thinking might be parenthood, but others have suggested intimations of mortality by the self. John Kotre (1984) theorized that generativity is a selfish act, stating that its fundamental task was to outlive the self. He viewed generativity as a form of investment. However, a commitment to a “belief in the species” can be taken in numerous directions, and it is probably correct to say that most modern treatments of generativity treat it as a collection of facets or aspects—encompassing creativity, productivity, commitment, interpersonal care, and so on.

On the other side of generativity is **stagnation**. It is the feeling of lethargy and a lack of enthusiasm and involvement in both individual and communal affairs. It may also denote an underdeveloped sense of self, or some form of overblown narcissism. Erikson sometimes used the word “rejectivity” when referring to severe stagnation

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## The Stage-Crisis View and the Midlife Crisis

In 1977, Daniel Levinson published an extremely influential article that would be seminal in establishing the idea of a profound crisis that lies at the heart of middle adulthood. The concept of a midlife crisis is so pervasive that over 90% of Americans are familiar with the term, although those who actually report experiencing such a crisis is significantly lower (Wethington, 2000).

Levinson based his findings about a midlife crisis on biographical interviews with a limited sample of 40 men (no women!), and an entirely American sample at that. Despite these severe methodological limitations, his findings proved immensely influential. Levinson (1986) identified five main stages or “seasons” of a man’s life as follows:

1. Preadulthood: Ages 0-22 (with 17 – 22 being the Early Adult Transition years)
2. Early Adulthood: Ages 17-45 (with 40 – 45 being the Midlife Transition years)
3. Middle Adulthood: Ages 40-65 (with 60-65 being the Late Adult Transition years)
4. Late Adulthood: Ages 60-85
5. Late Late Adulthood: Ages 85+



**Figure 1.** According to Levinson, we go through a midlife crisis. While most people have heard of the midlife crisis, and often associate with sports cars, joining a band, or exploring new relationships, there is very little support for the theory as it was proposed by Levinson.

Levinson's theory is known as the stage-crisis view. He argued that each stage overlaps, consisting of two distinct phases—a stable phase, and a transitional phase into the following period. The latter phase can involve questioning and change, and Levinson believed that 40-45 was a period of profound change, which could only culminate in a reappraisal, or perhaps reaffirmation, of goals, commitments and previous

choices—a time for taking stock and recalibrating what was important in life. Crucially, Levinson would argue that a much wider range of factors, involving, primarily, work and family, would affect this taking stock – what he had achieved, what he had not; what he thought important, but had brought only limited satisfaction.

In 1996, two years after his death, the study he was conducting with his co-author and wife Judy Levinson, was published on “the seasons of life” as experienced by women. Again, it was a small scale study, with 45 women who were professionals / businesswomen, academics, and homemakers, in equal proportion. The changing place of women in society was reckoned by Levinson to be a profound moment in the social evolution of the human species, however, it had led to a fundamental polarity in the way that women formed and understood their social identity. Levinson referred to this as the “dream.” For men, the “dream” was formed in the age period of 22-28, and largely centered on the occupational role and professional ambitions. Levinson understood the female “dream” as fundamentally split between this work-centered orientation, and the desire/imperative of marriage/family; a polarity that heralded both new opportunities, and fundamental angst.

Levinson found that the men and women he interviewed sometimes had difficulty reconciling the “dream” they held about the future with the reality they currently experienced. “What do I really get from and give to my wife, children, friends, work, community and self?” a man might ask (Levinson, 1978, p. 192). Tasks of the midlife transition include:

1. ending early adulthood;
2. reassessing life in the present and making modifications if needed; and
3. reconciling “polarities” or contradictions in one’s sense of self.

Perhaps early adulthood ends when a person no longer seeks adult status but feels like a full adult in the eyes of others. This “permission” may lead to different choices in life—choices that are made for self-fulfillment instead of social acceptance. While people in their 20s may emphasize how old they are (to gain respect, to be viewed as experienced), by the time people reach their 40s, they tend to emphasize how young they are (few 40-year-olds cut each other down for being so young: “You’re only 43? I’m 48!!”).

This new perspective on time brings about a new sense of urgency to life. The person becomes focused more on the present than the future or the past. The person grows impatient at being in the “waiting room of life,” postponing doing the things they have always wanted to do. “If it’s ever going to happen, it better happen now.” A previous focus on the future gives way to an emphasis on the present. Neugarten (1968) notes that in midlife, people no longer think of their lives in terms of how long they have lived. Rather, life is thought of in terms of how many years are left. If an adult is not satisfied at midlife, there is a new sense of urgency to start to make changes now.

Changes may involve ending a relationship or modifying one’s expectations of a partner. These modifications are easier than changing the self (Levinson, 1978). Midlife is a period of transition in which one holds earlier images of the self while forming new

ideas about the self of the future. Greater awareness of aging accompanies feelings of youth, and harm that may have been done previously in relationships haunts new dreams of contributing to the well-being of others. These polarities are the quieter struggles that continue after outward signs of “crisis” have gone away.

Levinson characterized midlife as a time of developmental crisis. However, like any body of work, it has been subject to criticism. Firstly, the sample size of the populations on which he based his primary findings is too small. By what right do we generalize findings from interviews with 40 men, and 45 women, however thoughtful and well-conducted? Secondly, Chiriboga (1989) could not find any substantial evidence of a midlife crisis, and it might be argued that this, and further failed attempts at replication, indicate a cohort effect. The findings from Levinson’s population indicated a shared historical and cultural situatedness, rather than a cross-cultural universal experienced by all or even most individuals. Midlife is a time of revaluation and change, that may escape precise determination in both time and geographical space, but people do emerge from it, and seem to enjoy a period of contentment, reconciliation, and acceptance of self.

### Watch It

This video explains research and controversy surrounding the concept of a midlife crisis.



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## Socio-Emotional Selectivity Theory (SST)

It is the inescapable fate of human beings to know that their lives are limited. As people move through life, goals, and values tend to

shift. What we consider priorities, goals, and aspirations are subject to renegotiation. Attachments to others, current, and future, are no different. Time is not the unlimited good as perceived by a child under normal social circumstances; it is very much a valuable commodity, requiring careful consideration in terms of the investment of resources. This has become known in the academic literature as mortality salience.

**Mortality salience** posits that reminders about death or finitude (at either a conscious or subconscious level), fill us with dread. We seek to deny its reality, but awareness of the increasing nearness of death can have a potent effect on human judgment and behavior. This has become a very important concept in contemporary social science. It is with this understanding that Laura Carstensen developed the theory of **socioemotional selectivity theory**, or SST. The theory maintains that as time horizons shrink, as they typically do with age, people become increasingly selective, investing greater resources in emotionally meaningful goals and activities. According to the theory, motivational shifts also influence cognitive processing. Aging is associated with a relative preference for positive over negative information. This selective narrowing of social interaction maximizes positive emotional experiences and minimizes emotional risks as individuals become older. They systematically hone their social networks so that available social partners satisfy their emotional needs. The French philosopher Sartre observed that “hell is other people”. An adaptive way of maintaining a positive affect might be to reduce contact with those we know may negatively affect us, and avoid those who might.

SST is a theory that emphasizes a time perspective rather than chronological age. When people perceive their future as open-ended, they tend to focus on future-oriented development or knowledge-related goals. When they feel that time is running out, and the opportunity to reap rewards from future-oriented goals' realization is dwindling, their focus tends to shift towards present-oriented and emotion or pleasure-related goals. Research on this theory often compares age groups (e.g., young adulthood vs. old

adulthood), but the shift in goal priorities is a gradual process that begins in early adulthood. Importantly, the theory contends that the cause of these goal shifts is not age itself, i.e., not the passage of time itself, but rather an age-associated shift in time perspective. The theory also focuses on the types of goals that individuals are motivated to achieve. Knowledge-related goals aim at knowledge acquisition, career planning, the development of new social relationships and other endeavors that will pay off in the future. Emotion-related goals are aimed at emotion regulation, the pursuit of emotionally gratifying interactions with social partners, and other pursuits whose benefits can be realized in the present.

This shift in emphasis, from long-term goals to short-term emotional satisfaction, may help explain the previously noted “paradox of aging.” That is, that despite noticeable physiological declines, and some notable self-reports of reduced life satisfaction around this time, post- 50 there seems to be a significant increase in reported subjective well-being. SST does not champion social isolation, which is harmful to human health, but shows that increased selectivity in human relationships, rather than abstinence, leads to more positive affect. Perhaps “midlife crisis and recovery” may be a more apt description of the 40–65 period of the lifespan.

### *Watch It*

Watch Laura Carstensen in this TED talk explain how happiness actually increases with age.

[http://plugin.3playmedia.com/show?mf=3935400&p3sdk\\_version=1.10.1&p=20361&pt=375&video\\_id=CAdjcnrSgR8&video\\_target=tpm-plugin-72n088dq-CAdjcnrSgR8](http://plugin.3playmedia.com/show?mf=3935400&p3sdk_version=1.10.1&p=20361&pt=375&video_id=CAdjcnrSgR8&video_target=tpm-plugin-72n088dq-CAdjcnrSgR8)

## Selection, Optimization, Compensation (SOC)

Another perspective on aging was identified by German developmental psychologists Paul and Margret Baltes. Their text *Successful Aging* (1990) marked a seismic shift in moving social science research on aging from largely a deficits-based perspective to a newer understanding based on a holistic view of the life-course itself. The former had tended to focus exclusively on what was lost during the aging process, rather than seeing it as a balance between those losses and gains in areas like the regulation of emotion, experience, and wisdom.

The Baltes' model for successful aging argues that across the lifespan, people face various opportunities or challenges such as, jobs, educational opportunities, and illnesses. According to the SOC model, a person may select particular goals or experiences, or circumstances might impose themselves on them. Either way, the selection process includes



**Figure 2.** Italian soccer player Paulo Maldini in 2008, just one year before he retired at age 41. He appeared in an incredible 8 champions league finals during his 25-year career. Defensive players like Maldini tend to have a longer career due to their experience compensating for a decline in pace, while offensive players are generally sought after for their agility and speed.

shifting or modifying goals based on choice or circumstance in response to those circumstances. The change in direction may occur at the subconscious level. This model emphasizes that setting goals and directing efforts towards a specific purpose is beneficial to healthy aging. Optimization is about making the best use of the resources we have in pursuing goals. Compensation, as its name suggests, is about using alternative strategies in attaining those goals.

The processes of selection, optimization, and compensation can be found throughout the lifespan. As we progress in years, we select areas in which we place resources, hoping that this selection will optimize the resources that we have, and compensate for any defects accruing from physiological or cognitive changes. Previous accounts of aging had understated the degree to which possibilities from which we choose had been eliminated, rather than reduced, or even just changed. As we select areas in which to invest, there is always an opportunity cost. We are masters of our own destiny, and our own individual orientation to the SOC processes will dictate “successful aging.” Rather than seeing aging as a process of progressive disengagement from social and communal roles undertaken by a group, Baltes argued that “successful aging” was a matter of sustained individual engagement, accompanied by a belief in individual self-efficacy and mastery.

The SOC model covers a number of functional domains—motivation, emotion, and cognition. We might become more adept at playing the SOC game as time moves on, as we work to compensate and adjust for changing abilities across the lifespan. For example, a soccer player at 35 may no longer have the vascular and muscular fitness that they had at 20 but her “reading” of the game might compensate for this decline. She may well be a better player than she was at 20, even with fewer physical resources in a game which ostensibly prioritizes them. The work of Paul and Margaret Baltes was very influential in the formation of a very broad developmental perspective that would coalesce around the central idea of resiliency.

## Try It



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## Personality and Work Satisfaction

### Personality in Midlife

Research on adult personality examines normative age-related increases and decreases in the expression of the so-called “Big Five” traits—extroversion, neuroticism, conscientiousness, agreeableness, and openness to experience. These are assumed to be based largely on biological heredity. These five traits are sometimes summarized via the OCEAN acronym. Individuals are assessed by the measurement of these traits along a continuum (e.g. high extroversion to low extroversion). They now dominate the field of empirical personality research. Does personality change

throughout adulthood? Previously the answer was thought to be no. It was William James who stated in his foundational text, *The Principles of Psychology* (1890), that “[i]n most of us, by the age of thirty, the character is set like plaster, and will never soften again”. Not surprisingly, this became known as the **plaster hypothesis**.

Contemporary research shows that, although some people's personalities are relatively stable over time, others are not (Lucas & Donnellan, 2011; Roberts & Mroczek, 2008). Longitudinal studies reveal average changes during adulthood, and individual differences in these patterns over the lifespan may be due to idiosyncratic life events (e.g., divorce, illness). Roberts, Wood & Caspi (2008) report evidence of increases in agreeableness and conscientiousness as persons age, mixed results in regard to openness, reduction in neuroticism but only in women, and no change with regard to extroversion. Whether this “maturation” is the cause or effect of some of the changes noted in the section devoted to psychosocial development is still unresolved. Longitudinal research also suggests that adult personality traits, such as conscientiousness, predict important life outcomes including job success, health, and longevity (Friedman, Tucker, Tomlinson-Keasey, Schwartz, Wingard, & Criqui, 1993; Roberts, Kuncel, Shiner, Caspi, & Goldberg, 2007). How important these changes remain somewhat unresolved. Thus, we have the hard plaster hypothesis, emphasizing fixity in personality over the age of thirty with some very minor variation, and the soft plaster version which views these changes as possible and important.

Carl Jung believed that our personality actually matures as we get older. A healthy personality is one that is balanced. People suffer tension and anxiety when they fail to express all of their inherent qualities. Jung believed that each of us possesses a “shadow side.” For example, those who are typically introverted also have an extroverted side that rarely finds expression unless we are relaxed and uninhibited. Each of us has both a masculine and feminine side, but in younger years, we feel societal pressure to give expression only to one. As we get older, we may become freer to express all of our traits as the situation arises. We find gender convergence in older adults. Men become more interested in intimacy and family ties. Women may become more assertive. This gender convergence is also affected by changes in society’s expectations for males and females. With each new generation, we find that the roles of men and women are less stereotypical, and this allows for change as well.



**Figure 3.** Personalities in midlife are not as set as researchers once thought, and may still mature as we get older.

## Subjective Aging

One aspect of the self that particularly interests life span and life course psychologists is the individual’s perception and evaluation of their own aging and identification with an age group. Subjective age is a multidimensional construct that indicates how old (or young) a person feels, and into which age group a person categorizes themselves. After early adulthood, most people say that they feel younger than their chronological age, and the gap between subjective age and actual age generally increases. On average, after age 40 people report feeling 20% younger than their actual age.

(e.g., Rubin & Berntsen, 2006). Asking people how satisfied they are with their own aging assesses an evaluative component of age identity. Whereas some aspects of age identity are positively valued (e.g., acquiring seniority in a profession or becoming a grandparent), others may be less valued, depending on societal context. Perceived physical age (i.e., the age one looks in a mirror) is one aspect that requires considerable self-related adaptation in social and cultural contexts that value young bodies. Feeling younger and being satisfied with one's own aging are expressions of positive self-perceptions of aging. They reflect the operation of self-related processes that enhance well-being. Levy (2009) found that older individuals who are able to adapt to and accept changes in their appearance and physical capacity in a positive way report higher well-being, have better health, and live longer.

There is now an increasing acceptance of the view within developmental psychology that an uncritical reliance on chronological age may be inappropriate. People have certain expectations about getting older, their own idiosyncratic views, and internalized societal beliefs. Taken together they constitute a tacit knowledge of the aging process. A negative perception of how we are aging can have real results in terms of life expectancy and poor health. Levy et al (2002) estimated that those with positive feelings about aging lived 7.5 years longer than those who did not. Subjective aging encompasses a wide range of psychological perspectives and empirical research. However, there is now a growing body of work centered around a construct referred to as Awareness of Age-Related Change (AARC) (Diehl et al, 2015), which examines the effects of our subjective perceptions of age and their consequential, and very real, effects. Neuport & Bellingtier (2017) report that this subjective awareness can change on a daily basis, and that negative events or comments can disproportionately affect those with the most positive outlook on aging.

## Work Satisfaction

Middle adulthood is characterized by a time of transition, change, and renewal. Accordingly, attitudes about work and satisfaction from work tend to undergo a transformation or reorientation during this time. Age is positively related to job satisfaction—the older we get the more we derive satisfaction from work(Ng & Feldman, 2010). However, that is far from the entire story and repeats, once more, the paradoxical nature of the research findings from this period of the life course. Dobrow, Gazach & Liu (2018) found that job satisfaction in those aged 43–51 was correlated with advancing age, but that there was increased dissatisfaction the longer one stayed in the same job. Again, as socio-emotional selectivity theory would predict, there is a marked reluctance to tolerate a work situation deemed unsuitable or unsatisfying. Years left, as opposed to years spent, necessitates a sense of purpose in all daily activities and interactions, including work.

The workplace today is one in which many people from various walks of life come together. Work schedules are more flexible and varied, and more work independently from home or anywhere there is an internet connection. The midlife worker must be flexible, stay current with technology, and be capable of working within a global community.

### Watch It

Seeking job enjoyment may account for the fact that many people over 50 sometimes seek changes in employment known as “[encore careers](#).” Some midlife adults anticipate retirement, while others may be

postponing it for financial reasons, or others may simply feel a desire to continue working.

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## Relationships at Work



**Figure 4.** Healthy work relationships have a big impact on job satisfaction.

Working adults spend a large part of their waking hours in relationships with coworkers and supervisors. Because these relationships are forced upon us by work, researchers focus less on their presence or absence and instead focus on their quality. High-quality work relationships can make jobs enjoyable and less stressful. This is because workers experience mutual trust and

support in the workplace to overcome work challenges. Liking the people we work with can also translate to more humor and fun on the job. Research has shown that supervisors who are more supportive have employees who are more likely to thrive at work (Paterson, Luthans, & Jeung, 2014; Monnot & Beehr, 2014; Winkler, Busch, Clasen, & Vowinkel, 2015). On the other hand, poor quality work relationships can make a job feel like drudgery. Everyone knows that horrible bosses can make the workday unpleasant.

Supervisors that are sources of stress have a negative impact on the subjective well-being of their employees (Monnot & Beehr, 2014). Specifically, research has shown that employees who rate their supervisors high on the so-called “dark triad”—psychopathy, narcissism, and Machiavellianism—reported greater psychological distress at work, as well as less job satisfaction (Mathieu, Neumann, Hare, & Babiak, 2014).

In addition to the direct benefits or costs of work relationships on our well-being, we should also consider how these relationships can impact our job performance. Research has shown that feeling engaged in our work and having a high job performance predicts better health and greater life satisfaction (Shimazu, Schaufeli, Kamiyama, & Kawakami, 2015). Given that so many of our waking hours are spent on the job—about 90,000 hours across a lifetime—it makes sense that we should seek out and invest in positive relationships at work.

One of the most influential researchers in this field, Dorien Kooij (2013) identified four key motivations in older adults continuing to work. First, growth or development motivation- looking for new challenges in the work environment. The second are feelings of recognition and power. Third, feelings of power and security afforded by income and possible health benefits. Interestingly enough, the fourth area of motivation was Erikson's generativity. The latter has been criticized for a lack of support in terms of empirical research findings, but two studies (Zacher et al, 2012; Ghislieri & Gatti, 2012) found that a primary motivation in continuing to work was the desire to pass on skills and experience, a process they describe as **leader generativity**. Perhaps a more straightforward term might be mentoring. In any case, the concept of generative leadership is now firmly established in the business and organizational management literature.

Organizations, public and private, are going to have to deal with an older workforce. The proportion of people in Europe over 60 will increase from 24% to 34% by 2050 (United Nations 2015), the US Bureau of Labor Statistics predicts that 1 in 4 of the US workforce

will be 55 or over. Workers may have good reason to avoid retirement, although it is often viewed as a time of relaxation and well-earned rest, statistics may indicate that a continued focus on the future may be preferable to stasis, or inactivity. In fact, Fitzpatrick & Moore (2018) report that death rates for American males jump 2% immediately after they turn 62, most likely a result of changes induced by retirement. Interestingly, this small spike in death rates is not seen in women, which may be the result of women having stronger social determinants of health (SDOH), which keep them active and interacting with others out of retirement.

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# Relationships in Middle Adulthood



The importance of establishing and maintaining relationships in middle adulthood is now well established in the academic literature—there are now thousands of published articles purporting to demonstrate that social relationships are integral to any and all aspects of subjective well-being and physiological functioning, and these help to inform actual healthcare practices. Studies show an increased risk of dementia, cognitive decline, susceptibility to vascular disease, and increased mortality in those who feel isolated and alone. However, loneliness is not confined to people living a solitary existence. It can also refer to those who endure a perceived discrepancy in the socio-emotional benefits of interactions with others, either in number or nature. One may have an expansive social network and still feel a dearth of emotional satisfaction in one's own life.

Socioemotional selectivity theory (SST) predicts a quantitative decrease in the number of social interactions in favor of those bringing greater emotional fulfillment. Over the past thirty years,

or more, there have been significant social changes which have, in turn, had a large effect on human bonding. These have affected the way we manage our emotional interactions, and the manner in which society views, shapes and supports that emotional regulation. Government policy has also changed, and had a profound influence, on how families are shaped, reshaped, and operate as social and economic agents.

## **Relationships and Family Life in Middle Adulthood**

### **Intimate Relationships**

It makes sense to consider the various types of relationships in our lives when trying to determine just how relationships impact our well-being. For example, would you expect a person to derive the same happiness from an ex-spouse as from a child or coworker? Among the most important relationships for most people is their long-time romantic partner. Most researchers begin their investigation of this topic by focusing on intimate relationships because they are the closest form of social bond. Intimacy is more than just physical in nature; it also entails psychological closeness. Research findings suggest that having a single confidante—a person with whom you can be authentic and trust not to exploit your secrets and vulnerabilities—is more important to happiness than having a large social network (Taylor, 2010).

Another important aspect of relationships is the distinction between formal and informal. Formal relationships are those that are bound by the rules of politeness. In most cultures, for instance, young people treat older people with formal respect, avoiding profanity and slang when interacting with them. Similarly, workplace relationships tend to be more formal, as do relationships

with new acquaintances. Formal connections are generally less relaxed because they require a bit more work, demanding that we exert more self-control. Contrast these connections with informal relationships—friends, lovers, siblings, or others with whom you can relax. We can express our true feelings and opinions in these informal relationships, using the language that comes most naturally to us, and generally be more authentic. Because of this, it makes sense that more intimate relationships—those that are more comfortable and in which you can be more vulnerable—might be the most likely to translate to happiness.

## Marriage and Happiness

One of the most common ways that researchers often begin to investigate intimacy is by looking at marital status. The well-being of married people is compared to that of people who are single or have never been married. In other research, married people are compared to people who are divorced or widowed (Lucas & Dyrenforth, 2005). Researchers have found that the transition from singlehood to marriage brings about an increase in subjective well-being (Haring-Hidore, Stock, Okun, & Witter, 1985; Lucas, 2005; Williams, 2003). In fact, this finding is one of the strongest in social science research on personal relationships over the past quarter of a century.



**Figure 1.** Relationships that allow us to be our authentic self bring the most happiness.

As is usually the case, the situation is more complex than might initially appear. As a marriage progresses, there is some evidence for regression to a **hedonic set-point**—that is, most individuals have a set happiness point or level, and that both good and bad life

events – marriage, bereavement, unemployment, births, and so on – have some effect for a period of time, but over many months, they will return to that set-point. One of the best studies in this area is that of Luhmann et al (2012), who report a gradual decline in subjective well-being after a few years, especially in the component of affective well-being. Adverse events obviously have an effect on subjective well-being and happiness, and these effects can be stronger than the positive effects of being married in some cases (Lucas, 2005).

Although research frequently points to marriage being associated with higher rates of happiness, this does not guarantee that getting married will make you happy! The quality of one's marriage matters greatly. When a person remains in a problematic marriage, it takes an emotional toll. Indeed, a large body of research shows that people's overall life satisfaction is affected by their satisfaction with their marriage (Carr, Freedman, Cornman, Schwarz, 2014; Dush, Taylor, & Kroeger, 2008; Karney, 2001; Luhmann, Hofmann, Eid, & Lucas, 2012; Proulx, Helms, & Buehler, 2007). The lower a person's self-reported level of marital quality, the more likely he or she is to report depression (Bookwala, 2012). In fact, longitudinal studies—those that follow the same people over a period of time—show that as marital quality declines, depressive symptoms increase (Fincham, Beach, Harold, & Osborne, 1997; Karney, 2001). Proulx and colleagues (2007) arrived at this same conclusion after a systematic review of 66 cross-sectional and 27 longitudinal studies.

Marital satisfaction has peaks and valleys during the course of the life cycle. Rates of happiness are highest in the years prior to the birth of the first child. It hits a low point with the coming of children. Relationships typically become more traditional and there are more financial hardships and stress in living. Children bring new expectations to the marital relationship. Two people who are comfortable with their roles as partners may find the added parental duties and expectations more challenging to meet. Some couples elect not to have children in order to have more time and resources for the marriage. These child-free couples are

happy keeping their time and attention on their partners, careers, and interests.

What is it about bad marriages, or bad relationships in general, that takes such a toll on well-being? Research has pointed to conflict between partners as a major factor leading to lower subjective well-being (Gere & Schimmack, 2011). This makes sense. Negative relationships are linked to ineffective social support (Reblin, Uchino, & Smith, 2010) and are a source of stress (Holt-Lunstad, Uchino, Smith, & Hicks, 2007). In more extreme cases, physical and psychological abuse can be detrimental to well-being (Follingstad, Rutledge, Berg, Hause, & Polek, 1990). Victims of abuse sometimes feel shame, lose their sense of self, and become less happy and prone to depression and anxiety (Arias & Pape, 1999). However, the unhappiness and dissatisfaction that occur in abusive relationships tend to dissipate once the relationships end. (Arriaga, Capezza, Goodfriend, Rayl & Sands, 2013).

### *Typology of Marriage*

One way marriages vary is with regard to the reason the partners are married. Some marriages have intrinsic value: the partners are together because they enjoy, love and value one another. Marriage is not thought of as a means to another end, instead, it is regarded as an end in itself. These partners look for someone they are drawn to, and with whom they feel a close and intense relationship. Other marriages called utilitarian marriages are unions entered into primarily for practical reasons. For example, marriage brings financial security, children, social approval, housekeeping, political favor, a good car, a great house, and so on.

There have been a few attempts to establish a typological framework for marriages. The best-known is that of Olson (1993), who referred to five typical kinds of marriage. Using a sample of 6,267 couples, Olson & Fowers (1993) identified eleven relationship domains that covered both areas related to relationship satisfaction, and the more functional areas related to marriage. So, five of the eleven included areas such as marital satisfaction, communication, and, things like financial management, parenting, and egalitarian roles. Using these eleven areas they came up with five kinds of marriage. One aspect of this early study is the **link between marital satisfaction and income/college education**. The link between these factors is now commonplace in the literature. Olson & Fowers (1993) were one of the first studies to point to this link. The less well-off are more prone to divorce, as are those with less college-level education. Income and college education are of course linked, and there is now increasing concern that marital dissolution and broader patterns of social inequality are now inextricably linked.

- vitalized: Very high relationship quality. Tend to belong in a higher income bracket. Happy with their spouse across all areas: personality, communication, roles and expectations.
- harmonious relationships: These marriages have some areas of tension and disagreement but there is still broad agreement on major issues. Lack of agreement on parenting was the primary feature of this group, although the couples still scored highly on relationship quality.
- traditional marriages: Much less emphasis on emotional closeness, but still slightly above average.

- High levels of compatibility in relation to parenting.
- conflicted: These marriages accomplish functional goals such as parenting but are marked by a great deal of interpersonal disagreement. Communication and conflict resolution scores are extremely low.
  - devitalized: low scores across all eleven areas – Little interpersonal closeness and little agreement on family roles.

## Try It



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<https://topicaldevelopment.pressbooks.sunycREATE.club/?p=131#oembed-1>

## *The Family Life Cycle*

To better understand patterns of family life and changes in roles and expectations as a family ages, researchers have theorized about typical stages of family life. Read more about the family life cycle in the following interactive activity.

<https://lumenlearning.h5p.com/content/1290831078585248368/embed>

## Marital Communication

Advice on how to improve one's marriage is centuries old. One of today's experts on marital communication is John Gottman. Gottman differs from many marriage counselors in his belief that having a good marriage does not depend on compatibility, rather, the way that partners communicate with one another is crucial. At the University of Washington in Seattle, Gottman has measured the physiological responses of thousands of couples as they discuss issues that have led to disagreements. Fidgeting in one's chair, leaning closer to or further away from the partner while speaking, and increases in respiration and heart rate are all recorded and analyzed, along with videotaped recordings of the partners' exchanges.

Gottman believes he can accurately predict whether or not a couple will stay together by analyzing their communication. In marriages destined to fail, partners engage in the "marriage killers" such as contempt, criticism, defensiveness, and stonewalling. Each of these undermines the politeness and respect that healthy

marriages require. According to Gottman, stonewalling, or shutting someone out, is the strongest sign that a relationship is destined to fail. Perhaps the most interesting aspect of Gottman's work is the emphasis on the fact that marriage is about constant negotiation rather than conflict resolution.

What Gottman terms perpetual problems, are responsible for 69% of conflicts within marriage. For example, if someone in a couple has said, "I am so sick of arguing over this," then that may be a sign of a perpetual problem. While this may seem problematic, Gottman argues that couples can still be connected despite these perpetual problems if they can laugh about it, treat it as a "third thing" (not reducible to the perspective of either party), and recognize that these are part of relationships that need to be aired and dealt with as best you can. It is somewhat refreshing to hear that differences lie at the heart of marriage, rather than a rationale for its dissolution!

### *Link to Learning*

Listen to NPR's [Act One: What Really Happens in Marriage](#) to hear John Gottman talk about his work.

## Parenting in Later Life

Just because children grow up does not mean their family stops being a family, rather the specific roles and expectations of its members change over time. One major change comes when a child reaches adulthood and moves away. When exactly children leave home varies greatly depending on societal norms and expectations, as well as on economic conditions such as employment

opportunities and affordable housing options. Some parents may experience sadness when their adult children leave the home—a situation called an **empty nest**.

Many parents are also finding that their grown children are struggling to launch into independence. It's an increasingly common story: a child goes off to college and, upon graduation, is unable to find steady employment. In such instances, a frequent outcome is for the child to return home, becoming a "boomerang kid." The boomerang generation, as the phenomenon has come to be known, refers to young adults, mostly between the ages of 25 and 34, who return home to live with their parents while they strive for stability in their lives—often in terms of finances, living arrangements, and sometimes romantic relationships. These boomerang kids can be both good and bad for families. Within American families, 48% of boomerang kids report having paid rent to their parents, and 89% say they help out with household expenses—a win for everyone (Parker, 2012). On the other hand, 24% of boomerang kids report that returning home hurts their relationship with their parents (Parker, 2012). For better or for worse, the number of children returning home has been increasing around the world. The Pew Research Center (2016) reported that the most common living arrangement for people aged 18–34 was living with their parents (32.1%).

## Try It



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Adult children typically maintain frequent contact with their parents, if for no other reason, money, and advice. Attitudes toward one's parents may become more accepting and forgiving, as parents are seen in a more objective way, as people with good points and bad. As adults children can continue to be subjected to criticism, ridicule, and abuse at the hand of parents. How long are we "adult children"? For as long as our parents are living, we continue in the role of son or daughter. (I had a neighbor in her nineties who would tell me her "boys" were coming to see her this weekend. Her boys were in their 70s—but they were still her boys!) But after one's parents are gone, the adult is no longer a child; as one 40-year-old man explained after the death of his father, "I'll never be a kid again."

## Family Issues and Considerations

In addition to middle-aged parents spending more time, money, and energy taking care of their adult children, they are also increasingly taking care of their own aging and ailing parents. Middle-aged people in this set of circumstances are commonly referred to as the **sandwich generation** (Dukhovnov & Zagheni, 2015). Of course, cultural norms and practices again come into play. In some Asian and Hispanic cultures, the expectation is that adult children are supposed to take care of aging parents and parents-in-law. In other Western cultures—cultures that emphasize individuality and self-sustainability—the expectation has historically been that elders either age in place, modifying their home and receiving services to allow them to continue to live independently, or enter long-term care facilities. However, given financial constraints, many families find themselves taking in and caring for their aging parents, increasing the number of multigenerational homes around the world.

Being a midlife child often involves **kinkeeping**; organizing events and communication in order to maintain family ties. This role was first defined by Carolyn Rosenthal (1985). Kinkeepers are often midlife daughters (they are the person who tells you what food to bring to a gathering, or makes arrangement for a family reunion). They can often function as “managers” who maintain family ties and lines of communication. This is true for both large nuclear families, reconstituted, and multi-generational families. Rosenthal found that over half of the families she sampled were capable of identifying the individual who performed this role. Often adults at this stage of their lives are pressed into caregiving roles. Often referred to as the “sandwich generation”, they are still looking out for their own children while simultaneously caring for elderly parents. Given shifts in longevity and increasing costs for professional care of the elderly, this role will likely expand, placing ever greater pressure on careers.

## Abuse in Family Life

Abuse can occur in multiple forms and across all family relationships. Breiding, Basile, Smith, Black, & Mahendra (2015) define the forms of abuse as:

- **Physical abuse:** the use of intentional physical force to cause harm. Scratching, pushing, shoving, throwing, grabbing, biting, choking, shaking, slapping, punching, and hitting are common forms of physical abuse
- **Sexual abuse:** the act of forcing someone to participate in a sex act against his or her will. Such abuse is often referred to as sexual assault or rape. A marital relationship does not grant anyone the right to demand sex or sexual activity from anyone, even a spouse
- **Psychological abuse:** aggressive behavior that is intended to control someone else. Such abuse can include threats of physical or sexual abuse, manipulation, bullying, and stalking.

Abuse between partners is referred to as intimate partner violence; however, such abuse can also occur between a parent and child (child abuse), adult children and their aging parents (elder abuse), and even between siblings.

The most common form of abuse between parents and children is that of neglect. Neglect refers to a family's failure to provide for a child's basic physical, emotional, medical, or educational needs (DePanfilis, 2006). Harry Potter's aunt and uncle, as well as Cinderella's stepmother, could all be prosecuted for neglect in the real world.

Abuse is a complex issue, especially within families. There are many reasons people become abusers: poverty, stress, and substance abuse are common characteristics shared by abusers, although abuse can happen in any family. There are also many reasons adults stay in abusive relationships: (a) learned helplessness (the abused person believing he or she has no control

over the situation); (b) the belief that the abuser can/will change; (c) shame, guilt, self-blame, and/or fear; and (d) economic dependence. All of these factors can play a role.

Children who experience abuse may “act out” or otherwise respond in a variety of unhealthy ways. These include acts of self-destruction, withdrawal, and aggression, as well as struggles with depression, anxiety, and academic performance. Researchers have found that abused children’s brains may produce higher levels of stress hormones. These hormones can lead to decreased brain development, lower stress thresholds, suppressed immune responses, and lifelong difficulties with learning and memory (Middlebrooks & Audage, 2008).

## Happy Healthy Families

Our families play a crucial role in our overall development and happiness. They can support and validate us, but they can also criticize and burden us. For better or worse, we all have a family. In closing, here are strategies you can use to increase the happiness of your family:

- Teach morality—fostering a sense of moral development in children can promote well-being (Damon, 2004).
- Savor the good—celebrate each other’s successes (Gable, Gonzaga & Strachman, 2006).
- Use the extended family network—family members of all ages, including older siblings and grandparents, who can act as caregivers can promote family well-being (Armstrong, Birnie-Lefcovitch & Ungar, 2005).
- Create family identity—share inside jokes, fond memories, and frame the story of the family (McAdams, 1993).
- Forgive—Don’t hold grudges against one another (McCullough, Worthington & Rachal, 1997).

## Divorce and Remarriage

### Divorce

Divorce refers to the legal dissolution of a marriage. Depending on societal factors, divorce may be more or less of an option for married couples. Despite popular belief, divorce rates in the United States actually declined for many years during the 1980s and 1990s, and only just recently started to climb back up—landing at just below 50% of marriages ending in divorce today (Marriage & Divorce, 2016); however, it should be noted that divorce rates increase for each subsequent marriage, and there is considerable debate about the exact divorce rate. Are there specific factors that can predict divorce? Are certain types of people or certain types of relationships more or less at risk for breaking up? Indeed, there are several factors that appear to be either risk factors or protective factors.

Pursuing education decreases the risk of divorce. So too does waiting until we are older to marry. Likewise, if our parents are still married we are less likely to divorce. Factors that increase our risk of divorce include having a child before marriage and living with multiple partners before marriage, known as serial cohabitation (cohabitation with one's expected marital partner does not appear to have the same effect). Of course, societal and religious attitudes must also be taken into account. In societies that are more accepting of divorce, divorce rates tend to be higher. Likewise, in religions that are less accepting of divorce, divorce rates tend to be lower. See Lyngstad & Jalovaara (2010) for a more thorough discussion of divorce risk.

## Divorce Factors

Protective Factors	Risk Factors
• Higher-levels of education	• Children before marriage
• Marrying at older age	• Co-habitation
• Parents remain married	• Live in a society accepting of divorce
• Member of religious group less accepting of divorce	

**Figure 2.** Factors of divorce.

If a couple does divorce, there are specific considerations they should take into account to help their children cope. Parents should reassure their children that both parents will continue to love them and that the divorce is in no way the children's fault. Parents should also encourage open communication with their children and be careful not to bias them against their "ex" or use them as a means of hurting their "ex" (Denham, 2013; Harvey & Fine, 2004; Pescosolido, 2013).

## A “Gray Divorce Revolution”?

In 2013 Brown and Lin referred to a “gray divorce revolution”. The figures certainly seem to support their contention. The rate of divorce had doubled for those aged 50–64 in the twenty years between 1990 and 2010. One in 10 persons who divorced in 1990 was over age 50, by 2010 it was over 1 in 4, accounting for some 25% of all

divorces in the USA. Various explanations have been offered for this phenomenon. The “baby boomers” had divorced in large numbers in early adulthood, and a large number of remarriages within this group also ended in divorce. Remarriages are about 2.5 times more likely to end in divorce than first marriages. People are living longer and are no longer satisfied with relationships deemed insufficient to meet their emotional needs. The shift to companionate marriage in the latter half of the 20th century had followed this segment of the population into midlife, with divorce rates diminishing or stabilizing for other segments of the population.

Socio-emotional selectivity theory would predict that the shift of perspective from time spent to time remaining would predict people valuing experiences and relationships in the present, rather than holding onto memories of the past, or an idealized vision of what might yet come to be. Nevertheless, Cohen (2018) predicts a substantial decline in divorce rates for those who are not part of the “baby boom” generation, and that marriage rates will stabilize once more in subsequent generational cohorts. There has been a marked decline in divorce rates for those under 45 and the link between college education and marriage is now quite pronounced. People are now waiting until later in life to marry for the first time. The average age is now 27 for women and 29 for men, and it is even higher in urban centers like NYC. However, Reeves et al (2016) show that just over half of women with high school diplomas in their 40s are married, with the figures rising to 75% of those women with Bachelor’s degrees. Increasing economic insecurity may have played a part in ensuring that marriage may increasingly be correlated with educational attainment and socioeconomic status rather than cohorts based solely on age.

U.S. households are now increasingly single-person households. The number is reckoned to be in excess of 28% of all households, and may become the most common form in the near future, if trends in Europe are anything to go by. There, the number of one-person households in countries like Denmark and Germany exceeds 40%, with other major European countries like France not far from

reaching that proportion. The number of Americans who are unmarried continues to increases. About 45% of all Americans over the age of 18 are unmarried, in 1960 that number was 28% (US Census, 2017). Around 1 in 4 young adults in the USA today will never marry (Pew, 2014). The diversity of households will continue to increase. Currently, the number of one-person households in Japan and Germany is double that of households with children under 18.

## Remarriage and Repartnering

Middle adulthood seems to be the prime time for remarriage, as the Pew Research Center reported in 2014 that of those aged between 55-64 who had previously been divorced, 67% had remarried. In 1960, it was 55%. Every other age category reported declines in the number of remarriages. Notably, remarriage is more popular with men than women, a gender gap that not only persists, but grows substantially in middle and later adulthood. Cohabitation is the main way couples prepare for remarriage, but even when living together, many important issues are still not discussed. Issues concerning money, ex-spouses, children, visitation, future plans, previous difficulties in marriage, etc. can all pose problems later in the relationship. Few couples engage in premarital counseling or other structured efforts to cover this ground before entering into marriage again.

The divorce rate for second marriages is reckoned to be in excess of 60%, and for third marriages even higher. There is little research in the area of repartnering and remarriage, and the choices and decisions made during the process. A notable exception is that of Brown et al (2019) who offer an overview of the little that there is, and their own conclusions. One important constraint which they note is that men prefer younger women, at least as far as remarriage is concerned. Indeed, the gap in age is often more pronounced in

second marriages than in the first, according to Pew (2014). Allied to the fact that women live, on average, five years longer in the USA, then the pool of available partners shrinks for women. Brown et al (2019), also argue that this is further reinforced by the fact that women have a preference for retaining their autonomy and not playing the role of caregiver again. Perhaps the most interesting aspect of their research is the fact that those who repartner tend to do so quickly, and that longer-term singles are more likely to remain so.

Reviews are mixed as to how happy remarriages are. Some say that they have found the right partner and have learned from mistakes. But the divorce rates for remarriages are higher than for first marriages. This is especially true in stepfamilies for reasons which we have already discussed. People who have remarried tend to divorce more quickly than those first marriages. This may be due to the fact that they have fewer constraints on staying married (are more financially or psychologically independent).

## Factors Affecting Remarriage

The chances of remarrying depend on a number of things. First, it depends on the availability of partners. As time goes by, there are more available women than men in the marriage pool as noted above. Consequently, men are more likely than women to remarry. This lack of available partners is experienced by all women, but especially by African-American women where the ratio of women to men is quite high. Women are more likely to have children living with them, and this diminishes the chance of remarriage as well. And marriage is more attractive for males than females (Seccombe & Warner, 2004). Men tend to remarry sooner (3 years after divorce on average vs. 5 years on average for women).

Many women do not remarry because they do not want to remarry. Traditionally, marriage has provided more benefits to men

than to women. Women typically have to make more adjustments in work (accommodating work life to meet family demands or the approval of the husband) and at home (taking more responsibility for household duties). Education increases men's likelihood of remarrying but may reduce the likelihood for women. Part of this is due to the expectation (almost an unspoken rule) referred to as the "marriage gradient." This rule suggests among couples, the man is supposed to have more education than the woman. Today, there are more women with higher levels of education than before and women with higher levels are less likely to find partners matching this expectation. Being happily single requires being economically self-sufficient and being psychologically independent. Women in this situation may find remarriage much less attractive.

One key factor in understanding some of these issues is the level of continuing parental investment in adult children, and possibly their children. The number of grandparents raising children in the USA is reckoned to be in the vicinity of 2.7 million. In addition, there is the continued support of adult children themselves which can be substantial. The Pew Research document "Helping Adult Children" (2015) gives some indication of the nature and extent of this support, which tends to be even greater in Europe than the USA, with 60% of Italian parents reporting an adult child residing with them most of the year.

## Blended Families

Most academic research on reconstituted or blended families focuses on younger adults and the kind of difficulties that ensue when trying to blend children raised by a different spouse/partner and one or more adults with perhaps different views or experience on how this might be accomplished. All sorts of issues can arise: conflicted loyalties, different attitudes to discipline, role-ambiguity, and the simple fact of a far-reaching change easily perceived as a

disruption on the part of a child. Given the rise of the gray divorce, it is increasingly the case that this age group will encounter later age, or adult children (sometimes called the “boomerang generation”), in the house of their new partners. Such encounters are even more likely given the rise of the so-called “silver surfer” utilizing online dating sites, and the fact that an increasing number of adult children continue to live at home given the increased cost of housing.

There has not been substantial research on recoupling and blended families in later life, but Papernow (2018) notes that all of the factors normally in play with younger children can be just as present, and even exacerbated, by the fact that previous relationships have had an even longer time to grow and solidify. In addition, stepfamilies formed in later life may have very difficult and complicated decisions to make about estate planning and elder care, as well as navigating daily life together, as an increasing number of young adults live at home (“grown but not gone”). Papernow lists five challenges for later-life stepfamilies:

- Stepparents are stuck as outsiders, while parents are the insiders in their relationships with their families.
- Stepchildren struggle with the change, even as adults, as they navigate new dynamics in family gatherings, status, and loyalty issues
- Parenting and discipline issues polarize the parents and stepparents. In general, stepparents want more discipline and are viewed as harsher, while parents want more understanding and are viewed more as the pushover. There are often disagreements about how much support (financial, physical, and emotional) to give older children.
- Stepfamilies must build a new family culture, even after there are already at least two established family cultures coming together.
- Ex-spouses are still part of a stepfamily, and children, even adult children, are worse off when they are involved in the conflict between their parents ex-spouses.

## Try It



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# Psychosocial Development in Late Adulthood



Our ideas about aging, and what it means to be over 50, over 60, or even over 90, seem to be stuck somewhere back in the middle of the 20th century. We still consider 65 as standard retirement age, and we expect everyone to start slowing down and moving aside for the next generation as their age passes the half-century mark. In this section we explore psychosocial developmental theories, including Erik Erikson's theory on psychosocial development in late adulthood, and we look at aging as it relates to work, retirement, and leisure activities for older adult. We'll also examine ways in which people are productive in late adulthood.

## Psychosocial Development in Late Adulthood

### Erikson: Integrity vs. Despair

As a person grows older and enters into the retirement years, the pace of life and productivity tend to slow down, granting a person time for reflection upon their life. They may ask the existential question, "It is okay to have been me?" If someone sees themselves as having lived a successful life, they may see it as one filled with productivity, or according to Erik Erikson, integrity.

Here integrity is said to consist of the ability to look back on one's life with a feeling of satisfaction, peace and gratitude for all that has been given and received. Erikson (1959/1980) notes in this regard:

"The possessor of integrity is ready to defend the dignity of his own lifestyle against all physical and economic treats. For he knows that an individual life is the accidental coincidence of but one life cycle within but one segment of history; and that for him all human integrity stands and falls with the one style of integrity of which he partakes." (Erikson, 1959/1980, p. 104)

Thus, persons derive a sense of meaning (i.e., integrity) through careful review of how their lives have been lived (Krause, 2012). Ideally, however, integrity does not stop here, but rather continues to evolve into the virtue of wisdom. According to Erikson, this is the goal during this stage of life.

If a person see's their life as unproductive, or feel that they did not accomplish their life goals, they may become dissatisfied with life and develop what Erikson calls despair, often leading to depression and hopelessness. This stage can occur out of the sequence when an individual feels they are near the end of their life (such as when receiving a terminal disease diagnosis).

## *Erikson's Ninth Stage*

Erikson collaborate with his wife, Joan, through much of his work on psychosocial development. In the Erikson's older years, they re-examined the eight stages and created additional thoughts about how development evolves during a person's 80s and 90s. After Erik Erikson passed away in 1994, Joan published a chapter on the ninth stage of development, in which she proposed (from her own experiences and Erik's notes) that older adults revisit the previous eight stages and deal with the previous conflicts in new ways, as they cope with the physical and social changes of growing old. In the first eight stages, all of the conflicts are presented in a syntonic-dystonic matter, meaning that the first term listed in the conflict is the positive, sought-after achievement and the second term is the less-desirable goal (ie. trust is more desirable than mistrust and integrity is more desirable than despair). During the ninth stage, Erikson argues that the dystonic, or less desirable outcome, comes to take precedence again. For example, an older adult may become mistrustful (trust vs. mistrust), feel more guilt about not having the abilities to do what they once did (initiative vs. guilt), feel less competent compared with others (industry vs. inferiority) lose a sense of identity as they become dependent on others (identity vs. role confusion), become increasingly isolated (intimacy vs. isolation), feel that they have less to offer society (generativity vs. stagnation). The Eriksons found that those who successfully come to terms with these changes and adjustments in later life make headway towards gerotrancecence, a term coined



**Figure 1.** Erikson emphasized the importance of integrity, and feeling a sense of accomplishment as an older person looks back on their life.

by gerontologist Lars Tornstam to represent a greater awareness of one's own life and connection to the universe, increased ties to the past, and a positive, transcendent, perspective about life.

## Activity Theory

Developed by Havighurst and Albrecht in 1953, activity theory addresses the issue of how persons can best adjust to the changing circumstances of old age—e.g., retirement, illness, loss of friends and loved ones through death, etc. In addressing this issue they recommend that older adults involve themselves in voluntary and leisure organizations, child care and other forms of social interaction. **Activity theory** thus strongly supports the avoidance of a sedentary lifestyle and considers it essential to health and happiness that the older person remains active physically and socially. In other words, the more active older adults are the more stable and positive their self-concept will be, which will then lead to greater life satisfaction and higher morale (Havighurst & Albrecht, 1953). Activity theory suggests that many people are barred from meaningful experiences as they age, but older adults who continue to want to remain active can work toward replacing opportunities lost with new ones.

## Disengagement Theory

**Disengagement theory**, developed by Cumming and Henry in the 1950s, in contrast to activity theory, emphasizes that older adults should not be discouraged from following their inclination towards solitude and greater inactivity. While not completely discounting the importance of exercise and social activity for the upkeep of physical health and personal well being, disengagement theory is

opposed to artificially keeping the older person so busy with external activities that they have no time for contemplation and reflection (Cumming & Henry, 1961). In other words, disengagement theory posits that older adults in all societies undergo a process of adjustment which involves leaving former public and professional roles and narrowing their social horizon to the smaller circle of family and friends. This process enables the older person to die more peacefully, without the stress and distractions that come with a more socially involved life. The theory suggests that during late adulthood, the individual and society mutually withdraw. Older people become more isolated from others and less concerned or involved with life in general. This once popular theory is now criticized as being ageist and used in order to justify treating older adults as second class citizens.

## Continuity Theory

**Continuity theory** suggests as people age, they continue to view the self in much the same way as they did when they were younger. An older person's approach to problems, goals, and situations is much the same as it was when they were younger. They are the same individuals, but simply in older bodies. Consequently, older adults continue to maintain their identity even as they give up previous roles. For example, a retired Coast Guard commander attends reunions with shipmates, stays interested in new technology for home use, is meticulous in the jobs he does for friends or at church, and displays mementos from his experiences on the ship. He is able to maintain a sense of self as a result. People do not give up who they are as they age. Hopefully, they are able to share these aspects of their identity with others throughout life. Focusing on what a person can do and pursuing those interests and activities is one way to optimize and maintain self-identity.

## Generativity in Late Adulthood

People in late adulthood continue to be productive in many ways. These include work, education, volunteering, family life, and intimate relationships. Older adults also experience generativity (recall Erikson's previous stage of generativity vs. stagnation) through voting, forming and helping social institutions like community centers, churches and schools. Psychoanalyst Erik Erikson wrote "I am what survives me."

### *Productivity in Work*



**Figure 2.** Many choose to retire at age 65, but some enjoy a productive work life well beyond their 60s.

Some continue to be productive in work. Mandatory retirement is now illegal in the United States. However, many do choose retirement by age 65 and most leave work by choice. Those who do leave by choice adjust to retirement more easily. Chances are, they have prepared for a smoother

transition by gradually giving more attention to an avocation or interest as they approach retirement. And they are more likely to be financially ready to retire. Those who must leave abruptly for health reasons or because of layoffs or downsizing have a more difficult time adjusting to their new circumstances. Men, especially, can find unexpected retirement difficult. Women may feel less of an identity loss after retirement because much of their identity may have come from family roles as well. But women tend to have poorer retirement funds accumulated from work and if they take their retirement funds in a lump sum (be that from their own or from a deceased

husband's funds), are more at risk of outliving those funds. Women need better financial retirement planning.

Sixteen percent of adults over 65 were in the labor force in 2008 (U. S. Census Bureau 2011). Globally, 6.2 percent are in the labor force and this number is expected to reach 10.1 million by 2016. Many adults 65 and older continue to work either full-time or part-time either for income or pleasure or both. In 2003, 39 percent of full-time workers over 55 were women over the age of 70; 53 percent were men over 70. This increase in numbers of older adults is likely to mean that more will continue to part of the workforce in years to come. (He et al., article, U. S. Census, 2005).

### *Volunteering: Face-to-face and Virtually*

About 40 percent of older adults are involved in some type of structured, face-to-face, volunteer work. But many older adults, about 60 percent, engage in a sort of informal type of volunteerism helping out neighbors or friends rather than working in an organization (Berger, 2005). They may help a friend by taking them somewhere or shopping for them, etc. Some do participate in organized volunteer programs but interestingly enough, those who do tend to work part-time as well. Those who retire and do not work are less likely to feel that they have a contribution to make. (It's as if when one gets used to staying at home, their confidence to go out into the world diminishes.) And those who have recently retired are more likely to volunteer than those over 75 years of age.

New opportunities exist for older adults to serve as virtual volunteers by dialoguing online with others from around their world and sharing their support, interests, and expertise. According to an article from AARP (American Association of Retired Persons), virtual volunteerism has increased from 3,000 in 1998 to over 40,000 participants in 2005. These volunteer opportunities range from helping teens with their writing to communicating with 'neighbors' in villages of developing countries. Virtual volunteering is available

to those who cannot engage in face-to-face interactions and opens up a new world of possibilities and ways to connect, maintain identity, and be productive (Uscher, 2006).

### *Education*

Twenty percent of people over 65 have a bachelors or higher degree. And over 7 million people over 65 take adult education courses (U. S. Census Bureau, 2011). Lifelong learning through continuing education programs on college campuses or programs known as “Elderhostels” which allow older adults to travel abroad, live on campus and study provide enriching experiences. Academic courses as well as practical skills such as computer classes, foreign languages, budgeting, and holistic medicines are among the courses offered. Older adults who have higher levels of education are more likely to take continuing education. But offering more educational experiences to a diverse group of older adults, including those who are institutionalized in nursing homes, can enhance the quality of life.

### *Religious Activities*

People tend to become more involved in prayer and religious activities as they age. This provides a social network as well as a belief system which can combats the fear of death. Religious activities provide a focus for volunteerism and other activities as well. For example, one elderly woman prides herself on knitting prayer shawls that are given to those who are sick. Another serves on the alter guild and is responsible for keeping robes and linens clean and ready for communion.

## *Political Activism*

The elderly are very politically active. They have high rates of voting and engage in letter writing to congress on issues that not only affect them, but on a wide range of domestic and foreign concerns. In the past three presidential elections, over 70 percent of people 65 and older showed up at the polls to vote (U. S. Census Bureau).

### Try It



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## **Attitudes about Aging**

Stereotypes about people of in late adulthood lead many to assume that aging automatically brings poor health and mental decline. These stereotypes are reflected in everyday conversations,

the media and even in greeting cards (Overstreet, 2006). The following examples serve to illustrate.

1) Grandpa, fishing pole in one hand, pipe in the other, sits on the ground and completes a story being told to his grandson with ". . . and that, Jimmy, is the tale of my very first colonoscopy." The message inside the card reads, "Welcome to the gross personal story years." (Shoebox, A Division of Hallmark Cards.)

2) An older woman in a barber shop cuts the hair of an older, dozing man. "So, what do you say today, Earl?" she asks. The inside message reads, "Welcome to the age where pretty much anyplace is a good place for a nap." (Shoebox, A Division of Hallmark Cards.)

3) A crotchety old man with wire glasses, a crumpled hat, and a bow tie grimaces and the card reads, "Another year older? You're at the age where you should start eatin' right, exercisin', and takin' vitamins . . ." The inside reads, "Of course you're also at the age where you can ignore advice by actin' like you can't hear it." (Hallmark Cards, Inc.)



**Figure 3.** Word used to describe the elderly are often negative and biased. Research by the Australian Human Rights Commission polled people on the following question: "Thinking about everything you see and hear in the media (including on TV, online, on the radio and in newspapers and magazines), how does the media portray older people?" Their responses are listed here, with the larger words being listed more often. Retrieved from <https://www.humanrights.gov.au/our-work/chapter-4-role-and-influence-media>.

Of course, these cards are made because they are popular. Age is not revered in the United States, and so laughing about getting older is one way to get relief. The attitudes above are examples of ageism, prejudice based on age. **Ageism** is prejudice and discrimination that is directed at older people. This view suggests that older people are less in command of their mental faculties. Older people are viewed more negatively than younger people on a variety of traits, particularly those relating to general competence and attractiveness. Stereotypes such as these can lead to a self-fulfilling prophecy in which beliefs about one's ability results in actions that make it come true.

Ageism is a modern and predominately western cultural phenomenon—in the American colonial period, long life was an indication of virtue, and Asian and Native American societies view older people as wise, storehouses of information about the past, and deserving of respect. Many preindustrial societies



**Figure 4.** What comes to mind when you think about an elderly person? Do you view this picture of an older gentleman as positive or negative, capable and independent or frail and needing assistance?

observed **gerontocracy**, a type of social structure wherein the power is held by a society's oldest members. In some countries today, the elderly still have influence and power and their vast knowledge is respected, but this reverence has decreased in many places due to social factors. A positive,

optimistic outlook about aging and the impact one can have on improving health is essential to health and longevity. Removing societal stereotypes about aging and helping older adults reject those notions of aging is another way to promote health in older populations.

In addition to ageism, racism is yet another concern for minority populations as they age. The number of blacks above the age if 65 is projected to grow from around 4 million now to 12 million by 2060. Racism towards blacks and other minorities throughout the lifetime results in many older minorities having fewer resources, more chronic health conditions, and significant health disparities when compared against to older white Americans. Racism towards older adults from diverse backgrounds has resulted in them having limited access to community resources such as grocery stores, housing, health care providers, and transportation.

## Elderly Abuse

Nursing homes have been publicized as places where older adults are at risk of abuse. Abuse and neglect of nursing home residents is more often found in facilities that are run down and understaffed. However, older adults are more frequently abused by family members. The most commonly reported types of abuse are financial abuse and neglect. Victims are usually very frail and impaired and perpetrators are usually dependent on the victims for support. Prosecuting a family member who has financially abused a parent is very difficult. The victim may be reluctant to press charges and the court dockets are often very full resulting in long waits before a case is heard. “Granny dumping” or the practice of family members abandoning older family members with severe disabilities in emergency rooms is a growing problem; an estimated 100,000 and 200,000 are dumped each year (Tanne in Berk, 2007).

## Watch It

This clip from the Big Think examines some of the negative prejudices about the elderly.



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You can watch another video from Ashton Applewhite in this [TED talk “Let’s End Ageism.”](#)

## Try It



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## **Relationships in Late Adulthood**

During late adulthood, many people find that their relationships with their adult children, siblings, spouses, or life partners change. Roles may also change, as many are grandparents or great-grandparents, caregivers to even older parents or spouses, or receivers of care in a nursing home or other care facility.

# Grandparenting



**Figure 5.** Grandparenting styles can vary depending on a variety of factors such as relationships, personality, and proximity.

It has become increasingly common for grandparents to live with and raise their grandchildren, or also to move back in with adult children in their later years. According to the U.S. Census Bureau, there were 2.7 million grandparents raising their grandchildren in 2009. The dramatic increase in grandparent-headed households has been attributed to many factors including parental substance abuse.

Grandparenting typically begins in midlife rather than late adulthood, but because people are living longer, they can anticipate being grandparents for longer

periods of time. Cherlin and Furstenberg (1986) describe three styles of grandparents:

1. Remote: These grandparents rarely see their grandchildren. Usually they live far away from the grandchildren, but may also have a distant relationship. Contact is typically made on special occasions such as holidays or birthdays. Thirty percent of the grandparents studied by Cherlin and Furstenberg were remote.

2. Companionate Grandparents: Fifty-five percent of grandparents studied were described as companionate. These grandparents do things with the grandchild but have little

authority or control over them. They prefer to spend time with them without interfering in parenting. They are more like friends to their grandchildren.

3. Involved Grandparents: Fifteen percent of grandparents were described as involved. These grandparents take a very active role in their grandchild's life. The grandchildren might even live with the grandparent. The involved grandparent is one who has frequent contact with and authority over the grandchild.

An increasing number of grandparents are raising grandchildren today. Issues such as custody, visitation, and continued contact between grandparents and grandchildren after parental divorce are contemporary concerns.

## Marriage and Divorce

Most males and females aged 65 and older had been married at some point in their lives. According to the U.S. Census Bureau, 2016 American Community Survey, among the population 65 and older, males were significantly more likely to be married (70 percent) compared with females (44 percent) in the same age group. Even at the oldest age group, 85 and older, 54 percent of males were still married compared with 15 percent of females.

Twelve percent of older men and 15% percent of older women have been divorced and about 6 percent of older adults have never married. Many married couples feel their marriage has improved with time and the emotional intensity and level of conflict that might have been experienced earlier, has declined. This is not to say that bad marriages become good ones over the years, but that those marriages that were very conflict-ridden may no longer be together, and that many of the disagreements couples might have had earlier in their marriages may no longer be concerns. Children have grown and the division of labor in the home has probably been

established. Men tend to report being satisfied with marriage more than do women. Women are more likely to complain about caring for a spouse who is ill or accommodating a retired husband and planning activities. Older couples continue to engage in sexual activity, but with less focus on intercourse and more on cuddling, caressing, and oral sex (Carroll, 2007).

Divorce after long-term marriage does occur, but is not as common as earlier divorces, despite rising divorce rates for those above age 65. Older adults who have been divorced since midlife tend to have settled into comfortable lives and, if they have raised children, to be proud of their accomplishments as single parents. Remarriage is also on the rise for older adults; in 2014, 50% of adults ages 65 and older had remarried, up from 34% in 1960. Men are also more likely to remarry than women.



**Figure 6.** Both divorce and remarriage are on the rise for older Americans.

## Widowhood

With increasing age, women were less likely to be married or divorced but more likely to be widowed, reflecting a longer life expectancy relative to men. About 2 out of 10 women aged 65 to 74 were widowed compared with 4 out of 10 women aged 75 to 84 and 7 out of 10 women 85 and older. More than twice as many women 85 and older were widowed (72 percent) compared to men of the same age (35 percent). The death of a spouse is one of life's most disruptive experiences. It is especially hard on men who lose their wives. Often widowers do not have a network of friends or family members to fall back on and may have difficulty expressing

their emotions to facilitate grief. Also, they may have been very dependent on their mates for routine tasks such as cooking, cleaning, etc.

Widows may have less difficulty because they do have a social network and can take care of their own daily needs. They may have more difficulty financially if their husband's have handled all the finances in the past. They are much less likely to remarry because many do not wish to and because there are fewer men available. At 65, there are 73 men to every 100 women. The sex ratio becomes even further imbalanced at 85 with 48 men to every 100 women (U. S. Census Bureau, 2011).

### *Loneliness or solitude?*

Loneliness is a discrepancy between the social contact a person has and the contacts a person wants (Brehm et al., 2002). It can result from social or emotional isolation. Women tend to experience loneliness as a result of social isolation; men from emotional isolation. Loneliness can be accompanied by a lack of self-worth, impatience, desperation, and depression. This can lead to suicide, particularly in older, white men who have the highest suicide rates of any age group; higher than Blacks, and higher than for females. Rates of suicide continue to climb and peaks in males after age 85 (National Center for Health Statistics, CDC, 2002).

Being alone does not always result in loneliness. For some, it means solitude. Solitude involves gaining self-awareness, taking care of the self, being comfortable alone, and pursuing one's interests (Brehm et al., 2002).

Couples who remarry after midlife, tend to be happier in their marriages than in first marriage. These partners are likely to be more financially independent, have children who are grown, and enjoy a greater emotional wisdom that comes with experience.

## Single, Cohabiting, and Remarried Older Adults

About 6 percent of adults never marry. Many have long-term relationships, however. The never married tend to be very involved in family and care giving and do not appear to be particularly unhappy during late adulthood, especially if they have a healthy network of friends. Friendships tend to be an important influence in life satisfaction during late adulthood. Friends may be more influential than family members for many older adults. According to **socioemotional selectivity theory**, older adults become more selective in their friendships than when they were younger (Carstensen, Fung, & Charles, 2003). Friendships are not formed in order to enhance status or careers, and may be based purely on a sense of connection or the enjoyment of being together. Most elderly people have at least one close friend. These friends may provide emotional as well as physical support. Being able to talk with friends and rely on others is very important during this stage of life.

About 4 percent of older couples chose cohabitation over marriage (Chevan, 1996). The Pew Research Center reported in 2017 that the number of cohabiters over age 50 rose to 4 million from 2.3 million over the decade, and found the number over age 65 doubled to about 900,000. As discussed in our lesson on early adulthood, these couples may prefer cohabitation for financial reasons, may be same-sex couples who cannot legally marry, or couples who do not want to marry because of previous dissatisfaction with marital relationships.

## Elderly and LBGTQ+

There has been a growth of interest

in lesbian, gay, bisexual, transgender, and queer (LGBTQ+) aging in recent years. Many retirement issues for lesbian, gay, bisexual, transgender (LGBT)

and intersex people are unique from their non-LGBTI counterparts and these populations often have to take extra steps addressing their employment, health, legal and housing concerns to ensure their needs are met. Throughout the United States, there are 1.5 million adults over the age of 65 who identify as lesbian, gay, or bisexual, and two million people above the age of 50 who identify as such. That number is expected to double by 2030, as estimated in a study done by the Institute for Multigenerational Health at the University of Washington. While LGBTQ+ people have increasingly become more visible and accepted into mainstream cultures, LGBTQ+ elders and retirees are still considered a newer phenomenon, which creates both challenges and opportunities as they redefine some commonly held beliefs about aging.

LGBTQ+ individuals are less likely to have strong family support systems in place to have relatives to care for them during aging. They are twice as likely to enter old age living as a single person; and two and a half times more likely to live alone. Because institutionalized homophobia as well as cultural discrimination and harassment still exist, they are less likely to access health care, housing, or social services or when they do, find the experience stressful or demeaning. Joel Ginsberg, executive director of the Gay Lesbian Medical Association, asserts “only by pursuing both strategies, encouraging institutional change and encouraging...and empowering individuals to ask for what they want will we end up with quality care for LGBT people.”

These older adults have concerns over health insurance, being able to share living quarters in nursing homes and assisted living residences where staff members tend not to be accepting of homosexuality and bisexuality. SAGE (Senior Action in a Gay Environment) is an advocacy group

working on remedying these concerns. Same-sex couples who have endured prejudice and discrimination through the years and can rely upon one another continue to have support through late adulthood.

LGBTQ+ Aging Centers have opened in several major metropolitan areas with the goal of training long-term care providers about LGBT-specific issues, an area of frequent discrimination. Legislative solutions are available as well: “California is the only state with a law saying the gay elderly have special needs, like other members of minority groups. A new law encourages training for employees and contractors who work with the elderly and permits state financing of projects like gay senior centers.” Twenty states prohibit discrimination in housing and public accommodation on the basis of sexual orientation.

## Older Adults, Caregiving, and Long-Term Care

Older adults do not typically relocate far from their previous places of residence during late adulthood. A minority lives in planned retirement communities that require residents to be of a certain age. However, many older adults live in age-segregated neighborhoods that have become segregated as original inhabitants have aged and children have moved on. A major concern in future city planning and development will be

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**Population rising in different types of multigenerational households**

*In millions*

	2012	2016
Two adult generations	27.4	32.3
Three or more generations	26.5	28.4
Skipped generations	2.9	3.2

Note: Skipped generation households include grandparents and grandchildren younger than 25.  
Source: Pew Research Center analysis of 2012 and 2016 American Community Survey (IPUMS).

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**Figure 7.** More elderly are living in homes with their children or grandchildren.

whether older adults wish to live in age-integrated or age-segregated communities.

Over 60 million Americans, or 19% of the population, lived in multigenerational households, or homes with at least two adult generations. It has become an ongoing trend for elderly generations to move in and live with their children, as they can give them support and help with everyday living.

Most (70 percent) of older adults who require care receive that care in the home. Most are cared for by their spouse, or by a daughter or daughter-in-law. However, those who are not cared for at home are institutionalized. In 2008, 1.6 million out of the total 38.9 million Americans age 65 and older were nursing home residents (U. S. Census Bureau, 2011). Among 65-74, 11 per 1,000 adults aged 65 and older were in nursing homes. That number increases to 182 per 1,000 after age 85. More residents are women than men, and more are Black than white. As the population of those over age 85 continues to increase, more will require nursing home care. Meeting the psychological and social as well as physical needs of nursing home residents is a growing concern. Rather than focusing primarily on food, hygiene, and medication, quality of life for the seniors within these facilities is important. Residents of nursing homes are sometimes stripped of their identity as their personal possessions and reminders of their life are taken away. A rigid routine in which the residents have little voice can be alienating to anyone, but more so for an older adult. Routines that encourage passivity and dependence can be damaging to self-esteem and lead to further deterioration of health. Greater attention needs to be given to promoting successful aging within institutions.

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# Glossary

authoritative parenting: parenting that is both demanding and supportive of the child

authoritarian parenting: parenting style that is high in demandingness and low in support

cohabitation: an arrangement where two people who have not married live together

demandingness: the degree a parent controls their child's behavior

emerging adulthood: life stage extending from approximately ages 18 to 25, during which the foundation of an adult life is gradually constructed in love and work. Primary features include identity explorations, instability, focus on self-development, feeling incompletely adult, and a broad sense of possibilities

filter theory of mate selection: the pool of eligible partners becomes narrower as it passes through filters used to eliminate members of the pool

heterogamy: marriage between people who do not share social characteristics

homogamy: marriage between people who share social characteristics

matching hypothesis: we tend to be attracted to those who are similar to us in age, social class, race, education, physical attractiveness, values, and attitudes

permissive parenting: parenting that is low in demandingness and high in support

proximity: a term for physical nearness which been found to be a significant factor in the development of relationships

reciprocity: we are more likely to like someone if they feel the same way toward us

social exchange theory: people try to maximize rewards and minimize costs in social relationships

uninvolved parenting: parenting that is low in both support and demandingness



# DEATH AND DYING

## *Learning Objectives*

- Examine the leading causes of death in the United States and worldwide
- Explain physiological death
- Describe social and psychological death
- Explain common perceptions and attitudes toward death
- Explain bereavement and types of grief
- Explain Kübler-Ross' stages of loss
- List and describe the stages of grief based on various models
- Explain the philosophy and practice of palliative care
- Describe hospice care
- Summarize Dame Cicely Saunders' writings about total pain of the dying
- Differentiate attitudes toward hospice care based on race and ethnicity
- Describe and contrast types of euthanasia and physician-assisted suicide

*“Everything has to die,” he told her during a telephone conversation.*

*“I want you to know how much I have enjoyed being with you, having you as my friend, and confidant and what a good father you have been to me. Thank you so much.” she told him.*

*“You are entirely welcome.” he replied.*

He had known for years that smoking will eventually kill him. But he never expected that lung cancer would take his life so quickly or be so painful. A diagnosis in late summer was followed with radiation and chemotherapy during which time there were moments of hope interspersed with discussions about where his wife might want to live after his death and whether or not he would have a blood count adequate to let him precede with his next treatment. Hope and despair exist side by side. After a few months, depression and quiet sadness preoccupied him although he was always willing to relieve others by reporting that he 'felt a little better' if they asked. He returned home in January after one of his many hospital stays and soon grew worse. Back in the hospital, he was told of possible treatment options to delay his death. He asked his family members what they wanted him to do and then announced that he wanted to go home. He was ready to die. He returned home. Sitting in his favorite chair and being fed his favorite food gave way to lying in the hospital bed in his room and rejecting all food. Eyes closed and no longer talking, he surprised everyone by joining in and singing "Happy birthday" to his wife, son, and daughter-in-law who all had birthdays close together. A pearl necklace he had purchased 2 months earlier in case he died before his wife's birthday was retrieved and she told him how proud she would be as she wore it. He kissed her once and then again as she said goodbye. He died a few days later.

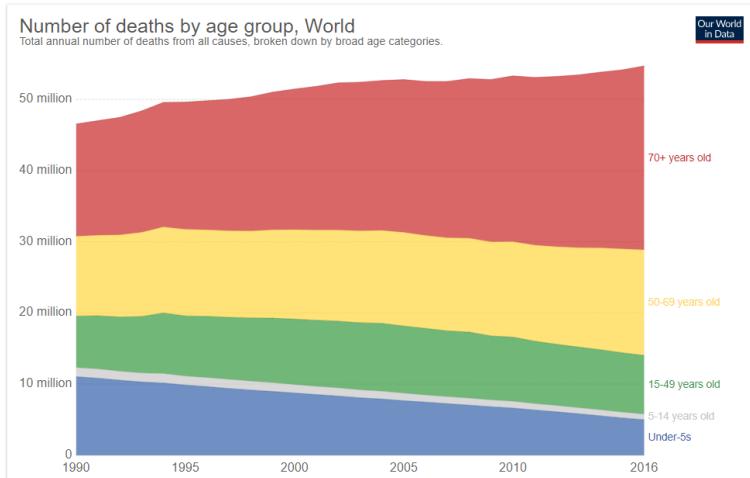
A dying process that allows an individual to make choices about treatment, to say goodbyes and to take care of final arrangements is what many people hope for. Such a death might be considered a "good death." But of course, many deaths do not occur in this way. Not all deaths include such a dialogue with family members or being able to die in familiar surroundings; people may die suddenly and alone, or people may leave home and never return. Children sometimes precede parents in death; wives precede husbands, and the homeless are bereaved by strangers.

In this module, we will look at death and dying, grief and

bereavement, palliative care, and hospice to better understand these last stages of life.



# Understanding Death



**Figure 1.** With advances in health care, nutrition, and technology, fewer young people are dying. With an aging population, this means that the death rate for those above the age of 70 is steadily growing throughout the world.

While death has always been a universal component in the human experience, its prevalence and circumstances have changed over the years. Today, we associate death with the elderly, but looking back even one hundred years ago, death was more common among children and in various age ranges. At that time, it was not uncommon for American families to lose a child during childbirth or infancy. Today less than 10% of all deaths worldwide occur to children under the age of 5, but as recently as 1990, that number was nearly 25%.

The graph above shows data from 2016, which reveals that nearly half of the 55 million global deaths occurred to those aged 70 years or older. There is still a great amount of disparity in death statistics based on location and access to medical care. In the United States,

for example, deaths in that same age group of 70 years old or older accounted for 65% of total deaths. In this section, we'll look more closely at the leading causes of death in the United States and throughout the globe.

## Most Common Causes of Death

### The United States

In 1900, the most common causes of death were infectious diseases, which brought death quickly. Due to advances in healthcare and medicine over the years, this has changed, alongside an increase in average life expectancy. According to national data, chronic diseases, or those in which a slow and steady decline causes health deterioration, were the most common causes of death in the United States in 2016. In addition, accidents were more common than in previous years, often resulting in quick or unexpected death. How might this impact the way we think of death, the way we grieve, and the amount of control a person has over his or her own dying process, in comparison to the infectious diseases that were prevalent in 1900?

The 15 leading causes of death and number of deaths per category in 2016 in the United States are listed below.

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**Table 1. Leading Causes of Death in the United States**

Rank (2016)	Cause of Death	Percentage of total deaths 2016	Percentage of total deaths 2015
1	Heart disease	23.1	23.4
2	Cancer	21.8	22.0
3	Accidents	5.9	5.4
4	Chronic lower respiratory diseases	5.6	5.7
5	Strokes	5.2	5.2
6	Alzheimer's Disease	4.2	4.1
7	Diabetes	2.9	2.9
8	Influenza and Pneumonia	1.9	2.1
9	Kidney Disease	1.8	1.8
10	Suicide	1.6	1.6

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These data reflect both similarities and differences when compared with data from 2004. All of these top causes of death, with the

exception of two—accidents and suicides—continue to be related to physical illnesses. Many are linked at least in part to lifestyle choices, including diet, exercise, and substance abuse. Similarly, many are preventable, to some extent, and some are avoidable if the proper actions are taken. Although these causes of death remain the same as they were in 2004, the order has changed for several of them by 2016. For example, accidents and unintentional injuries shifted from #5 in 2004 to #3 in 2016. Alzheimer’s disease became slightly more common, moving from #7 to #6, as did suicide, moving from #11 to #10. In contrast, strokes became slightly less common, moving from #3 to #5, along with diabetes, which moved from #6 to #7. Septicemia (blood disease) followed a similar trend, shifting from #10 to #11. These changes are likely attributable to a variety of factors, including lifestyle choices, social pressures and norms, and changes in responsibilities and obligations.

## Deadliest Diseases Worldwide

The top 10 deadliest diseases in the world from 2015 are listed below, along with the percentage of deaths for which they were accountable. These reflect disease-related deaths only, and do not reflect deaths due to violence or suicide. Notice there are several similarities between these and the top 15 causes of death in the United States described above.

1. Heart disease – 15.5%
2. Stroke – 11.1%
3. Lower respiratory infections – 5.7%
4. Chronic obstructive pulmonary disease – 5.6%
5. Trachea, bronchus, and lung cancers – 3%
6. Diabetes – 2.8%
7. Alzheimer’s disease and other dementia – 2.7%
8. Dehydration due to diarrheal diseases – 2.5%

9. Tuberculosis – 2.4%
10. Cirrhosis – 2.1%

Similar to the top 15 general causes of death listed above, these remained fairly consistent over the years, despite increases and decreases in each. Deaths caused by heart disease, for example, increased from 2000 by 2.8 million, and deaths caused by stroke increased by .5 million. Lung disorders and cancers also rose by .5 million deaths, while diabetes rose by .6 million. Alzheimer's disease and other forms of dementia also accounted for an additional .3 million deaths. Decreases were seen in lower respiratory infections, which decreased by .2 million, as well as dehydration due to diarrheal diseases, which decreased by .8 million. Furthermore, tuberculosis deaths decreased by 1 million, and cirrhosis deaths decreased by .2 million.

While the top 15 causes of death presented previously were only for the United States, these top 10 deadliest diseases are for the entire world, including both developed and undeveloped nations. Differences in various factors including but not limited to economic status, access to medical care, belief systems, and natural resources play a major role in many of these causes of death, and tend to vary substantially between countries. This presents challenges for the interpretation of this list, making it difficult to determine the true prevalence of each in specific locations.

### WAatch it

Watch this video to learn about another way to measure and compare life expectancies, known as years of life lost, which measures how many years short of the life expectancy people die. Looking at this [these](#) data reveals some of the leading causes of death across the globe.

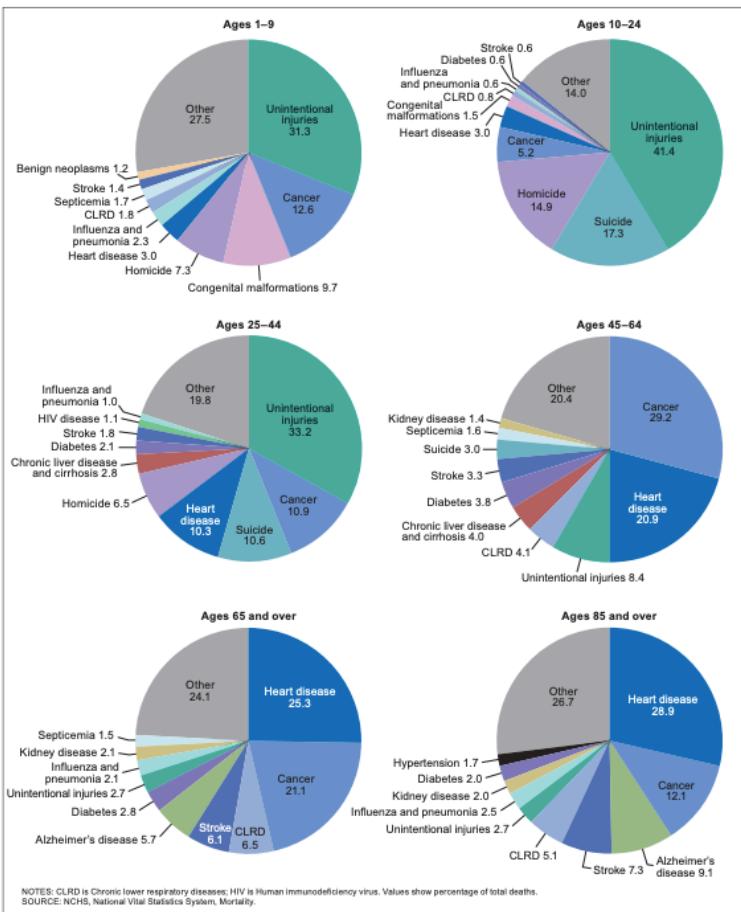


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## A Comparison of Death by Age in the United States

The major causes of death vary significantly among age groups. As you can see in Figure 1, congenital diseases and accidents are major causes of death among children, then accidents and suicides are the leading causes of death between ages 10 and 24. This changes again into middle and late-adulthood, as heart disease and cancer combined cause over 50% of deaths for those aged between 45 and 65.



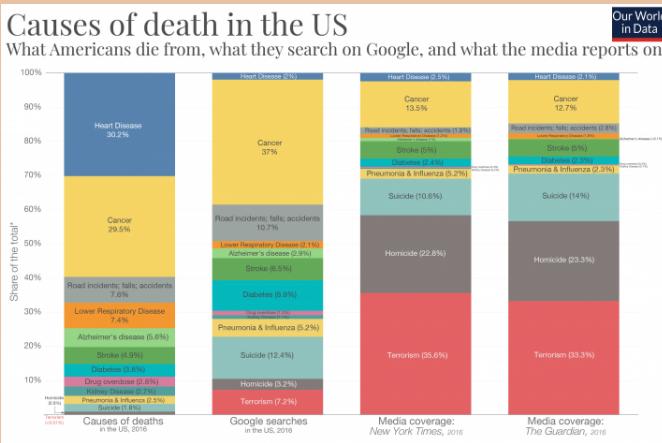
**Figure 2.** Percent distribution of the 10 leading causes of death, by age group: United States, 2016.

Notice that unintentional injuries are the leading cause of death for the widest variety of ages, and recall from the previous section above that accidents were also found to have become increasingly common as causes of death within the United States population between 2000 and 2016. These were the top causes of death for various age groups in the United States in the year 2016:

- < 1 year – Congenital anomalies
- 1 – 4 years – Unintentional Injury
- 5 – 9 years – Unintentional Injury
- 10 – 14 years – Unintentional Injury
- 15 – 24 years – Unintentional Injury
- 25 – 34 years – Unintentional Injury
- 35 – 44 years – Unintentional Injury
- 45 – 54 years – Malignant Neoplasms (cancer)
- 55 – 64 years – Malignant Neoplasms (cancer)
- 65 + – Heart Disease

The causes of death on this list resemble the causes presented in the previous sections, but the breakdown of these causes by age group highlights the true prevalence of each. Unintentional injury (accidents), for example, was found to be the third most common cause of death within the United States population, but it becomes apparent from this list that it is the most common for the widest range of age groups or developmental stages. Heart disease was found to be the most common cause of death overall, but this list shows that it is more restricted to one age group (65+) than other causes. Similarly, cancer was found to be the second most common cause of death within the United States population, but this list reveals that it is most prevalent for individuals in middle to late adulthood.

## *Death and The Media*



**Figure 3.** Actual causes of death compared with media coverage of death.

Interestingly, the things that actually result in death are not often the things we hear about on the news. Because of the availability heuristic—a cognitive shortcut in which people rely heavily on information that is most readily available in their mind, people may erroneously be more afraid of sensational deaths than death by more normal causes, such as heart disease.

## Try It



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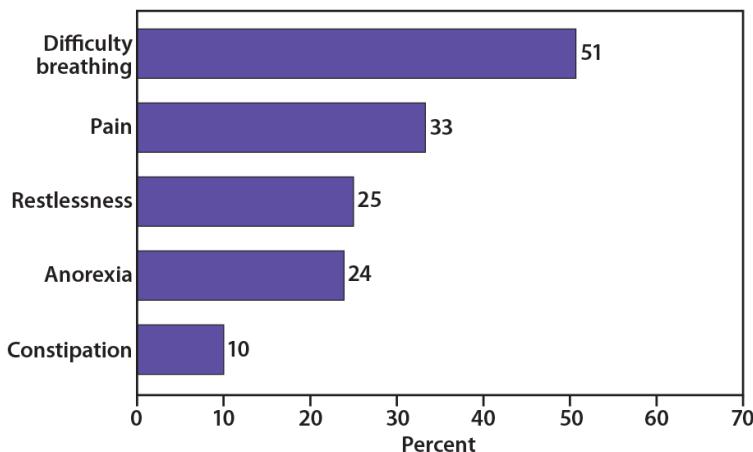
# The Process of Dying

## Aspects of Death

One way to understand death and dying is to look more closely at physiological death, social death, and psychological death. These deaths do not occur simultaneously, nor do they always occur in a set order. Rather, a person's physiological, social, and psychological deaths can occur at different times.

**Functional or Physiological death** occurs when the vital organs no longer function. The digestive and respiratory systems begin to shut down during the gradual process of dying. A dying person no longer wants to eat as digestion slows, the digestive track loses moisture, and chewing, swallowing, and elimination become painful processes. Circulation slows and mottling, or the pooling of blood, may be noticeable on the underside of the body, appearing much like bruising. Breathing becomes more sporadic and shallow and may make a rattling sound as air travels through mucus-filled passageways. **Agonal breathing** refers to gasping, labored breaths caused by an abnormal pattern of brainstem reflex. The person often sleeps more and more and may talk less, although they may continue to hear. The kinds of symptoms noted prior to death in patients under hospice care (care focused on helping patients die as comfortably as possible) are noted below.

## Hospice care patients' symptoms at the last hospice care visit before death, 2007



SOURCE: CDC/NCHS, *Health, United States, 2010*, Figure 40. Data from the National Home and Hospice Care Survey.

**Figure 4.** These are common symptoms reported prior, but close to, death.

When a person is **brain dead**, or no longer has brain activity, they are clinically dead. Physiological death may take 72 or fewer hours. This is different than a **vegetative state**, which occurs when the cerebral cortex no longer registers electrical activity but the brain stems continues to be active. Individuals who are kept alive through life support may be classified this way.

Watch it

This video explains the difference between a vegetative state, a coma, and being brain dead.



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**Social death** begins much earlier than physiological death. Social death occurs when others begin to withdraw from someone who is terminally ill or has been diagnosed with a terminal illness. Those diagnosed with conditions such as AIDS or cancer may find that friends, family members, and even health care professionals begin to say less and visit less frequently. Meaningful discussions may be replaced with comments about the weather or other topics of light conversation. Doctors may spend less time with patients after their prognosis becomes poor. Why do others begin to withdraw? Friends and family members may feel that they do not know what to say or that they can offer no solutions to relieve suffering. They withdraw to protect themselves against feeling inadequate or from having to face the reality of death. Health professionals, trained to heal, may also feel inadequate and uncomfortable facing decline and death. A patient who is dying may be referred to as “circling the drain,” meaning that they are approaching death. People in nursing homes may live as socially dead for years with no one visiting or calling. Social support is important for quality of life and those who experience social death are deprived from the benefits that come from loving interaction with others.

**Psychological death** occurs when the dying person begins to accept death and to withdraw from others and regress into the

self. This can take place long before physiological death (or even social death if others are still supporting and visiting the dying person) and can even bring physiological death closer. People have some control over the timing of their death and can hold on until after important occasions or die quickly after having lost someone important to them. In some cases, individuals can give up their will to live. This is often at least partially attributable to a lost sense of identity. The individual feels consumed by the reality of making final decisions, planning for loved ones—especially children, and coping with the process of his or her own physical death.

Interventions based on the idea of self-empowerment enable patients and families to identify and ultimately achieve their own goals of care, thus producing a sense of empowerment. Self-empowerment for terminally ill individuals has been associated with a perceived ability to manage and control things such as medical actions, changing life roles, and psychological impacts of the illness.

Treatment plans that are able to incorporate a sense of control and autonomy into the dying individual's daily life have been found to be particularly effective in regards to general attitude as well as depression level. For example, it has been found that when dying individuals are encouraged to recall situations from their lives in which they were active decision makers, explored various options, and took action, they tend to have better mental health than those who focus on themselves as victims. Similarly, there are several theories of coping that suggest **active coping** (seeking information, working to solve problems) produces more positive outcomes than **passive coping** (characterized by avoidance and distraction). Although each situation is unique and depends at least partially on the individual's developmental stage, the general consensus is that it is important for caregivers to foster a supportive environment and partnership with the dying individual, which promotes a sense of independence, control, and self-respect.

## Try It



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# Emotions Related to Death



While death is inevitable, our emotional responses and reactions to it vary dramatically. In this section, we'll take a closer look at the emotions that are involved in death, both for the individual who is dying as well as their

family and friends. We'll also learn more about the stages of grief and how to cope with death.

**Bereavement** refers to outward expressions of grief. Mourning and funeral rites are expressions of loss that reflect personal and cultural beliefs about the meaning of death and the afterlife. When asked what type of funeral they would like to have, students responded in a variety of ways; each expressing both their personal beliefs and values and those of their culture.

*I would like the service to be at a Baptist church, preferably my Uncle Ike's small church. The service should be a celebration of life . . . I would like there to be hymns sung by my family members, including my favorite one, "It is Well With my Soul". . At the end, I would like the message of salvation to be given to the attendees and an alter call for anyone who would like to give their life to Christ. . .*

*I want a very inexpensive funeral—the bare minimum, only one vase of flowers, no viewing of the remains and no long period of mourning from my remaining family . . . funeral expenses are extremely overpriced and out of hand. . .*

*When I die, I would want my family members, friends, and other relatives to dress my body as it is usually done in my country, Ghana. Lay my dressed body in an open space in my*

*house at the night prior to the funeral ceremony for my loved ones to walk around my body and mourn for me...*

*I would like to be buried right away after I die because I don't want my family and friends to see my dead body and to be scared.*

*In my family we have always had the traditional ceremony-coffin, grave, tombstone, etc. But I have considered cremation and still ponder which method is more favorable. Unlike cremation, when you are 'buried' somewhere and family members have to make a special trip to visit, cremation is a little more personal because you can still be in the home with your loved ones ...*

*I would like to have some of my favorite songs played . . . I will have a list made ahead of time. I want a peaceful and joyful ceremony and I want my family and close friends to gather to support one another. At the end of the celebration, I want everyone to go to the Thirsty Whale for a beer and Spang's for pizza!*

*When I die, I want to be cremated . . . I want it the way we do it in our culture. I want to have a three day funeral and on the 4th day, it would be my burial/cremation day . . . I want everyone to wear white instead of black, which means they already let go of me. I also want to have a mass on my cremation day.*

*When I die, I would like to have a befitting burial ceremony as it is done in my Igbo customs. I chose this kind of funeral ceremony because that is what every average person wishes to have.*

*I want to be cremated . . . I want all attendees wearing their favorite color and I would like the song "Riders on the Storm" to be played . . . I truly hope all the attendees will appreciate the bass. At the end of this simple, short service, attendees will be given multi-colored helium filled balloons . . . released to signify my release from this earth. . . They will be invited back to the house for ice cream cones, cheese popcorn and a wide variety of other treats and much, much, much rock music . . .*

*I want to be cremated when I die. To me, it's not just my culture to do so but it's more peaceful to put my remains or ashes to the world. Let it free and not stuck in a casket.*

These statements reflect a wide variety of conceptions and attitudes toward death. Culture plays a key role in the development of these conceptions and attitudes, and it also provides a framework within which they are expressed. However, it is important to note that culture does not provide set rules for how death is viewed and experienced, and there tends to be as much variation within cultures as well as between.

### Watch IT

What happens after death? This question has plagued humans since the beginning, and there are countless numbers of philosophies and religions that attempt to explain the next life (if there is one). Some, like Buddhism, Jainism, Hinduism, and Sikhism, support the idea of reincarnation, or the idea that a living being starts a new life in a different physical body or form after each biological death. Some belief systems, such as those in the Abrahamic tradition (Christians, Jews, and Muslims), hold that the dead go to a specific plane of existence after death, as determined by God, or other divine judgment, based on their actions or beliefs during life.

The following video presents philosophical views of death from well-known figures throughout history, including Socrates and Epicurus.



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You can watch this [video, “Social Attitudes Toward Death”](#) to learn more about various perspectives on death.



**Figure 1.** Ceremonies, such as this burial service, are customary in nearly every culture to celebrate or honor those who have passed.

Another important consideration related to conceptions and attitudes toward death involves social attitudes. Death, in many cases, can be the “elephant in the room,” a concept that remains ever present but continues to be taboo for most individuals. Talking openly about death tends to be viewed negatively,

or even as socially inappropriate. Specific social norms and standards regarding death vary between groups, but on a larger societal level, death is usually a topic reserved only for when it becomes absolutely necessary to bring up.

Regardless of variations in conceptions and attitudes toward death, ceremonies provide survivors a sense of closure after a loss. These rites and ceremonies send the message that the death is real and allow friends and loved ones to express their love and duty to those who die. Under circumstances in which a person has

been lost and presumed dead or when family members were unable to attend a funeral, there can continue to be a lack of closure that makes it difficult to grieve and to learn to live with loss. And although many people are still in shock when they attend funerals, the ceremony still provides a marker of the beginning of a new period of one's life as a survivor.

### *The Body After Death*

In most cultures, after the last offices have been performed and before the onset of significant decay, relations or friends arrange for ritual disposition of the body, either by destruction, or by preservation, or in a secondary use. In the U.S., this frequently means either cremation or interment in a tomb.

There are various methods of destroying human remains, depending on religious or spiritual beliefs, and upon practical necessity. Cremation is a very old and quite common custom. For some people, the act of cremation exemplifies the belief of the Christian concept of "ashes to ashes". On the other hand, in India, cremation and disposal of the bones in the sacred river Ganges is common. Another method is sky burial, which involves placing the body of the deceased on high ground (a mountain) and leaving it for birds of prey to dispose of, as in Tibet. In some religious views, birds of prey are carriers of the soul to the heavens. Such practice may also have originated from pragmatic environmental issues, such as conditions in which the terrain (as in Tibet) is too stony or hard to dig, or in which there are few trees around to burn. As the local religion of Buddhism, in the case of Tibet, believes that the body

after death is only an empty shell, there are more practical ways than burial or disposing of a body, such as leaving it for animals to consume. In some fishing or marine communities, mourners may put the body into the water, in what is known as burial at sea. Several mountain villages have a tradition of hanging the coffin in woods.

Since ancient times, in some cultures efforts have been made to slow, or largely stop the body's decay processes before burial, as in mummification or embalming. This process may be done before, during or after a funeral a ceremony. The Toraja people of Indonesia are known to mummify their deceased loved ones and keep them in their homes for weeks, months, and sometimes even years, before holding a funeral service. Read more about that in this [Post Magazine article "Living with Corpses: How Indonesian's Toraja People Deal with Their Dead."](#)

Watch this [TED talk, "The Corpses that Changed my Life" by Caitlin Doughty](#), a mortician and activist, who strives to encourage Americans to overcome their phobia of death and to be more open and involved in dealing with their deceased loved ones.

## Developmental Perspectives on Death

Another key factor in individuals' attitudes towards death and dying is where they are in their own lifespan development. First of all, individuals' attitudes are linked to their cognitive ability to understand death and dying. Infants and toddlers cannot understand death. They function in the present and are aware of loss and separation, as well as disruptions in their routines. They

are also attuned to the emotions and behaviors of significant adults in their lives, so a death of a loved one may cause a young child to become anxious and irritable, cry, or change their sleeping and eating habits.

A preschooler may approach death by asking when a deceased person is coming back and might search for them, thinking that death is temporary and reversible. They may experience brief but intense reactions, such as tantrums, or other behaviors like frightening dreams and disrupted sleep, bedwetting, clinging, and thumbsucking. Similarly, those in early childhood (age 4-7), might also ask where the deceased person is and search for them, as well as regress to younger behaviors. They might also think that the person's death is their own fault, as per their belief in the power of their own thoughts and "magical thinking." Their grief might be expressed through play, rather than verbally.

Those in middle childhood (ages 7-10) begin to see death as final, not reversible, and universal. Developing Piaget's concrete operational thinking, they may engage in personification, seeing death as a human figure who carried their loved one away. They may not really believe that death could happen to them or their family, maybe only to the very old or sick—they may also view death as a punishment. They might act out in school or they might try to keep a bond with the deceased by taking on that person's role or behaviors.

Preadolescents (ages 10-12) try to understand both biological and emotional processes of death. But they try to hide their feelings and not seem different from their peers; they may seem indifferent, or they may have outbursts. As Amsler (2015) noted, children's and teens' experiences with death and what adults tell them about death will also influence their comprehension. As teens develop formal operational thinking (ages 12-18), they can apply logic to abstractions; they spend more time pondering the meaning of life and death and what comes after death. Their understanding of death becomes more complex as they move from a binary logical concept (alive or dead) to a fuzzy logical concept with potential

life after death, for instance. Adolescents are also tasked with integrating these beliefs into their own identity development.

What about attitudes toward death in adulthood? We've learned about adults becoming more concerned with their own mortality during middle adulthood, particularly as they experience the deaths of their own parents. Recently, (Sinoff, 2017) research on thanatophobia, or death anxiety, found differences in death anxiety between elderly patients and their adult children. Death anxiety may entail two different parts—being anxious about death and being anxious about the process of dying. The elderly were only anxious about the process of dying (i.e., suffering), but their adult children were very anxious about death itself and mistakenly believed that their parents were also anxious about death itself. This is an important distinction and can make a significant difference in how medical information and end-of-life decisions are communicated within families. Consistent with this, if elders resolve Erikson's final psychosocial crisis, ego integrity versus despair, in a positive way, they may not fear death, but gain the virtue of wisdom. If they are not feeling desperate ("despair" with time running out), then they may not be anxious or fearful about death.

## Bereavement and Grief

**Grief** is the psychological, physical, and emotional experience and reaction to loss. People may experience grief in various ways, but several theories, such as Kübler-Ross' stages of loss theory, attempt to explain and understand the way people deal with grief. Kübler-Ross' famous theory, which we'll examine in more detail soon, describes five stages of grief: denial, anger, bargaining, depression, and acceptance.

Grief reactions vary depending on whether a loss was anticipated or unexpected, (parents do not expect to lose their children, for example), and whether or not it occurred suddenly or after a long

illness, and whether or not the survivor feels responsible for the death. Struggling with the question of responsibility is particularly felt by those who lose a loved one to suicide. These survivors may torment themselves with endless “what ifs” in order to make sense of the loss and reduce feelings of guilt. And family members may also hold one another responsible for the loss. The same may be true for any sudden or unexpected death, making conflict an added dimension to grief. Much of this laying of responsibility is an effort to think that we have some control over these losses; the assumption being that if we do not repeat the same mistakes, we can control what happens in our life. While grief describes the response to loss, **bereavement** describes the state of being following the death of someone.

As we've already learned in terms of attitudes toward death, individuals' own lifespan developmental stage and cognitive level can influence their emotional and behavioral reactions to the death of someone they know. But what about the impact of the type of death or age of the deceased or relationship to the deceased upon bereavement?

## Death of a child

Death of a child can take the form of a loss in infancy such as miscarriage or stillbirth or neonatal death, SIDS, or the death of an older child. In most cases, parents find the grief almost unbearably devastating, and it tends to hold greater risk factors than any other loss. This loss also bears a lifelong process: one does not get ‘over’ the death but instead must assimilate and live with it. Intervention and comforting support can make all the difference to the survival of a parent in this type of grief but the risk factors are great and may include family breakup or suicide. Feelings of guilt, whether legitimate or not, are pervasive, and the dependent nature of the relationship disposes parents to a variety of problems as they seek

to cope with this great loss. Parents who suffer miscarriage or a regretful or coerced abortion may experience resentment towards others who experience successful pregnancies.

## *Suicide*

Suicide rates are growing worldwide and over the last thirty years there has been international research trying to curb this phenomenon and gather knowledge about who is “at-risk”. When a parent loses their child through suicide it is traumatic, sudden, and affects all loved ones impacted by this child. Suicide leaves many unanswered questions and leaves most parents feeling hurt, angry and deeply saddened by such a loss. Parents may feel they can't openly discuss their grief and feel their emotions because of how their child died and how the people around them may perceive the situation. Parents, family members and service providers have all confirmed the unique nature of suicide-related bereavement following the loss of a child. They report a wall of silence that goes up around them and how people interact towards them. One of the best ways to grieve and move on from this type of loss is to find ways to keep that child as an active part of their lives. It might be privately at first but as parents move away from the silence they can move into a more proactive healing time.

## Death of a spouse

The death of a spouse is usually a particularly powerful loss. A spouse often becomes part of the other in a unique way: many widows and widowers describe losing ‘half’ of themselves. The days, months and years after the loss of a spouse will never be the same and learning to live without them may be harder than one would expect. The grief experience is unique to each person. Sharing and

building a life with another human being, then learning to live singularly, can be an adjustment that is more complex than a person could ever expect. Depression and loneliness are very common. Feeling bitter and resentful are normal feelings for the spouse who is “left behind”. Oftentimes, the widow/widower may feel it necessary to seek professional help in dealing with their new life.

After a long marriage, at older ages, the elderly may find it a very difficult assimilation to begin anew; but at younger ages as well, a marriage relationship was often a profound one for the survivor.

Furthermore, most couples have a division of ‘tasks’ or ‘labor’, e.g., the husband mows the yard, the wife pays the bills, etc. which, in addition to dealing with great grief and life changes, means added responsibilities for the bereaved. Immediately after the death of a spouse, there are tasks that must be completed. Planning and financing a funeral can be very difficult if pre-planning was not completed. Changes in insurance, bank accounts, claiming of life insurance, securing childcare are just some of the issues that can be intimidating to someone who is grieving. Social isolation may also become imminent, as many groups composed of couples find it difficult to adjust to the new identity of the bereaved, and the bereaved themselves have great challenges in reconnecting with others. Widows of many cultures, for instance, wear black for the rest of their lives to signify the loss of their spouse and their grief. Only in more recent decades has this tradition been reduced to shorter periods of time.

## Death of a parent

For a child, the death of a parent, without support to manage the effects of the grief, may result in long-term psychological harm. This is more likely if the adult carers are struggling with their own grief and are psychologically unavailable to the child. There is a critical role of the surviving parent or caregiver in helping the

children adapt to a parent's death. Studies have shown that losing a parent at a young age did not just lead to negative outcomes; there are some positive effects. Some children had an increased maturity, better coping skills and improved communication. Adolescents valued other people more than those who have not experienced such a close loss.

When an adult child loses a parent in later adulthood, it is considered to be "timely" and to be a normative life course event. This allows the adult children to feel a permitted level of grief. However, research shows that the death of a parent in an adult's midlife is not a normative event by any measure, but is a major life transition causing an evaluation of one's own life or mortality. Others may shut out friends and family in processing the loss of someone with whom they have had the longest relationship.

## Death of a sibling

The loss of a sibling can be a devastating life event. Despite this, sibling grief is often the most disenfranchised or overlooked of the four main forms of grief, especially with regard to adult siblings. Grieving siblings are often referred to as the 'forgotten mourners' who are made to feel as if their grief is not as severe as their parents' grief (N.a., 2015). However, the sibling relationship tends to be the longest significant relationship of the lifespan and siblings who have been part of each other's lives since birth, such as twins, help form and sustain each other's identities; with the death of one sibling comes the loss of that part of the survivor's identity because "your identity is based on having them there."

The sibling relationship is a unique one, as they share a special bond and a common history from birth, have a certain role and place in the family, often complement each other, and share genetic traits. Siblings who enjoy a close relationship participate in each other's daily lives and special events, confide in each other, share joys,

spend leisure time together (whether they are children or adults), and have a relationship that not only exists in the present but often looks toward a future together (even into retirement). Surviving siblings lose this “companionship and a future” with their deceased siblings.

When a parent or caregiver dies or leaves, children may have symptoms of psychopathology, but they are less severe than in children with major depression. The loss of a parent, grandparent or sibling can be very troubling in childhood, but even in childhood there are age differences in relation to the loss. A very young child, under one or two, may be found to have no reaction if a carer dies, but other children may be affected by the loss.

At a time when trust and dependency are formed, a break even of no more than separation can cause problems in well-being; this is especially true if the loss is around critical periods such as 8–12 months, when attachment and separation are at their height information, and even a brief separation from a parent or other person who cares for the child can cause distress.

Even as a child grows older, death is still difficult to fathom and this affects how a child responds. For example, younger children see death more as a separation, and may believe death is curable or temporary. Reactions can manifest themselves in “acting out” behaviors: a return to earlier behaviors such as sucking thumbs, clinging to a toy or angry behavior; though they do not have the maturity to mourn as an adult, they feel the same intensity. As children enter pre-teen and teen years, there is a more mature understanding.

Children can experience grief as a result of losses due to causes other than death. For example, children who have been physically, psychologically or sexually abused often grieve over the damage to or the loss of their ability to trust. Since such children usually have no support or acknowledgement from any source outside the family unit, this is likely to be experienced as disenfranchised grief.

Relocations can also cause children significant grief particularly if they are combined with other difficult circumstances such as

neglectful or abusive parental behaviors, other significant losses, etc.

## Loss of a friend or classmate

Children may experience the death of a friend or a classmate through illness, accidents, suicide, or violence. Initial support involves reassuring children that their emotional and physical feelings are normal. Schools are advised to plan for these possibilities in advance.

**Survivor guilt** (or survivor's guilt; also called survivor syndrome or survivor's syndrome) is a mental condition that occurs when a person perceives themselves to have done wrong by surviving a traumatic event when others did not. It may be found among survivors of combat, natural disasters, epidemics, among the friends and family of those who have died by suicide, and in non-mortal situations such as among those whose colleagues are laid off.

### Try It



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**Anticipatory grief** occurs when a death is expected and survivors have time to prepare to some extent before the loss. Anticipatory grief can include the same denial, anger, bargaining, depression, and acceptance experienced in loss one might experience after a death; this can make adjustment after a loss somewhat easier, although a person may then go through the stages of loss again after the death. A death after a long-term, painful illness may bring family members a sense of relief that the suffering is over or the exhausting process of caring for someone who is ill is over.

**Complicated grief** involves a distinct set of maladaptive or self-defeating thoughts, emotions, and behaviors that occur as a negative response to a loss. From a cognitive and emotional perspective, these individuals tend to experience extreme bitterness over the loss, intense preoccupation with the deceased, and a need to feel connected to the deceased. These feelings often lead the grieving individual to engage in problematic behaviors that further prevent positive coping and delay the return to normalcy. He or she may spend excessive amounts of time visiting the deceased person's grave, talking to the deceased person, or trying to connect with the deceased person on a spiritual level, often forgoing other responsibilities or tasks to do so. The extreme nature of these thoughts, emotions, and behaviors separate this type of grief from the normal grieving process.

**Disenfranchised grief** may be experienced by those who have

to hide the circumstances of their loss or whose grief goes unrecognized by others. Loss of an ex-spouse, lover, or pet may be examples of disenfranchised grief.

It has been said that intense grief lasts about two years or less, but grief is felt throughout life. One loss triggers the feelings that surround another. People grieve with varied intensity throughout the remainder of their lives. It does not end. But it eventually becomes something that a person has learned to live with. As long as we experience loss, we experience grief.

There are layers of grief. Initial denial, marked by shock and disbelief in the weeks following a loss may become an expectation that the loved one will walk in the door. And anger directed toward those who could not save our loved one's life, may become anger that life did not turn out as we expected. There is no right way to grieve. A bereavement counselor expressed it well by saying that grief touches us on the shoulder from time to time throughout life.

Grief and mixed emotions go hand in hand. A sense of relief is accompanied by regrets and periods of reminiscing about our loved ones are interspersed with feeling haunted by them in death. Our outward expressions of loss are also sometimes contradictory. We want to move on but at the same time are saddened by going through a loved one's possessions and giving them away. We may no longer feel sexual arousal or we may want sex to feel connected and alive. We need others to befriend us but may get angry at their attempts to console us. These contradictions are normal and we need to allow ourselves and others to grieve in their own time and in their own ways.

The "death-denying, grief-dismissing world" is often the approach to grief in our modern world. We are asked to grieve privately, quickly, and to medicate our suffering. Employers grant us 3 to 5 days for bereavement, if our loss is that of an immediate family member. And such leaves are sometimes limited to no more than one per year. Yet grief takes much longer and the bereaved are seldom ready to perform well on the job. It becomes a clash between life having to continue, and the individual being ready for it to do

so. One coping mechanism that can help smooth out this conflict is called the **fading affect bias**. Based on a collection of similar findings, the fading affect bias suggests that negative events, such as the death of a loved one, tend to lose their emotional intensity at a faster rate than pleasant events. This is believed to help enhance pleasant experiences and avoid the negative emotions associated with unpleasant ones, thus helping the individual return to his or her normal daily routines following a loss.

### *Link to Learning*

Sociologist Nancy Berns explains that in the United States and other western societies, people are encouraged to deal with grief or loss through closure. She contradicts this advice and explains that people do not necessarily need closure in order to “move on.” Watch [Nancy Berns’ TED talk “Beyond Closure”](#) to learn more.

### Try It



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## Stages of Loss

The complex construct of death is associated with a variety of thoughts, emotions, and behaviors, that vary between individuals and groups. To some, death is the final end, when the body ceases to function, with nothing occurring next. To others, death is the start of a new journey, and is its own beginning. These varying viewpoints are shaped by numerous factors related to culture, religion, social norms, personal experiences, and more. It is no surprise then that

multiple theories have been created to understand the occurrence of death on cognitive, emotional, and behavioral levels; each offering different explanations for what individuals go through during death.

## Kübler-Ross' Stages of Loss

**Kübler-Ross (1965)** described five stages of loss experienced by someone who faces the news of their impending death (based on her work and interviews with terminally ill patients). These “stages” are not really stages that a person goes through in order or only once; nor are they stages that occur with the same intensity. Indeed, the process of death is influenced by a person’s life experiences, the timing of their death in relation to life events, the predictability of their death based on health or illness, their belief system, and their assessment of the quality of their own life. Nevertheless, these stages provide a framework to help us to understand and recognize some of what a dying person experiences psychologically. And by understanding, we are more equipped to support that person as they die.

**Denial** is often the first reaction to overwhelming, unimaginable news. Denial, or disbelief or shock, protects us by allowing such news to enter slowly and to give us time to come to grips with what is taking place. The person who receives positive test results for life-threatening conditions may question the results, seek second opinions, or may simply feel a sense of disbelief psychologically even though they know that the results are true.

**Anger** also provides us with protection in that being angry energizes us to fight against something and gives structure to a situation that may be thrusting us into the unknown. It is much easier to be angry than to be sad or in pain or depressed. It helps us to temporarily believe that we have a

sense of control over our future and to feel that we have at least expressed our rage about how unfair life can be. Anger can be focused on a person, a health care provider, at God, or at the world in general. And it can be expressed over issues that have nothing to do with our death; consequently, being in this stage of loss is not always obvious.

**Bargaining** involves trying to think of what could be done to turn the situation around. Living better, devoting self to a cause, being a better friend, parent, or spouse, are all agreements one might willingly commit to if doing so would lengthen life. Asking to just live long enough to witness a family event or finish a task are examples of bargaining.

**Depression** is sadness and sadness is appropriate for such an event. Feeling the full weight of loss, crying, and losing interest in the outside world is an important part of the process of dying. This depression makes others feel very uncomfortable and family members may try to console their loved one. Sometimes hospice care may include the use of antidepressants to reduce depression during this stage.

**Acceptance** involves learning how to carry on and to incorporate this aspect of the life span into daily existence. Reaching acceptance does not in any way imply that people who are dying are happy about it or content with it. It means that they are facing it and continuing to make arrangements and to say what they wish to say to others. Some terminally ill people find that they live life more fully than ever before after they come to this stage.

In some ways, these five stages serve as cognitive defense mechanisms, allowing the individual to make sense of the situation while coming to terms with what is happening. They are, in other words, the mind's way of gradually recognizing the implications of one's impending death and giving him or her the chance to process it. These stages provide a type of framework in which dying is experienced, although it is not exactly the same for every individual in every case.

Since Kübler-Ross presented these stages of loss, several other models have been developed. These subsequent models, in many ways, build on that of Kübler-Ross, offering expanded views of how individuals process loss and grief. While Kübler-Ross' model was restricted to dying individuals, subsequent theories tended to focus on loss as a more general construct. This ultimately suggests that facing one's own death is just one example of the grief and loss that human beings can experience, and that other loss or grief-related situations tend to be processed in a similar way.

### Watch it

Watch the first six minutes of this video to learn more about how the Kübler-Ross model evolved since its inception. The latter half of the video focuses on several other models that focus on how people can deal with the loss of loved one, or with grief in general. While the Kübler-Ross model remains important and useful today, it does not fit everyone's experience with grief, and research continues today to understand how people cope with grief.



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## Other Models on Grief

One such model was presented by Worden (1991), which explained the process of grief through a set of four different tasks that the individual must complete in order to resolve the grief. These tasks included: (a) accepting that the loss has occurred, (b) working through and experiencing the pain associated with grief, (c) adjusting the changes that the loss created in the environment, and (d) moving past the loss on an emotional level.

Another model is that of Parkes (1998), which broke down grief into four stages, including: (a) shock, (b) yearning, (c) despair, and (d) recovery. Although comprised of somewhat different stages than those of Kübler-Ross' model, Parkes' stages still reflected an ongoing process that the individual goes through, each of which was characterized by different thoughts, emotions, and behaviors.

Throughout this process, the individual gradually moves closer to accepting the situation, and being able to continue with his or her daily life to the greatest extent possible.

A different approach was proposed by Stroebe and Shut (1999), which suggested that individuals cope with grief through an ongoing set of processes related to both loss and restoration. The loss-oriented processes included: (a) grief work, (b) intrusion on grief, (c) denying or avoiding changes toward restoration, and (d) the breaking of bonds or ties. The restoration-oriented processes included: (a) attending to life changes, (b) distracting oneself from grief, (c) doing new things, and (d) establishing new roles, identities, and relationships. Since each individual experiences grief and loss differently, in light of personal, cultural, and environmental factors, these processes often occur simultaneously, and not in a set order.

### *Link to Learning*

Visit "[Grief Reactions Over the Life Span](#)" from the [American Counseling Association](#) to consider how various age groups deal with the death of a loved one.

We no longer think that there is a "right way" to experience grief and loss. People move through a variety of stages with different frequency and in different ways. The theories that have been developed to help explain and understand this complex process have shifted over time to encompass a wider variety of situations, as well as to present implications for helping and supporting the individual(s) who are going through it. The following strategies have been identified as effective in the support of healthy grieving:

- **Talk about the death.** This will help the surviving individuals

understand what happened and remember the deceased in a positive way. When coping with death, it can be easy to get wrapped up in denial, which can lead to isolation and lack of a solid support system.

- **Accept the multitude of feelings.** The death of a loved one can, and almost always does, trigger numerous emotions. It is normal for sadness, frustration, and in some cases exhaustion to be experienced.
- **Take care of yourself and your family.** Remembering to keep one's own health and the health of their family a priority can help with moving through each day effectively. Making an conscious effort to eat well, exercise regularly, and obtain adequate rest is important.
- **Reach out and help others dealing with the loss.** It has long been recognized that helping others can enhance one's own mood and general mental state. Helping others as they cope with the loss can have this effect, as can sharing stories of the deceased.
- **Remember and celebrate the lives of your loved ones.** This can be a great way to honor the relationship that was once had with the deceased. Possibilities can include donating to a charity that the deceased supported, framing photos of fun experiences with the deceased, planting a tree or garden in memory of the deceased, or anything else that feels right for the particular situation.

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# Facing Death

In this section, we'll turn our attention from the process of dying to the actual death of the individual. We'll examine various ways in which deliberate death can occur, along with the supportive practices that are available for those who are dying. We will also take a closer look at the cultural and legal implications of end-of-life practices.



## Palliative Care and Hospice

**Palliative care** is an interdisciplinary approach to specialized medical and nursing care for people with life-limiting illnesses. It focuses on providing relief from the symptoms, pain, physical stress, and mental stress at any stage of illness, with a goal of improving the quality of life for both the person and their family. Doctors who specialize in palliative care have had training tailored to helping patients and their family members cope with the reality of the impending death and make plans for what will happen after.

Palliative care is provided by a team of physicians, nurses, physiotherapists, occupational therapists, speech-language pathologists, and other health professionals who work together with the primary care physician and referred specialists or other hospital or hospice staff to provide additional support to the patient. It is appropriate at any age and at any stage in a serious illness and can be provided as the main goal of care or along with curative treatment. Although it is an important part of end-of-life

care, it is not limited to that stage. Palliative care can be provided across multiple settings including in hospitals, at home, as part of community palliative care programs, and in skilled nursing facilities. Interdisciplinary palliative care teams work with people and their families to clarify goals of care and provide symptom management, psychosocial, and spiritual support.

## Hospice

In many other countries, no distinction is made between palliative care and hospice, but in the United States, the terms have different meanings and usages. They both share similar goals of providing symptom relief and pain management, but **hospice care** is a type of care involving palliation without curative intent. Usually, it is used for people with no further options for curing their disease or for people who have decided not to pursue further options that are arduous, likely to cause more symptoms, and not likely to succeed. The biggest difference between hospice and palliative care is the type of illness people have, where they are in their illness especially related to prognosis, and their goals/wishes regarding curative treatment. Hospice care under the Medicare Hospice Benefit requires that two physicians certify that a person has less than six months to live if the disease follows its usual course. This does not mean, though, that if a person is still living after six months in hospice he or she will be discharged from the service.

### *Watch It*

Watch this video to better understand the setting, circumstances, and services associated with hospice care.

[http://plugin.3playmedia.com/show?mf=3935404&p3sdk\\_version=1.10.1&p=20361&pt=375&video\\_id=lFjLGYsOlfU&video\\_target=tpm-plugin-xxjz0071-lFjLGYsOlfU](http://plugin.3playmedia.com/show?mf=3935404&p3sdk_version=1.10.1&p=20361&pt=375&video_id=lFjLGYsOlfU&video_target=tpm-plugin-xxjz0071-lFjLGYsOlfU)

Hospice care involves caring for dying patients by helping them be as free from pain as possible, providing them with assistance to complete wills and other arrangements for their survivors, giving them social support through the psychological stages of loss, and helping family members cope with the dying process, grief, and bereavement. It focuses on five topics: communication, collaboration, compassionate caring, comfort, and cultural (spiritual) care. Most hospice care does not include medical treatment of disease or resuscitation although some programs administer curative care as well. The patient is allowed to go through the dying process without invasive treatments. Family members who have agreed to put their loved one on hospice may become anxious when the patient begins to experience death. They may believe that feeding or breathing tubes will sustain life and want to change their decision. Hospice workers try to inform the family of what to expect and reassure them that much of what they see is a normal part of the dying process.

### Watch It

One aspect of palliative and hospice care is helping dying individuals and their families understand what is happening, and what it may imply for their lives. The

following video provides an example of palliative care in a hospital setting.



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## The History of Hospice

Dame Cicely Saunders was a British registered nurse whose chronic health problems had forced her to pursue a career in medical social work. The relationship she developed with a dying Polish refugee helped solidify her ideas that terminally ill patients needed compassionate care to help address their fears and concerns as well as palliative comfort for physical symptoms. After the refugee's death, Saunders began volunteering at St Luke's Home for the Dying Poor, where a physician told her that she could best influence the treatment of the terminally ill as a physician. Saunders entered medical school while continuing her volunteer work at St. Joseph's. When she achieved her degree in 1957, she took a position there.

Saunders emphasized focusing on the patient rather than the disease and introduced the notion of 'total pain', which included psychological, spiritual, emotional, intellectual, and interpersonal aspects of pain, the physical aspects, and even financial and bureaucratic aspects. This focus on the broad effects of death on

dying individuals and their families has provided the foundation for modern-day practices related to hospice care services.

Saunders disseminated her philosophy internationally in a series of tours of the United States that began in 1963. In 1967, Saunders opened St. Christopher's Hospice. Florence Wald, the Dean of Yale School of Nursing who had heard Saunders speak in America, spent a month working with Saunders there in 1969 before bringing the principles of modern hospice care back to the United States, establishing Hospice, Inc. in 1971. Another early hospice program in the United States, Alive Hospice, was founded in Nashville, Tennessee on November 14, 1975. By 1977 the National Hospice Organization had been formed.

## Try It



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## Hospice Care in Practice

The early established hospices were independently operated and dedicated to giving patients as much control over their own death process as possible. Today, it is estimated that over 40 million individuals require palliative care, with over 78% of them being of low-income status or living in low-income countries. It is also estimated, however, that less than 14% of these individuals receive it. This gap is created by restrictive regulatory laws regarding controlled substance medications for pain management, as well as a general lack of adequate training in regards to palliative care within the health professional community. Although hospice care has become more widespread, these new programs are subjected to more rigorous insurance guidelines that dictate the types and amounts of medications used, length of stay, and types of patients who are eligible to receive hospice care. Thus, more patients are being served, but providers have less control over the services they provide, and lengths of stay are more limited. Patients receive palliative care in hospitals and in their homes.

The majority of patients on hospice are cancer patients and they typically do not enter hospice until the last few weeks prior to death. The average length of stay is less than 30 days and many patients are on hospice for less than a week. Medications are rubbed into the skin or given in drop form under the tongue to relieve the discomfort of swallowing pills or receiving injections. A hospice care team includes a chaplain as well as nurses and grief counselors to assist spiritual needs in addition to physical ones. When hospice is administered at home, family members may also be part, and sometimes the biggest part, of the care team. Certainly, being in familiar surroundings is preferable to dying in an unfamiliar place. But about 60 to 70 percent of people die in hospitals and another 16 percent die in institutions such as nursing homes. Most hospice programs serve people over 65; few programs are available for terminally ill children.

Hospice care focuses on alleviating physical pain and providing spiritual guidance. Those suffering from Alzheimer's also experience intellectual pain and frustration as they lose their ability to remember and recognize others. Depression, anger, and frustration are elements of emotional pain, and family members can have tensions that a social worker or clergy member may be able to help resolve. Many patients are concerned with the financial burden their care will create for family members. And bureaucratic pain is also suffered while trying to submit bills and get information about health care benefits or to complete requirements for other legal matters. All of these concerns can be addressed by hospice care teams.

The Hospice Foundation of America notes that not all racial and ethnic groups feel the same way about hospice care. Certain groups may believe that medical treatment should be pursued on behalf of an ill relative as long as possible and that only God can decide when a person dies. Others may feel very uncomfortable discussing issues of death or being near the deceased family member's body. The view that hospice care should always be used is not held by everyone and health care providers need to be sensitive to the wishes and beliefs of those they serve. Similarly, the population of individuals using hospice services is not divided evenly by race. Approximately 81% of hospice patients are White, while 8.7% are African American, 8.7% are multiracial, 1.9% are Pacific Islander, and only 0.2% are Native American.

### *Watch It*

The following video from the National Hospice and Palliative Care Organization discusses some of its goals regarding the increase in hospice care availability.

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## Euthanasia and Physician-Assisted Suicide

**Euthanasia**, or helping a person fulfill their wish to die, can happen in two ways: voluntary euthanasia and physician-assisted suicide. **Voluntary euthanasia** refers to helping someone fulfill their wish to die by acting in such

a way to help that person's life end. This can be **passive euthanasia** such as no longer feeding someone or giving them food. Or it can be **active euthanasia** such as administering a lethal dose of medication to someone who wishes to die. In some cases, a dying individual who is in pain or constant discomfort will ask this of a friend or family member, as a way to speed up what he or she has already accepted as being inevitable. This can have lasting effects on the individual or individuals asked to help, including but not limited to prolonged guilt.

**Physician-Assisted Suicide:** Physician-assisted suicide occurs when a physician prescribes the means by which a person can end his or her own life. This differs from euthanasia, in that it is mandated by a set of laws and is backed by legal authority. Physician-assisted suicide is legal in the District of Columbia and several states, including Oregon, Hawaii, Vermont, and Washington. It is also legal in the Netherlands, Switzerland, and Belgium.

### Try It



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## *Link to Learning*

Dr. Jack Kevorkian is the individual most commonly associated with physician-assisted suicide. He was a pioneer in this practice, sparking ethical, moral, and legal debates that continue to this day. [This video from the New York Times “Jack Kevorkian and the Right to Die”](#) provides an overview of his work, and his role in the beginning of physician-assisted suicide.

The specific laws that govern the practice of physician-assisted suicide vary between states. Oregon, Vermont, and Washington, for example, require the prescription to come from either a Doctor of Medicine (M.D.) or a Doctor of Osteopathy (D.O.). These state laws also include a clause about the designated medical practitioner being willing to participate in this act. In Colorado, terminally ill individuals have the option to request and self-administer life-ending medication if their medical prognosis gives them six months or less to live. In the District of Columbia and Hawaii, the individual

is required to make two requests within predefined periods of time and also complete a waiting period, and in some cases undergo additional evaluations before the medication can be provided.

A growing number of the population support physician-assisted suicide. In 2000, a ruling of the U.S. Supreme Court upheld the right of states to determine their laws on physician-assisted suicide despite efforts to limit physicians' ability to prescribe barbiturates and opiates for their patients requesting the means to end their lives. The position of the Supreme Court is that the debate concerning the morals and ethics surrounding the right to die is one that should be continued. As an increasing number of the population enters late adulthood, the emphasis on giving patients an active voice in determining certain aspects of their own death is likely.

### *Physician-Assisted Suicide*

In a recent example of physician-assisted death, David Goodall, a 104 year old professor, ended his life by choice in a Swiss clinic in May 2018. Having spent his life in Australia, Goodall traveled to Switzerland to do this, as the laws in his country do not allow for it. Swiss legislation does not openly permit physician-assisted suicide, but it does not forbid an individual with "commendable motives" from assisting another person in taking his or her own life. Watch this video of a news conference with Goodall ["104-year-old Australian Promotes Right to Assisted Suicide"](#) that took place the day before he ended his life with physician-assisted suicide.

Another public advocate for physician-assisted suicide and death with dignity was 29-year old Brittany Maynard,

who after being diagnosed with terminal brain cancer, decided to move to Oregon so that she could end her life with physician-assisted suicide. You can watch this video “[The Brittany Maynard Story](#)” to learn more about Brittany’s story.

## Try It



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# Glossary

active coping: seeking information, working to solve problems; tends to produce more positive outcomes than passive coping

active euthanasia: a type of voluntary euthanasia that is active, such as administering a lethal dose of medication to someone who wishes to die

agonal breathing: gasping, labored breaths caused by an abnormal pattern of brainstem reflex

bereavement: the period of mourning following the death of someone

brain dead: when all brain function ceases to occur

clinical death: when the individual is brain dead

complicated grief: when feelings of grief are persistent and incapacitating

disenfranchised grief: grief that is not acknowledged by others

fading affect bias: idea that negative events, such as the death of a loved one, tend to lose their emotional intensity at a faster rate than pleasant events

functional death: when vital organs no longer function

euthanasia: helping a person fulfill their wish to die

grief: the psychological, physical, and emotional experience and reaction to loss

hospice: a type of care involving palliation without curative intent. Usually, it is used for people with no further options for curing their disease or people who have decided not to pursue further options that are arduous, likely to cause more symptoms, and not likely to succeed

palliative care: an interdisciplinary approach to specialized medical and nursing care for people with life-limiting illnesses. It focuses on providing relief from the symptoms, pain, physical stress, and mental stress at any stage of illness, with a goal of improving the quality of life for both the person and their family

passive coping: characterized by avoidance and distraction; outcomes tend to not be as positive as with active coping

passive euthanasia: a type of voluntary euthanasia that is passive, such as no longer feeding someone or giving them food

physician-assisted suicide: occurs when a physician prescribes the means by which a person can end his or her own life. This differs from euthanasia, in that it is mandated by a set of laws and is backed by legal authority. Physician-assisted suicide is legal in the District of Columbia and several states, including Oregon, Hawaii, Vermont, and Washington. It is also legal in the Netherlands, Switzerland, and Belgium

physiological death: when vital organs no longer function

psychological death: when a dying person begins to accept death and to withdraw from others and regress into the self

social death: when others begin to withdraw from someone who is terminally ill or has been diagnosed with a terminal illness

survivor guilt: mental condition that occurs when a person perceives themselves to have done wrong by surviving a traumatic event when others did not

vegetative state: the cerebral cortex no longer registers electrical activity but the brain stem continues to be active

voluntary euthanasia: helping someone fulfill their wish to die by acting in such a way to help that person's life end



# EXTRA



## Why learn about experiences and emotions related to death and dying?

*“Everything has to die,” he told her during a telephone conversation.*

*“I want you to know how much I have enjoyed being with you, having you as my friend, and confidant and what a good father you have been to me. Thank you so much.” she told him.*

*“You are entirely welcome.” he replied.*

He had known for years that smoking will eventually kill him. But he never expected that lung cancer would take his life so quickly or be so painful. A diagnosis in late summer was followed with radiation and chemotherapy during which time there were moments of hope interspersed with discussions about where his wife might want to live after his death and whether or not he would have a blood count adequate to let him precede with his next treatment. Hope and despair exist side by side. After a few months, depression and quiet sadness preoccupied him although he was always willing to relieve others by reporting that he ‘felt a little better’ if they asked. He



**Figure 1.** Some form of marker is used in cemeteries to identify who is buried there. Headstones such as this one may vary by religion with prayers and symbols, as well as the deceased's name, years of birth and death, and family relationships. More elaborate stones and statues often reflect family prominence or wealth. Photo Courtesy Robert Paul Young

*returned home in January after one of his many hospital stays and soon grew worse. Back in the hospital, he was told of possible treatment options to delay his death. He asked his family members what they wanted him to do and then announced that he wanted to go home. He was ready to die. He returned home. Sitting in his favorite chair and being fed his favorite food gave way to lying in the hospital bed in his room and rejecting all food. Eyes closed and no longer talking, he surprised everyone by joining in and singing “Happy birthday” to his wife, son, and daughter-in-law who all had birthdays close together. A pearl necklace he had purchased 2 months earlier in case he died before his wife’s birthday was retrieved and she told him how proud she would be as she wore it. He kissed her once and then again as she said goodbye. He died a few days later.*

A dying process that allows an individual to make choices about treatment, to say goodbyes and to take care of final arrangements is what many people hope for. Such a death might be considered a “good death.” But of course, many deaths do not occur in this way. Not all deaths include such a dialogue with family members or being able to die in familiar surroundings; people may die suddenly and alone, or people may leave home and never return. Children sometimes precede parents in death; wives precede husbands, and the homeless are bereaved by strangers.

In this module, we will look at death and dying, grief and bereavement, palliative care, and hospice to better understand these last stages of life.

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## Why understand human development during infancy?



Welcome to the story of development from infancy through toddlerhood; from birth until about two years of age. Did you ever wonder how babies grow from tiny, helpless infants into well-developed and independent adults? It doesn't happen overnight, but the process begins right from day one. Infancy is a time when tremendous growth, coordination, and mental development occur. Most infants learn to walk, manipulate objects and can form basic words by the end of infancy. By 5 months a baby will have doubled its birth weight and tripled its birth weight by the first year. By the age of 2, a baby's weight will have quadrupled!

Researchers have given this part of the life span more attention than any other period, perhaps because changes during this time are so dramatic and so noticeable. We know that much of what happens during these years provides a foundation for one's life to come, however, it has been argued that the significance of development during these years has been overstated (Bruer, 1999). Nevertheless, this is a period of life that contemporary educators, healthcare providers, and parents have focused on quite heavily. It is also a time period that can be tricky to study—how do we learn about infant speech when they cannot articulate their thoughts or feelings? For example, through research we know that infants understand speech much earlier than their bodies have matured enough to physically perform it; thus it is evident that their speech patterns develop before the physical growth of their vocal cords is adequate to facilitate speech.

In this module, we will examine the rapid physical growth and development of infants, look at the influences on physical growth and cognitive development, then turn our attention toward emotional and social development in the early years of life. The early years are a time of rapid physical, cognitive, social, and emotional development, which have a direct effect on a baby's overall development and the adult they will become.

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## Why learn about development during early childhood?



The time between a child's second and sixth birthday is a time of rich development in many ways. Children are growing rapidly physically, cognitively, and socially. Children are developing language skills that will help them navigate their world as they prepare to enter school. In fact, a child will go from being able to produce approximately 50 words at age 2 to producing over 2000 words at age 6! The number of words these children understand is even greater!

Children in this stage are changing from intuitive problem solvers into more sophisticated logical problem solvers. Their cognitive skills are increasing at a rapid rate, even though their brain is beginning to lose neurons through the process of synaptic pruning.

Children are also learning to navigate the social world around

them. They are learning about themselves and beginning to develop their own self-concept, while at the same time they are becoming aware that other people have feelings, too. The development that happens in these four years impacts the rest of the child's life in many ways for years to come.

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## Why learn about development during middle childhood?



When Raekwon first started school, he wasn't sure that he would like it. The thought of going to one place for a long time every day seemed sort of boring. Raekwon found that school was actually really exciting, though. He made friends, he got to learn about new things, he got to play at recess, and the food was good! He found that the days actually went by quickly! Now in fourth grade, Raekwon cannot wait for summer to be over so that he can go to school and meet-up with his friends regularly again.

Middle childhood is the period of life that begins when children enter school and lasts until they reach adolescence. Think for a moment about children at this age that you may know. What are their lives like? What kinds of concerns do they express and with

what kinds of activities are their days filled? If it were possible, would you want to return to this period of life? Why or why not?

Early childhood and adolescence seem to get much more attention than middle childhood. Perhaps this is because growth patterns slow at this time, the id becomes hidden during the latent stage, according to Freud, and children spend much more time in schools, with friends, and in structured activities. It may be easy for parents to lose track of their children's development unless they stay directly involved in these worlds. It is important to stop and give full attention to middle childhood to stay in touch with these children and to take notice of the varied influences on their lives in a larger world. After all, they are developing in many incredible ways.

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## Why understand the physical, cognitive, emotional, and social changes that occur during adolescence?



Adolescence is a socially constructed concept. In pre-industrial society, children were considered adults when they reached physical maturity; however, today we have an extended time between childhood and adulthood known as adolescence. Adolescence is the period of development that begins at puberty and ends at early adulthood or emerging adulthood; the typical age range is from 12 to 18 years, and this stage of development has some predictable milestones.

Media portrayals of adolescents often seem to emphasize the problems that can be a part of adolescence. Gang violence, school shootings, alcohol-related accidents, drug abuse, and suicides

involving teens are all too frequently reflected in newspaper headlines and movie plots.<sup>1</sup> In the professional literature, too, adolescence is frequently portrayed as a negative stage of life—a period of storm and stress to be survived or endured (Arnett, 1999).<sup>2</sup>

<sup>2</sup> Adolescents are often characterized as impulsive, reckless and emotionally unstable. This tends to be attributed to “raging hormones” or what is now known as the “teen brain.”

With all of the attention given to negative images of adolescents, the positive aspects of adolescence can be overlooked (APA, 2000). Most adolescents in fact succeed in school, are attached to their families and their communities, and emerge from their teen years without experiencing serious problems such as substance abuse or involvement with violence. Recent research suggests that it may be time to lay the stereotype of the “wild teenage brain” to rest. This research posits that brain deficits do not make teens do risky things; lack of experience and a drive to explore the world are the real factors. Evidence supports that risky behavior during adolescence is a normal part of development and reflects a biologically driven need for exploration – a process aimed at acquiring experience and preparing teens for the complex decisions they will need to make as adults (Romer, Reyna, & Satterthwaite, 2017).<sup>3</sup> Furthermore, McNeely & Blanchard (2009) described the adolescent years as a “time of opportunity, not turmoil!”<sup>4</sup>

1. American Psychological Association (2002). Developing adolescent: A reference for professionals. Retrieved from <https://www.apa.org/pubs/info/brochures/develop>
2. Arnett, J. (1999). Adolescent storm and stress, reconsidered. *American Psychologist*, 54(5), 317-326.
3. Romer, D., Reyna, R.F., & Satterthwaite, T.D. (2017). Beyond stereotypes of adolescent risk taking: Placing the adolescent brain in developmental context. *Developmental Cognitive Neuroscience*, 27, 19-34.
4. McNeely, Clea and Jayne Blanchard. *A Guide to Healthy Adolescent*

Second only to infant development, adolescents experience rapid development in a short period of time. During adolescence, children gain 50% of their adult body weight, experience puberty and become capable of reproducing, and experience an astounding transformation in their brains. All of these changes occur in the context of rapidly expanding social spheres. Adolescents begin to learn about adult responsibilities and adult relationships. The details of growing bodies and the rational and irrational thinking of adolescents are covered in this module. As you will learn, although the physical development of adolescents is often completed by age 18, the brain requires many more years to reach maturity. Understanding these changes developmentally can help both adults and adolescents enjoy this second decade of life.

This module will outline changes that occur during adolescence in three domains: physical, cognitive, and psychosocial. Physical changes associated with puberty are triggered by hormones. Cognitive changes include improvements in complex and abstract thought, as well as development that happens at different rates in distinct parts of the brain and increases adolescents' propensity for risky behavior because increases in sensation-seeking and reward motivation precede increases in cognitive control. Within the psychosocial domain, changes in relationships with parents, peers, and romantic partners will be considered. Adolescents' relationships with parents go through a period of redefinition in which adolescents become more autonomous, and aspects of parenting, such as distal monitoring and psychological control, become more salient. Peer relationships are important sources of support and companionship during adolescence yet can also promote problem behaviors. Same-sex peer groups evolve into mixed-sex peer groups, and adolescents' romantic relationships

Development. Johns Hopkins Bloomberg School of Public Health. Retrieved from [https://www.jhsph.edu/research/centers-and-institutes/center-for-adolescent-health/\\_docs/TTYE-Guide.pdf](https://www.jhsph.edu/research/centers-and-institutes/center-for-adolescent-health/_docs/TTYE-Guide.pdf).

tend to emerge from these groups. Identity formation occurs as adolescents explore and commit to different roles and ideological positions.

No adolescent can truly be understood in separate parts—an adolescent is a “package deal.” Change in one area of development typically leads to, or occurs in conjunction with, changes in other areas. Furthermore, no adolescent can be fully understood outside the context of his or her family, neighborhood, school, workplace, or community or without considering such factors as gender, race, sexual orientation, disability or chronic illness, and religious beliefs (APA, 2002).<sup>5</sup>

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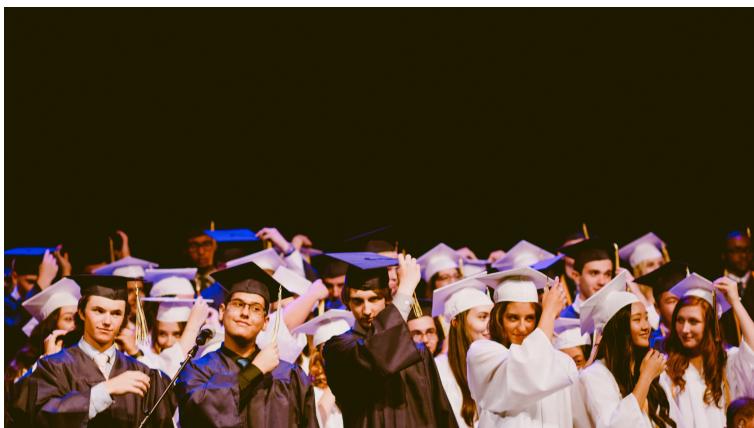
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5. American Psychological Association (2002). Developing adolescent: A reference for professionals.

## Why learn about development changes during early adulthood?



**Figure 1.** Age or another key milestone, such as graduation, may signify the transition to adulthood, but becoming an adult is a process that varies widely across cultures and individuals.

When we are children and teens, we eagerly anticipate each and every birthday, waiting for the next big one...when we'll finally be grown up and have all the freedoms and rights enjoyed by those who are older than us. Indeed, there are opportunities to drive, buy a car, vote, go to college, join the military, drink, move out on our own, date, live together, get married, work, have children, buy a house, and more. This can be an awesome time in our lives, as we tend to be physically and cognitively strong and healthy, we dream and make plans for the future, find people to share our experiences, and try out new roles. It can also be challenging, stressful, and scary as we realize that a lot of responsibility comes with such freedom. We have probably all seen the coffee mugs that proclaim, "Adulting is

hard,” or the t-shirts that announce, “I can’t adult today” (typically worn by young adults!).

Development is a process, and we aren’t suddenly adults at a certain age. In fact, we may even take longer to grow up these days. In this module, we’ll learn about norms, trends, and theories about why certain patterns are forming. It’s even been proposed that there is a new stage of development between adolescence and early adulthood, called “emerging adulthood,” when young people don’t quite feel like they are adults yet and wait longer to join the workforce, move out on their own, get married, and have children. Yet by the end of early adulthood, most of us will have accomplished the important developmental tasks of becoming more autonomous, taking care of ourselves and even others, committing to relationships and jobs/careers, getting married, raising families, and becoming part of our communities. There are, of course, many individual and cultural differences.

Think of your own life. When will you feel like an adult? Or do you already feel like an adult? Why or why not? Did your parents become adults earlier or later in their lives, compared to you?

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## Why learn about human development during middle adulthood?



In 1225, St. Marher observed that “time and tide wait for no man.” It is perhaps during middle adulthood that this observation begins its journey from the subconscious to its realization in the world of the everyday—too old to dream, but too young to die (we hope). However, this stage of life is truly as multi-faceted as any other. It is a period of negotiation, and renegotiation, across the three main facets of human existence: physical, psychological, and social.

Firstly, we will learn about the maintenance, protection, and promotion of physical health in middle adulthood. Our body may be the basis of our identity, of how we see ourselves; and one of the sources of our sense of self and self-worth. Who do you see when, quite literally, you look in the mirror? Secondly, there is the psychological accompaniment to that change. Does an individual

resent, accept, or confront, issues that arise at this time of life? Positive attitudes and mindfulness impact how change is perceived. Thirdly, social engagement and social support are critically important at this stage of life. Social roles may feel limiting, but they can also motivate and energize, and provide impetus to neurological and cognitive acuity. Our concept of self may not be fully ours to shape or control alone. How others see us, and their expectations of us, are age-sensitive as well.

From the developmental perspective, middle adulthood (or midlife) refers to the period of the lifespan between young adulthood and old age. This period lasts from 20 to 40 years depending on how these stages, ages, and tasks are culturally defined. The most common definition by chronological age for middle adulthood is from 40 to 65, but there can be a range of up to 10 years (ages 30–75) on either side of these parameters.

Research on this period of life is relatively sparse, and many aspects of midlife are still relatively unexplored; in fact it may be the least studied period of the lifespan. This is not as surprising as might initially appear. One hundred years ago, life expectancy in the United States was about 47 years. According to the Centers for Disease Control (CDC), in 2017 it stood at 76.1 for males and 81.1 for females. There is variation between groups, and it is generally agreed that this is due to patterns of social and economic inequality which impact health outcomes across the board, not just longevity. There are also variations across cultures. By 2040 it is estimated that the USA will have been reduced to 64th in the world from a position of 43rd in 2016 in mortality rankings (Foreman et al, 2018).<sup>1</sup> Such projections must be placed in context. Longevity in the USA is still projected to rise, albeit more slowly than other developed countries such as Japan and Spain. Rates of so-called “lifestyle diseases” such as HBP, diabetes Type 2, substance abuse, smoking, are difficult to predict with exactness, as is the level of air

1. The Lancet, 2018.

pollution and other toxic environmental contaminants. This is not simply a question of people living longer, it is about the quality of life that they will enjoy, and how individuals and society are equipped to deal with these non-communicable diseases.

In the United States, the large Baby Boom cohort (those born between 1946 and 1964) are now midlife adults, which has led to increased interest in this developmental stage. The U.S. Census (2018) predicts that by 2030, when all boomers will be over 65, they will constitute 21% of the population, up from 15% today. Older adults (those over 65) will outnumber children (those under 18) for the first time in U.S. history by 2035. This will have profound social consequences. This demographic shift is already well advanced in European countries like Germany and Italy. How individuals prepare in middle adulthood for living longer, and being part of an older community, will assume even more critical importance. It may also present a formidable challenge in the areas of health and public policy, as the relative numbers of those who are economically active, or economically inactive, shift.

## Developmental Tasks

Margie Lachman (2004) provides a comprehensive overview of the challenges facing midlife adults, outlining the roles and responsibilities of those entering the “afternoon of life” (Jung). These include:

1. Losing parents and experiencing associated grief.
2. Launching children into their own lives.
3. Adjusting to home life without children (often referred to as the empty nest).
4. Dealing with adult children who return to live at home (known as boomerang children in the United States).
5. Becoming grandparents.

6. Preparing for late adulthood.
7. Acting as caregivers for aging parents or spouses.

Taken singly or together, these can represent a fundamental reorientation of outlook, investment, attitudes, and personal relationships which can present formidable obstacles in terms of social and economic challenges. They may also be affected by circumstances outside our control, at a time that we may have envisaged as planned and under control.

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## Why explain development and change through late adulthood?

Jeanne Calment was a typical woman of her time. Born in Arles, France, in 1875, she lived a rather unremarkable life by most accounts—except for one thing: when she died in 1997 at the age of 122, she was on record as the oldest person to have ever lived. “I just kept getting older and couldn’t help it,” she once said.

So what does the extraordinary life of this ordinary woman have to do with us today? More than you might think. In her day, living to 100 was extremely rare. But today in the United States, people 100 and over represent the second-fastest-growing age group in the country. The fastest? People over 85. Many 65-year-olds today will live well into their 90s.

Furthermore, because of increases in average life expectancy, each new generation can expect to live longer than their parents' generation and certainly longer than their grandparents' generation. Think of it another way: a 10-year-old child today has a 50 percent chance of living to the age of 104. Some demographers have even speculated that the first person ever to live to be 150 is alive today.

As a consequence, it is time for individuals of all ages to rethink



**Figure 1.** Calment celebrating her 121st birthday in 1996. She died in 1997 at age 122.

their personal life plans and consider prospects for a long life. We need to ask ourselves questions such as:

- What do we know about longevity?
- How does our brain and body change during this part of our lifespan?
- How can I age successfully and enjoy life to the fullest?

In this module we will discuss several different domains of physical, cognitive, psychological and social development, as well as research on aging that will help answer these important questions.

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Up until middle childhood, the process of development isn't usually as structured as it becomes during middle childhood, when children enter into the formal education setting. Children in school are taught new ways of thinking about things that they already know—they learn *why* they structure sentences the way they do, they learn new words not through hearing them from others, but from lists provided by teachers or determined by committees. They are even taught how to play sports in specific ways with explicit rules that they get tested on in written form. This is quite a departure from the organic learning of younger years.

Learning in this new way is difficult for some children who have never had to sit down for formal instruction. Structured learning can also shed light on learning difficulties and learning disabilities. Educators today are trained to recognize the signs of many learning disabilities so that children can get help early on in their academic careers.

Developing social relationships in the school environment and keeping up with the changing relationships at home can be difficult tasks for children during middle childhood. Children begin the

period relatively dependent on parents and by the end of the period, children should be able to act autonomously in terms of decision making and caring for themselves. This change may feel quick to parents, and it can be difficult for them to let go of control and to allow the child to make more decisions. In order for the child to continue healthy development, though, that gradual letting go is necessary. Parents should pay close attention to their children to recognize signs that the child is capable of taking on new responsibilities. This will help the child continue to develop their skills, their sense of self, their sense of place in the family, and their sense of place in the greater community.

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Adolescent development is characterized by significant biological, cognitive, and psychosocial changes. Physical changes associated with puberty are triggered by hormones and changes in the brain in which reward-processing centers develop more rapidly than cognitive control systems, making adolescents more sensitive to rewards than to possible negative consequences. Cognitive changes include improvements in complex and abstract thought and moral reasoning. Psychosocial changes are particularly notable as adolescents become more autonomous from their parents, spend more time with peers, and begin exploring romantic relationships and sexuality.

Adjustment during adolescence is reflected in identity formation, which often involves a period of exploration followed by commitments to particular identities. Adolescents' relationships with parents go through a period of redefinition in which adolescents become more autonomous, and aspects of parenting, such as monitoring and psychological control, become more salient.

Peer relationships are important sources of support and companionship during adolescence, yet can also promote problem behaviors. Same-sex peer groups evolve into mixed-sex peer groups, and adolescents' romantic relationships tend to emerge from these groups. Identity formation occurs as adolescents explore and commit to different roles and ideological positions. Despite these generalizations, factors such as country of residence, gender, ethnicity, and sexual orientation shape development in ways that lead to diversity of experiences across adolescence.

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Usually, sometime at the beginning of early childhood, a parent will suddenly realize that their child is no longer a baby. This may happen because the child has physically grown and no longer has baby-like features, but more often it is because all of a sudden the parent realizes that this child is becoming independent. The child might be choosing their outfit for the day, or trying to learn to tie their shoelaces. It usually happens when the child is around two years old, right as early childhood is beginning. This realization that a baby is no longer a baby, that they are a *child*, is just the beginning.

As you have learned in this module, early childhood is a time of great changes for children. While the child is still obviously a child physically, in the 4-year span of early childhood they make great strides in development—by the end of this period a child's brain is nearly adult-sized! At the same time, that nearly adult-sized brain is not ready to perform many adult tasks—there is much learning still to be done in terms of building relationships, moral decision making, and in other cognitive realms. Children go from knowing

around 200 words at age two to being able to communicate in adult-like ways with a vocabulary recognizing over 10,000 words by age five, but think about how many new words you have had to learn just to succeed in this class! Ten thousand words sounds like a lot, but there are over 170,000 words in the English Language, and the average adult knows over 40,000 words.<sup>1</sup>

Parents caring for children in early childhood contribute greatly to development in direct and in indirect ways. Teaching new words, laying-down expectations for behavior in different contexts, choosing daycare centers, helping to build self-confidence, and providing general care for the child all contribute to the child's healthy development through early childhood. Parents and other caretakers should encourage healthy habits in their young children, including making healthy food choices and exercising the body and the brain. They should challenge children to think in new ways and create opportunities for children to learn about themselves so that they can develop a healthy and realistic self-concept.

The learning that happens for children in early childhood is the stepping stone for the next stage, middle childhood. Many of the advances that began in early childhood will continue to be refined in the next stage.

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We have explored the dramatic story of the first two years of life. Rapid physical growth, neurological development, language acquisition, the movement from hands-on to mental learning, an expanding emotional repertoire, and the initial conceptions of self and others make this period of life very exciting. These abilities are shaped into more sophisticated mental processes, self-concepts, and social relationships during the years of early childhood.

Babies begin to learn about the world around them from a very early age. Children's early experiences, meaning the bonds they form with their parents and their first learning experiences, affect their future physical, cognitive, emotional and social development. Various organizations and agencies are dedicated to helping parents (and other caregivers), educators, and health care providers understand the importance of early healthy development. Healthy development means that children of all abilities, including those with special health care needs, are able to grow up where their social, emotional, and educational needs are met. Having a safe

and loving home and spending time with family—playing, singing, reading, and talking—are very important. Proper nutrition, exercise, and sleep can also make a big difference; and effective parenting practices are key to supporting healthy development (CDC, 2019). The need to invest in very young children is important to maximize their future well-being.

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The period of late adulthood, which starts around age 65, is characterized by great changes and ongoing personal development. Older adults face profound physical, cognitive, and social changes, and many figure out strategies for adjusting to them and successfully cope with old age. In late adulthood people begin the decline that will be part of their lives until death. The declines in the senses—vision, hearing, taste, and smell—can have major psychological consequences. Most illnesses and diseases of late adulthood are not particular to old age, but the incidences of cancer and heart disease rise with age. People in late adulthood are also more prone to develop arthritis, hypertension, major neurocognitive disorders, and Alzheimer's disease. Proper diet, exercise, and avoidance of health risks can all lead to overall well-being during old age, and sexuality can continue throughout the lifespan in healthy adults. Thus, many older adults can maintain

physical and mental strength until they die, and their social worlds can also remain as vital and active as they want.

Cognitively, we find that older people adjust quite well to the challenges of aging by adopting new strategies for solving problems and compensating for lost abilities. Although some intellectual abilities gradually decline throughout adulthood, starting at around the age 25, others stay relatively steady. For example, research shows that while fluid intelligence declines with age, crystallized intelligence remains steady, and may even improve, in late adulthood. Many cognitive abilities can be maintained with stimulation, practice, and motivation. Declines in memory affect mainly episodic memory and short-term memory, or working memory. Explanations of memory changes in old age focus upon environmental factors, information processing declines, and biological factors. Due to this perceived loss of abilities by others, older people are often subject to ageism, or prejudice and discrimination against people based on their age.

Socially, many of older adults become adept at coping with the changes in their lives, such as death of a spouse and retirement from work. Erikson calls older adulthood the integrity vs. despair stage. According to Erikson, individuals in late adulthood engage in looking back over their lives, evaluating their experiences and coming to terms with decisions. Other theorists focus on the tasks that define late adulthood and suggest that older people can experience liberation and self-regard. Marriages in older adulthood are generally happy, but the many changes in late adulthood can cause stress which may result in divorce. The death of a spouse has major psychological, social, and material effects on the surviving widow and makes the formation and continuation of friendships highly important. Family relationships are a continuing part of most older people's lives, especially relationships with siblings, children and grandchildren. Friendships, an important source of social support, are not only valued, but needed in late adulthood.

Whether death is caused by genetic programming or by general physical wear-and-tear is an unresolved question. Life expectancy,

which has risen for centuries, varies with gender, race, and ethnicity and new approaches to increasing life expectancy is a growing topic of research.

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At the beginning of this section we referred to the physical, psychological, and social/spiritual [Can we take out the spiritual? I don't see it here...](#) aspects of middle adulthood. These have ranged from minor physiological changes to the way that knowledge of our own mortality may influence how we behave and feel during this part of the lifespan. The central theme might be identified as that of connection—the way that the body and mind are connected, how one can effect the other, exemplified by the way that physical mobility can impact cerebral acuity. In addition, we have learned that we are more selective in regard to interpersonal connection as we age. The positive aspects of relationships, work, and family assume ever greater importance. Hope is ever present, but these sorts of positive and fulfilling connections cannot be postponed indefinitely. Freud believed that civilization was only possible if humans could be induced, or trained, to defer immediate gratification. That was what the process of primary childhood socialization was about. Perhaps middle adulthood demands that

we unlearn this, if only partially. At this stage of the life course, it is now or never. Time is finite and there is none left for indefinite postponement. This is what modern developmental theory has come to understand as mortality salience.

Developmental perspectives have tended to view intimacy and familial relationships as a universal need and function. It has largely left their transformation by divorce, cohabitation and so forth to the sociologists. However, there is now a clearer understanding of the way that structural economic and social change have impacted family structures, often in those least able to resist the disruptive effects of social inequality (Cherlin, 2014). Income and education levels play as large a part in all of this as lifestyle choices, and selectivity. We can only hope that advances in medical science can lead to greater quality of life at this stage of the life course, and that they are made widely available.

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Death is something we all must face at some point. It occurs on physiological, psychological, and social levels, each of which have unique implications for the dying individuals and those close to them. Physiological death occurs as the body ceases to function, eventually rendering the individual unable to engage in basic necessary processes, such as breathing and eating. Psychological death occurs when the individual begins to face his or her impending death and consequently regresses into the self. Societal death occurs when others withdraw from the individual, perhaps unable to effectively cope with the impending loss and its implications. In some cases, palliative care or hospice services are utilized to assist both the dying individual and his or her family throughout the dying process. These services include care for the dying individual, as well as support for the family. In addition, several states allow terminally ill or dying individuals to utilize physician-assisted suicide, in which a medical practitioner prescribes and/or administers life-ending medication at the

individual's request. The utilization of palliative or hospice care services, as well as physician assisted suicide, vary between individuals, cultures, and racial groups, ultimately reflecting the legal, ethical, and moral complexity of both types of practices.

The way in which we view death, talk about it, prepare for it, and what we do when it happens, vary both within and between cultures. Coping with the grief that is associated with death and loss is a complex but necessary process, with a number of strategies for working through the situation in a healthy and positive way. Several theories have been created to explain how grieving happens, some including stages of grief that the individual experiences, others including tasks that the individual must complete. These stages and tasks on their own are neutral, with the potential to facilitate positive coping, but can also become maladaptive if the individual does not work through them in a healthy way. Death is ultimately the end of lifespan development, an occurrence that takes place for everyone at some time. It is the culmination of the other stages of development, many of which play a role in shaping how the individual handles death when the time comes, both for the self and for loved ones.

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As we have learned in this module, young adults are often in the “prime of life,” especially physically and sexually. However, young adults may be engaged in risky behaviors and be particularly vulnerable to injuries, accidents, alcohol and drug use/abuse, sexually transmitted diseases, rape, and suicide. Nutrition and exercise habits in this stage are important since they are associated with health and certain illnesses in middle age. Cognitive and brain development continues, with the influences of education and experience. Young adults may move from formal logical thinking to postformal thinking, becoming better at considering multiple perspectives and contexts, appreciating ambiguity and uncertainty, and using practical experience in making decisions.

Higher education plays an important role for more and more young adults—in this module we examined the connections between education and work and learned about how exploring and choosing one’s career is key during this stage. We saw that establishing intimacy in friendships, romance, and family

relationships is another significant aspect of young adulthood; love, dating, cohabitation, marriage, and becoming parents were all examined.

We were introduced to the major theories of adult development, primarily those of Erikson and Levinson, and we learned about Arnett's "emerging adulthood," a potentially new stage involving the transition from adolescence to young adulthood, with young adults taking on "adult roles" later than expected. By the late thirties, though, most young adults have become independent of their parents/families of origin and are in the throes of adult work, family, and community activities and responsibilities.

Please read the article below for a summary of some of these early adulthood topics, but from a slightly different perspective—that of generations or cohorts. "Millennials" are defined as individuals who were born between 1981 and 1996, and as such, they make up a large part of today's young adults. Read about this group in terms of education, work, finances, living with parents, getting married, and having children, comparing their norms with those of previous generations and potentially future generations of young adults. Consider "emerging adulthood"; how much do you think generation, history, and culture are affecting this observed phenomenon? Will it continue to be part of early adulthood development in the future? Why or why not?

### *Link to Learning: Millennials and other generations*

Read this article "[Millennial life: How young adulthood today compares with prior generations](#)" from the Pew Research Center.

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# Late Adulthood

## *Learning Outcomes*

- Describe age categories of late adulthood

## Defining Late Adulthood: Age or Quality of Life?



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We are considered in late adulthood from the time we reach our mid-sixties until death. Because we are living longer, late adulthood is getting longer. Whether we start counting at 65, as demographers may suggest, there is a greater proportion of people alive in late adulthood than anytime in world history. In this module, we will learn how many people are in late adulthood, how that number is expected to change,

and how life changes and continues to be the same as before in late adulthood. About 13 percent of the U. S. population or 38.9 million Americans are 65 and older (U. S. Census Bureau, 2011). This number is expected to grow to 88.5 million by the year 2050 at which time

people over 65 will make up 20 percent of the population. This group varies considerably and is divided into categories of 65 plus, 85 plus, and centenarians for comparison by the census. Developmentalists, however, divide this population into categories based on health and social well-being. Optimal aging refers to those who enjoy better health and social well-being than average. Normal aging refers to those who seem to have the same health and social concerns as most of those in the population. However, there is still much being done to understand exactly what normal aging means. Impaired aging refers to those who experience poor health and dependence to a greater extent than would be considered normal. Aging successfully involves making adjustments as needed in order to continue living as independently and actively as possible. This is referred to as selective optimization with compensation and means, for example, that a person who can no longer drive, is able to find alternative transportation. Or a person who is compensating for having less energy, learns how to reorganize the daily routine to avoid over-exertion. Perhaps nurses and other allied health professionals working with this population will begin to focus more on helping patients remain independent than on simply treating illnesses. Promoting health and independence are important for successful aging.

### Age Categories: *The young old* 65 to 74

These 18.3 million Americans tend to report greater health and social well-being than older adults. Having good or excellent health is reported by 41 percent of this age group (Center for Disease Control, 2004). Their lives are more similar to those of midlife adults than those who are 85 and older. This group is less likely to require long-term care, to be dependent or to be poor, and more likely to be married, working for pleasure rather than income, and living independently. About 65 percent of men and 50 percent of women

between the ages of 65-69 continue to work full-time (He et al., 2005). Physical activity tends to decrease with age, despite the dramatic health benefits enjoyed by those who exercise. People with more education and income are more likely to continue being physically active. And males are more likely to engage in physical activity than are females. The majority of the young-old continue to live independently. Only about 3 percent of those 65-74 need help with daily living skills as compared with about 22.9 percent of people over 85. (Another way to consider think of this is that 97 percent of people between 65-74 and 77 percent of people over 85 do not require assistance!) This age group is less likely to experience heart disease, cancer, or stroke than the old, but nearly as likely to experience depression (U. S. Census, 2005).

### *The old old* 75 to 84

This age group is more likely to experience limitations on physical activity due to chronic disease such as arthritis, heart conditions, hypertension (especially for women), and hearing or visual impairments. Rates of death due to heart disease, cancer, and cerebral vascular disease are double that experienced by people 65-74. Poverty rates are 3 percent higher (12 percent) than for those between 65 and 74. However, the majority of these 12.9 million Americans live independently or with relatives. Widowhood is more common in this group—especially among women.

### *The oldest old* 85 plus

The number of people 85 and older is 34 times greater than in 1900 and now includes 5.7 million Americans. This group is more likely to require long-term care and to be in nursing homes. However, of the

38.9 million American over 65, only 1.6 million require nursing home care. Sixty-eight percent live with relatives and 27 percent live alone (He et al., 2005; U. S. Census Bureau, 2011).

## *The Centenarians*

There are 104,754 people over 100 years of aging living in the United States. This number is expected to increase to 601,000 by the year 2050 (U. S. Census Bureau, 2011). The majority is between ages 100 and 104 and eighty percent are women. Out of almost 7 billion people on the planet, about 25 are over 110. Most live in Japan, a few live the in United States and three live in France (National Institutes of Health, 2006). These “super-Centenarians” have led varied lives and probably do not give us any single answers about living longer. Jeanne Clement smoked until she was 117. She lived to be 122. She also ate a diet rich in olive oil and rode a bicycle until she was 100. Her family had a history of longevity. Pitskhelauri (in Berger, 2005) suggests that moderate diet, continued work and activity, inclusion in family and community life, and exercise and relaxation are important ingredients for long life.

### Try It

What is the approximate age of onset of late adulthood?

- a. 50

~feedback: Incorrect. This age is considered middle adulthood

b. 65\*

~feedback: Correct. The young old are 65 – 74 years old

c. 75

~feedback: Incorrect. The old old are between 75 and 84

d. 85

~feedback: Incorrect. The oldest old are 85 and older

## The “Graying” of America and the globe:

This trend toward an increasingly aged population has been referred to as the “graying of America.” However, populations are aging in most other countries of the world. (One exception to this is in sub-Saharan Africa where mortality rates are high due to HIV/AIDS) (He et al., 2005). There are 520 million people over 65 worldwide. This number is expected to increase to 1.53 billion by 2050 (from 8 percent to 17 percent of the global population.) Currently, four countries, Germany, Italy, Japan, and Monaco, have 20 percent of their population over 65. China has the highest number of people over 65 at 112 million (U. S. Census Bureau, 2011).

As the population ages, concerns grow about who will provide for those requiring long-term care. In 2000, there were about 10 people 85 and older for every 100 persons between ages 50 and 64. These midlife adults are the most likely care providers for their aging parents. The number of old requiring support from their children

is expected to more than double by the year 2040 (He et al., 2005). These families will certainly need external physical, emotional, and financial support in meeting this challenge.

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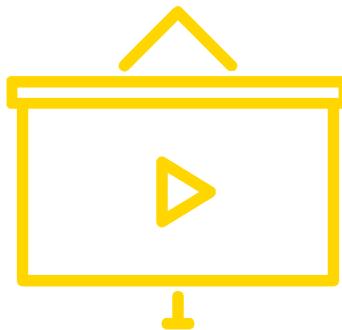
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