



## **Essentials of Life-Span Development, 6<sup>th</sup> Edition**

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### **Chapter Changes**

#### **Chapter 1: Introduction**

- Update on life expectancy in the United States (U.S. Census Bureau, 2017)
- New projections on the significant increase in older adults in the world with estimates of a doubling of the population of individuals 60 and over and a tripling or quadrupling of those 80 and over by 2050 (United Nations, 2015)
- New career profile on Gustavo Medrano, clinical psychologist, who works at the Family Institute at Northwestern University
- Updated data on the percentage of U.S. children and adolescents under 18 years of age living in poverty, including data reported separately for African American and Latino families (Jiang, Granja, & Koball, 2017)
- In the discussion of gender, new content on transgender (Budge & Orovecz, 2018; Budge & others, 2018; SavinWilliams, 2017)

- In the section on contemporary topics, a new topic— technology—was added and discussed, including an emphasis on how pervasive it has become in people’s lives and how it might influence their development
- In the coverage of cross-cultural studies, a recent study of 26 countries indicating that individuals in Chile had the highest life satisfaction, those in Bulgaria and Spain the lowest (Jang & others, 2017)
- New description of the positive outcomes when individuals have pride in their ethnic group, including recent research (Douglass & Umana-Taylor, 2017; Umana-Taylor & others, 2018)
- New description of emerging adulthood and the dramatic increase in studies on this transitional period between adolescence and adulthood (Arnett, 2016a,b)
- Inclusion of a study involving 17-year survival rates of 20- to 93-year-old Korean adults found that when biological age became greater than chronological age, individuals were less likely to have died (Yoo & others, 2017)
- New content involving how the information processing approach often uses a computer analogy to help explain the connection between cognition and the brain, and how humans process information
- New discussion of artificial intelligence and the new emerging field of developmental robotics that examines various developmental topics and issues using robots, including a new photograph of a “human-like” baby robot (Morse & Cangelosi, 2017)
- Updated and expanded coverage of research methods, including the increased use of eye-tracking to assess infants’ perception (van Renswoude & others, 2018), attention (Meng, Uto, & Hashiva, 2017), face processing (Chhaya & others, 2018), autism (Falck-Ytter & others, 2018), and preterm birth effects on language development (Loi & others, 2017).

## **Chapter 2: Biological Beginnings**

- Editing and updating of chapter based on comments by leading expert on prenatal development and birth, Janet DiPietro
- Updated and expanded discussion of genome-wide association studies, including research on autism (Ramswami & Geschwind, 2018), attention deficit hyperactivity disorder (Sanchez-Reige & others, 2018), cancer (SuchestonCampbell & others, 2018), obesity (Amare & others, 2017), and Alzheimer disease (Liu & others, 2018)
- Updated and expanded research on how exercise, nutrition, and respiration can modify the expression of genes (Kader & others, 2018; Poulsen & others, 2018)
- New coverage of the process of methylation, in which tiny atoms attach themselves to the outside of a gene. Researchers have found that exercise, diet, and tobacco use can change whether a gene is expressed or not through the methylation process (Castellano-Castillo & others, 2018; Martin & Fry, 2018).
- Inclusion of recent research indicating that methylation may be involved in depression (Crawford & others, 2018), breast cancer (Maier & others, 2018), and attention deficit hyperactivity disorder (Kim & others, 2018)
- Updated and expanded research on gene-gene interaction to include alcoholism (Chen & others, 2017), obesity (Bordoni & others, 2017), type 2 diabetes (Saxena, Srivastaya, & Banergee, 2018), cardiovascular disease (De & others, 2017), and Alzheimer disease (Yin & others, 2018)
- Inclusion of recent research in which a higher level maternal responsivity to children with fragile X syndrome’s adaptive behavior improved the children’s communication skills (Warren & others, 2017)
- New content on the number of children born worldwide with sickle-cell anemia and how stem cell transplantation is being explored in the treatment of infants with sickle-cell anemia (Azar & Wong, 2017)
- Updated description of how research now supports the use of hydroxyurea therapy for infants with sickle cell anemia beginning at 9 months of age (Nevitt, Jones, & Howard, 2017)

- New career profile on Jennifer Leonhard, genetic counselor
- New content on fertility drugs being more likely to produce multiple births than in vitro fertilization (March of Dimes, 2017)
- New coverage of a recent national study in which low birthweight and preterm birth were significantly higher in assisted-reproduction technology conceived infants (Sunderam & others, 2017)
- Updated data on the average length and weight of the fetus at different points in prenatal development, including revisions involving these data in Figure 8
- New commentary about neurogenesis being largely complete by about the end of the fifth month of prenatal development (Keunen, Counsell, & Benders, 2017)
- Discussion of a recent meta-analysis of 15 studies that concluded smoking during pregnancy increases the risk of children having ADHD and that the risk is greater if their mother is a heavy smoker (Huang & others, 2018)
- New content about a recent large-scale U.S. study in which 11.5 percent of adolescent and 8.7 percent of adult pregnant women reported using alcohol in the previous month (Oh & others, 2017)
- Description of recent research in which daughters whose mothers smoked during their pregnancy were more likely to subsequently smoke during their own pregnancy (Ncube & Mueller, 2017)
- Coverage of a recent study that found despite the plethora of negative outcomes for maternal smoking during pregnancy, 23 percent of pregnant adolescents and 15 percent of adult pregnant women reported using tobacco in the previous month (Oh & others, 2017)
- Inclusion of recent research in which cocaine use during pregnancy was associated with impaired connectivity of the thalamus and prefrontal cortex in newborns (Salzwedel & others, 2017)
- Discussion of recent research indicating that cocaine use by pregnant women is linked to self-regulation problems at age 12 (Minnes & others, 2016)
- New research indicating that pregnant women have increased their use of marijuana in recent years (Brown & others, 2016)
- Coverage of the recent concern that marijuana use by pregnant women may further increase given the increasing number of states that are legalizing marijuana (Chasnoff, 2017)
- New section, “Synthetic Opioids and Opiate-Related Pain Killers,” that discusses the increasing use of these substances by pregnant women and their possible harmful outcomes for pregnant women and their offspring (Haycraft, 2018; National Institute of Drug Abuse, 2018)
- New description of recent research indicating that prenatal mercury exposure in fish is linked to reduced placental and fetal growth, as well as impaired neuropsychological development (Jeong & others, 2017; Llop & others, 2017; Murcia & others, 2016)
- Revised content on fish consumption by pregnant women, who are now being advised to increase their fish consumption, especially eating more low-mercury content fish such as salmon, shrimp, tilapia, and cod (American Pregnancy Association, 2018)
- Inclusion of recent research that revealed maternal prenatal stress and anxiety were linked to lower levels of infants’ self-regulation (Korja & others, 2017)
- Discussion of a recent study that found when fetuses were exposed to serotonin-based antidepressants, they were more likely to be born preterm (Podrebarac & others, 2017)
- Description of a recent research review that concluded tobacco smoking is linked to impaired male fertility and increases in DNA damage, aneuploidy (abnormal number of chromosomes in a cell), and mutations in sperm (Beal, Yauk, & Marchetti, 2017)
- Discussion of a recent research review in which participation in CenteringPregnancy increased initiation of breast feeding by 53 percent overall and by 71 percent in African American women (Robinson, GarnierVillarreal, & Hanson, 2018)

- Discussion of a recent study that revealed regular exercise by pregnant women was linked to more advanced development in the neonatal brain (Laborte-Lemoyne, Currier, & Ellenberg, 2017)
- Inclusion of recent research in which two weekly 70-minute yoga sessions reduced pregnant women's stress and enhanced their immune system functioning (Chen & others, 2017)
- New main heading, "Normal Prenatal Development," that includes a description of how most of the time prenatal development occurs in a normal manner
- Coverage of a recent Swedish study that found women who gave birth in water had fewer vaginal tears, shorter labor, needed fewer drugs for pain relief and interventions by medical personnel, and rated their birth experience more positive than women who had conventional spontaneous vaginal births (Ulfsdottir, Saltvedt, & Gerogesson, 2018)
- Inclusion of recent studies in which massage reduced women's pain during labor (Gallo & others, 2018; Shahoei & others, 2018; Unalmis Erdogan, Yanikkerem, & Goker, 2018)
- Update on the percentage of U.S. births that take place in hospitals, at home, and in birthing centers and the percentage of babies born through cesarean delivery (Martin & others, 2017)
- Update on the percentage of births in the United States in which a midwife is involved (Martin & others, 2017)
- New description of global cesarean delivery rates with the Dominican Republic and Brazil having the highest rates (56 percent) and New Zealand and the Czech Republic the lowest (26 percent) (McCullough, 2016). The World Health Organization recommends a cesarean rate of 10 percent or less.
- Revised and updated content on cesarean delivery to include the two most common reasons of why it is carried out: failure to progress through labor and fetal distress
- Updated weights for classification as a low birth weight baby, a very low birth weight baby, and an extremely low birth weight baby
- Updated data on the percentage of births in the United States that are preterm, low birth weight, and cesarean section (Martin & others, 2017)
- Description of recent research indicating that extremely preterm and low birth weight infants have lower executive function, especially in working memory and planning (Burnett & others, 2018)
- Inclusion of arecent research that revealed kangaroo care was effective in reducing neonatal pain (Mooney-Leber & Brummelte, 2017)
- Discussion of a longitudinal study in which the nurturing positive effects of kangaroo care with preterm and low birth weight infants at one year of age were still present 20 years later in a number of positive developmental outcomes (Charpak & others, 2018)
- Coverage of a recent study that revealed worsening or minimal improvement in sleep problems from 6 weeks to 7 months postpartum were associated with increased depressive symptoms (Lewis & others, 2018)
- Description of recent research that found women who had a history of depression were 20 times more likely to develop postpartum depression than women who had no history of depression (Silverman & others, 2017)
- Inclusion of recent research in which mothers' postpartum depression, but not generalized anxiety, was linked to their children's emotional negativity and behavior problems at two years of age (Prenoveau & others, 2017)
- Coverage of a recent meta-analysis that concluded that physical exercise during the postpartum period is a safe strategy for reducing postpartum depressive symptoms (Poyatos-Leon & others, 2017)
- Discussion of a recent study that found depressive symptoms in mothers and fathers were linked to impaired bonding with their infant in the postpartum period (Kerstis & others, 2016)

### **Chapter 3: Physical and Cognitive Development in Infancy**

- Revisions based on feedback from leading children’s nutrition expert, Maureen Black, and leading children’s motor development expert, Karen Adolph
- New discussion of how infant growth is often not smooth and continuous but rather is episodic, occurring in spurts (Adolph, 2018; Lampl & Schoen, 2017)
- Description of a recent study in which sleep sessions lasted approximately 3.5 hours during the first few months and increased to about 10.5 hours from 3 to 7 months (Mindell & others, 2016)
- New commentary about how many mothers today are providing their babies with “tummy time” to prevent a decline in prone skills that can occur because of the “back to sleep movement” to prevent SIDS
- Discussion of a recent research review that revealed a positive link between infant sleeping and cognitive functioning, including memory, language, and executive function (Tham, Schneider, & Broekman, 2017)
- Updated data on the continuing increase in breast feeding by U.S. mothers (Centers for Disease Control and Prevention, 2016)
- Updated support for the role of breastfeeding in reducing a number of disease risks for children and their mothers (Bartick & others, 2017)
- Inclusion of a recent research review indicating that breastfeeding is not associated with a reduced risk of allergies in young children (Heinrich, 2017)
- Description of recent research indicating a reduction in hospitalization for breastfed infants and breastfeeding mothers for a number of conditions (Bartick & others, 2018)
- Discussion of a recent study that found a small increase in intelligence for children who had been breastfed (Bernard & others, 2017)
- Description of recent research in which introduction of vegetables between 4 to 5 months of age was linked with a lower level of infant fussy eating at 4 years of age than when they were introduced after 6 months (de Barse & others, 2017)
- New career profile on Dr. Faize Mustafa-Infante, pediatrician, who especially is passionate about preventing obesity in children
- Discussion of a recent study that examined a number of predictors of motor milestones in the first year (Flensburg-Madsen & Mortensen, 2017)
- Revision of the nature/nurture section in the content on perceptual development to better reflect the Gibsons’ view
- Expanded and updated criticism of the innate view of the emergence of infant morality with an emphasis on the importance of infants’ early interaction with others and later transformation through language and reflective thought (Carpendale & Hammond, 2016)
- Coverage of a recent study in which hand-eye coordination involving connection of gaze with manual action on objects rather than gaze following alone predicted joint attention (Yu & Smith, 2017)
- New description of Andrew Meltzoff’s (2017) view that infants’ imitation informs us about their processing of social events and contributes to rapid social learning
- Inclusion of some revisions and updates based on feedback from leading expert Roberta Golinkoff and Virginia Marchman
- Revised definition of infinite generativity to include comprehension as well as production
- New opening commentary about the nature of language learning and how it involves comprehending a sound system (or sign system for individuals who are deaf), the world of objects, actions, and events, and how units such as words and grammar connect sound and world (Israel, 2019; Mithun, 2019)
- Revised definition of infinite generativity to include comprehension as well as production
- Expanded description of how statistical regularity of information is involved in infant word learning (Pace & others, 2016)
- Expanded discussion of statistical learning, including how infants soak up statistical regularities around them merely through exposure to them (Aslin, 2017)

- New research on babbling onset predicting when infants would say their first words (McGillion & others, 2017a)
- New commentary on why gestures such as pointing promote further advances in language development
- New content on the vocabulary spurt and how it involves the increase in the pace at which words are learned
- Expanded descriptions of the functions that child-directed speech serves, including providing infants with information about their native language and heightening differences with speech directed to adults (Golinkoff & others, 2015)
- Coverage of recent research in which child-directed speech in a one-to-one social context for 11- to 14-month-olds was related to productive vocabulary at 2 years of age for Spanish-English bilingual infants for both languages and each language independently (RamirezEsparza, Garcia-Sierra, & Kuhl, 2017)
- Inclusion of a recent study that revealed both full-term and preterm infants who heard more caregiver talk based on all-day recordings at 16 months of age had better language skills at 18 months of age (Adams & others, 2018)
- New discussion of recent research in several North American urban areas and the small island of Tanna in the South Pacific Ocean that found that fathers in both types of contexts engaged in child-directed speech with their infants (Broesch & Bryant, 2017)
- New emphasis on the importance of social cues in infant language learning (Ahun & others, 2018; McGillion & others, 2017b; Pace & others, 2016)
- Revised definitions of recasting, expanding, and labeling
- New content on the American Association of Pediatrics (2016) recent position statement on co-viewing of videos indicating that infants can benefit when parents watch videos with them and communicate with them about the videos
- Expanded coverage of how parents can facilitate infants' and toddlers' language development

#### **Chapter 4: Socioemotional Development in Infancy**

- Edits made to chapter based on feedback from leading expert Joan Grusec
- Expanded and updated coverage of the brain's role in infant emotional development (Bell & others, 2018; Johnson, 2018; Tottenham, 2017)
- New introductory comments about the important role that cognitive processes, in addition to biological and experiential influences, play in children's emotional development, both in the moment and across childhood (Bell, Diaz, & Liu, 2018)
- Discussion of a recent study in which maternal sensitivity was linked to lower levels of infant fear (Gartstein, Hancock, & Iverson, 2017)
- Description of a recent study that revealed excessive crying in 3-month-olds doubled the risk of behavioral, hyperactive, and mood problems at 5 to 6 years of age (Smarius & others, 2017)
- Inclusion of a recent study in which maternal sensitivity was linked to better emotional self-regulation in 10-month-old infants (Frick & others, 2018)
- Coverage of a recent study that found depressed mothers rocked and touched their crying infants less than non-depressed mothers did (Esposito & others, 2017a)
- New description of a study in which young infants with a negative temperament used fewer attention regulation strategies while maternal sensitivity to infants was linked to more adaptive emotion regulation (Thomas & others, 2017)
- Description of a recent study that revealed if parents had a childhood history of behavioral inhibition, their children who also had a high level of behavioral inhibition were at risk for developing anxiety disorders (Stumper & others, 2017)

- New research that found positive affectivity, surgency, and self-regulation capacity assessed at 4 months of age was linked to school readiness at 4 years of age ( Gartstein, Putnam, & Kliwer, 2016)
- Discussion of recent studies indicating a lower level of effortful control and self-regulation capacity in early childhood were linked to a higher level of ADHD symptoms later in childhood (Willoughby, Gottfredson, & Stifter, 2017) and adolescence (Einziger & others, 2017)
- Expanded and updated content on the increasing belief that babies are socially smarter than used to be thought, including information about Amanda Woodward and her colleagues' (Krough-Jespersen & Woodward, 2016; Liberman, Woodward, & Kinzler, 2017) research on how quickly infants understand and respond to others' meaningful intentions
- Discussion of a recent study in which maternal sensitivity and a better home environment in infancy predicted high self-regulation at 4 years of age (Birmingham, Bub, & Vaughn, 2017)
- Inclusion of recent research in Zambia, where siblings were substantially involved in caregiving activities, that revealed infants showed strong attachments to both their mothers and their sibling caregivers with secure attachment being the most frequent attachment classification for both mother-infant and sibling-infant relationships (Mooja, Sichimba, & Bakersman-Kranenburg, 2017)
- Description of a recent study that did not find support for the view that genes influence mother-infant attachment (Leerkes & others, 2017)
- Description of recent research that revealed providing parents who engage in inadequate or problematic caregiving with practice and feedback focused on interacting sensitively enhances parent-infant attachment security (Coyne & others, 2018; Dozier & Bernard, 2017, 2018; Woodhouse, 2018; Woodhouse & others, 2017)
- Discussion of a recent study that found when adults used scaffolding, infants were twice as likely to engage in helping behavior (Dahl & others, 2017)
- Coverage of a recent study of disadvantaged families in which an intervention involving improving early maternal scaffolding was linked to improvement in cognitive skills at 4 years of age (Obradovic & others, 2017)
- New content about mothers playing 3 times more often with children than fathers do (Cabrera & Rossman, 2017)
- Inclusion of recent research with low-income families indicating that fathers' playfulness at 2 years of age was associated with more advanced vocabulary skills at 4 years of age while mothers' playfulness at 2 years of age was linked to a higher level of emotion regulation at 4 years of age (Cabrera & others, 2017)
- Discussion of a recent study that found negative outcomes on cognitive development in infancy when fathers were more withdrawn and depressed and positive outcomes on cognitive development when they were more engaged and sensitive, as well as less controlling (Sethna & others, 2018)

## **Chapter 5: Physical and Cognitive Development in Early Childhood**

- Discussion of a recent study of 4-year-old girls that found a nine-week motor skill intervention improved the girls' ball skills (Veldman & others, 2017)
- Description of recent research indicating that higher motor skill proficiency in preschool was linked to engaging in a higher level of physical activity in adolescence (Venetsanou & Kambas, 2017)
- Inclusion of recent research that found children with a low level of motor competence had a lower motivation for sports participation and lower global self-worth than their counterparts who had a high level of motor competence (Bardid & others, 2018)
- Discussion of a recent study that revealed 2 ½-year-old children's liking for fruits and vegetables was related to their eating more fruits and vegetables at 7 years of age (Fletcher & others, 2018)

- Updated data on the percentage of U.S. 2- to 5-year-old children who are obese, which has recently decreased (Centers for Disease Control and Prevention, 2017)
- New description of the recently devised 5-2-1-0 obesity prevention guidelines for young children: 5 or more servings of fruits and vegetables, no more than 2 hours of screen time, minimum of 1 hour of physical activity, and 0 sugar-sweetened beverages daily (Khalsa & others, 2017)
- New discussion of a longitudinal study that revealed when young children were exposed to environmental tobacco smoke, they were more likely to engage in antisocial behavior at 12 years of age (Pagani & others, 2017)
- Updates and revisions based on feedback from leading expert Megan McClelland
- Updating of recent research on young children's executive function (Blair, 2017; Muller & others, 2017), including a recent study in which young children who showed delayed executive function development had a lower level of school readiness (Willoughby & others, 2017)
- Inclusion of recent research showing the effectiveness of the Tools of the Mind approach in improving a number of cognitive processes and academic skills in young children (Blair & Raver, 2014)
- New research indicating that parental engagement in mind-mindedness advanced preschool children's theory of mind (Hughes, Devine, & Wang, 2017)
- Updated and expanded theory of mind content involving various aspects of social interaction, including secure attachment and mental state talk, parental engagement, peer relations, and living in a higher socioeconomic status family (Hughes, Devine, & Wang, 2018)
- Inclusion of a recent study of 3- to 5-year-old children that revealed earlier development of executive function predicted theory of mind performance, especially for false-belief tasks (Doenyas, Yavuz, & Selcuk, 2017)
- Coverage of a recent study in which theory of mind predicted the severity of autism in children (Hoogenhout & Malcolm-Smith, 2017)
- Revisions to the discussion of young children's language development based on feedback from leading experts Roberta Golinkoff and Virginia Marchman
- Coverage of a recent multigenerational study that found when both Head Start children and their mothers had participated in Head Start, positive cognitive and socioemotional outcomes occurred for the children (Chor, 2018)
- Update on the increase in publicly funded preschool programs that now occurs in 42 states plus the District of Columbia (National Institute for Early Education Research, 2016)
- Description of two recent studies that confirmed the importance of improved parenting engagement and skills in the success of Head Start programs (Ansari & Gershoff, 2016; Roggman & others, 2016)

## **Chapter 6: Socioemotional Development in Early Childhood**

- New emphasis on the importance of how extensively young children can learn by observing the behavior of others, including a recent study in which young children who observed a peer being rewarded for confessing to cheating were more likely to be honest in the future themselves (Ma & others, 2018)
- Inclusion of recent research indicating the broad capacity for self-evaluative emotion was present in the preschool years and was linked to young children's empathetic concern (Ross, 2017)
- Description of a recent study in which young children with higher emotion regulation were more popular with their peers (Nakamichi, 2019)
- New commentary about connections between different emotions and how they may influence development, including a recent study in which participants' guilt proneness combined with their empathy to predict an increase in prosocial behavior (Torstevelt, Sutterlin, & Lugo, 2016)



- Coverage of a recent study in Great Britain in which gender non-conforming boys were most at risk for peer rejection (Braun & Davidson, 2017)
- Inclusion of a recent research review of a large number of studies that found authoritarian parenting was associated with a higher level of externalizing problems (Pinquart, 2017)
- Coverage of a recent study in which an authoritarian style, as well as pressure to eat, were associated with a higher risk for being overweight or obese in young children (Melis Yavuz & Selkuk, 2018)
- Discussion of a recent study that revealed children of authoritative parents engaged in more prosocial behavior than their counterparts whose parents used the other parenting styles discussed in the section (Carlo & others, 2018)
- Description of a recent research review in which authoritative parenting was the most effective parenting style in predicting which children and adolescents would be less likely to be overweight or obese later in their development (Sokol, Qin, & Puti, 2017)
- New commentary about how in many traditional cultures, fathers use an authoritarian style; in such cultures, children benefit more when mothers use an authoritative parenting style
- New section, "Further Thoughts about Parenting Styles," including four factors that can influence how research on parenting styles can be interpreted
- Coverage of a recent review that concluded there is widespread approval of corporal punishment by U.S. parents (Ciocca, 2017)
- Inclusion of a recent research review of risk factors for engaging in child neglect that concluded that most risks involved parental factors, including a history of antisocial behavior/criminal offending, having mental/physical problems, and experiencing abuse in their own childhood (Mulder & others, 2018)
- Discussion of a longitudinal study that found harsh physical punishment in childhood was linked to a higher incidence of intimate partner violence in adulthood (Afifi & others, 2017b)
- Description of a recent Japanese study in which occasional spanking at 3 years of age was associated with a higher level of behavioral problems at 5 years of age (Okunzo & others, 2017)
- Discussion of a recent meta-analysis that found when physical punishment was not abusive, physical punishment was still linked to detrimental child outcomes (Gershoff & Grogan-Kaylor, 2016)
- Coverage of a recent study that found physical abuse was linked to lower levels of cognitive performance and school engagement in children (Font & Cage, 2018)
- Inclusion of a recent study that revealed exposure to either physical or sexual abuse in childhood and adolescence was linked to an increase in 13- to 18-year-olds' suicide ideation, plans, and attempts (Gomez & others, 2017)
- Description of a longitudinal study in which experiencing early abuse and neglect in the first five years of life were linked to having more interpersonal problems and lower academic achievement from childhood through their 30s (Raby & others, 2018)
- Coverage of a large-scale study that found a birth order effect for intelligence, with older siblings having slightly higher intelligence, but no birth order effects for life satisfaction, internal/external control, trust, risk taking, patience, and impulsivity (Rohrer, Egloff, & Schukle, 2017)
- Description of recent research indicating that mothers' and fathers' work-family conflict was linked to 4-year-olds' lower self-control (Ferreria & others, 2018)
- Discussion of a recent study in which experiencing parents' divorce, as well as child maltreatment, in childhood was linked to midlife suicide ideation (Stansfield & others, 2017)
- Inclusion of a recent meta-analysis that revealed when their parents had become divorced, as adults they were more likely to have depression (Sands, Thompson, & Gavsina, 2017)
- Coverage of a recent study that found interparental hostility was a stronger predictor of children's insecurity and externalizing problems than interparental disagreement and low levels of interparental cooperation (Davies & others, 2016)
- Updated data on the percentage of gay and lesbian parents who are raising children

- Inclusion of recent research that revealed no differences in the adjustment of school-aged children adopted in infancy by gay, lesbian, and heterosexual parents (Farr, 2017)
- Description of a recent study of lesbian and gay adoptive families indicated that 98 percent of the parents reported their children had adjusted well to school (Farr, Oakley, & Ollen, 2016)
- Coverage of a longitudinal study that found a multicomponent (school-based educational enrichment and comprehensive family services) preschool-to-third-grade intervention with low-income minority children in Chicago was effective in increasing their high school graduation, as well as undergraduate and graduate school success (Reynolds, Ou, & Temple, 2018)
- Update on the most recent national survey of screen time indicating a dramatic shift to greater use of mobile devices in young children (Common Sense Media, 2013)
- Inclusion of recent research with 2- to 6-year-olds that indicated increased TV viewing on weekends was associated with a higher risk of being overweight or obese (Kondolot & others, 2017)
- Description of a recent meta-analysis that found children's exposure to prosocial media is linked to higher levels of prosocial behavior and empathetic concern (Coyne & others, 2018)

## **Chapter 7: Physical and Cognitive Development in Middle and Late Childhood**

- New coverage of the increase in brain connectivity as children develop and a longitudinal study that found greater connectivity between the prefrontal and parietal regions in childhood was linked to better reasoning ability later in development (Wendelken & others, 2017)
- Discussion of a recent study of elementary school children that revealed 55 minutes or more of daily moderate-to-vigorous physical activity was associated with a lower incidence of obesity (Nemet, 2016)
- Description of a recent meta-analysis that participation in a sustained program of physical activity improved children's attention, executive function, and academic achievement (de Greeff & others, 2018)
- Coverage of a recent study with 7- to 13-year-olds in which a 6-week high-intensity exercise program resulted in improved cognitive control and working memory (Moreau, Kirk, & Waldie, 2018)
- Description of a recent meta-analysis that found children who engage in regular physical activity have better cognitive inhibitory control (Jackson & others, 2016)
- Inclusion of recent research with 8- to 12-year-olds indicating that screen time was associated with lower connectivity between brain regions, as well as lower language skills and cognitive control, while time spent reading was linked to higher levels in these areas (Horowitz-Kraus & Hutton, 2018)
- Updated data on the percentage of 6- to 11-year-old U.S. children who are obese (Ogden & others, 2016)
- Inclusion of a recent Japanese study that revealed the family pattern that was linked to the highest overweight/ obesity in children was a combination of irregular mealtimes and the most screen time for both parents (Watanabe & others, 2016)
- Discussion of a recent study in which children were less likely to be obese or overweight when they attended schools in states that had a strong policy emphasis on healthy food and beverage (Datar & Nicosia, 2017)
- Updated statistics on the percentage of U.S. children who have different types of disabilities and revised update of Figure 4 (National Center for Education Statistics, 2016)
- Description of a recent research review that found girls with ADHD had more problematic peer relations than typically developing girls in a number of areas (Kok & others, 2016)
- Coverage of a recent research review that concluded ADHD in childhood is linked to a number of long-term outcomes (Erksine & others, 2016)

- Discussion of a recent study that found childhood ADHD was associated with long-term underachievement in math and reading (Voigt & others, 2017)
- Description of a recent study in which individuals with ADHD were more likely to become parents at 12 to 16 years of age (Ostergaard & others, 2017)
- Coverage of a recent research review that concluded stimulation medications are effective in treating children with ADHD in the short term, but that long-term benefits of such medications are not clear (Rajeh & others, 2017)
- Discussion of a recent meta-analysis that found mindfulness training improved the attention of children with ADHD (Caincross & Miller, 2018)
- Inclusion of a recent meta-analysis that concluded physical exercise is effective in reducing cognitive symptoms of ADHD in individuals 3 to 25 years of age (Tan, Pooley, & Speelman, 2017)
- Coverage of a recent meta-analysis in which exercise was associated with better executive function in children with ADHD (Vysniauske & others, 2018)
- Description of a recent study in which an 8-week yoga program improved the sustained attention of children with ADHD (Chou & Huang, 2017)
- New commentary that despite the recent positive research findings using neurofeedback, mindfulness training, and exercise to improve the attention of children with ADHD, it remains to be determined if they are as effective as stimulant drugs and/or whether they benefit children as add-ons to stimulant drugs (Den Jeijer & others, 2017)
- Updated data on the increasing percentage of children being diagnosed as having autism spectrum disorder (Christensen & others, 2016)
- Inclusion of a recent study that revealed a lower level of working memory was the executive function most strongly associated with autism spectrum disorders (Ziermans & others, 2017)
- New coverage of two recent surveys in which only a minority of parents reported that their child's autism spectrum disorder was identified prior to three years of age and that one-third to one-half of the cases were identified after six years of age (Sheldrick, Maye, & Carter, 2017)
- Discussion of a recent study in which children's verbal working memory was linked to these aspects of both first and second language learners: morphology, syntax, and grammar (Verhagen & Leseman, 2016)
- Inclusion of recent research that found mindfulnessbased intervention improved children's attention selfregulation (Felver & others, 2017)
- Description of the most recent revision of the Wechsler Intelligence Scale for Children—V, and its increase in the number of subtests and composite scores (Canivez, Watkins, & Dombrowski, 2017)
- Coverage of recent research that found a significant link between children's general intelligence and their selfcontrol (Meldrum & others, 2017)
- Discussion of a recent two-year intervention in study with families living in poverty in which maternal scaffolding and positive home stimulation improved young children's intellectual functioning (Obradovic & others, 2016)
- New content on stereotype threat in the section on cultural bias in intelligence tests (Grand, 2017; Lyons & others, 2018; Williams & others, 2018)
- Update on the percentage of U.S. students who are classified as gifted (National Association for Gifted Children, 2017)
- New commentary that vocabulary development plays an important role in reading comprehension (Vacca & others, 2018)
- Coverage of a recent study of 6- to 10-year-old children that found early bilingual exposure was a key factor in bilingual children outperforming monolingual children on phonological awareness and word learning (Jasinskisa & Petitto, 2018)
- Discussion of research that documented bilingual children were better at theory of mind tasks than were monolingual children (Rubio-Fernandez, 2017)

## Chapter 8: Socioemotional Development in Middle and Late Childhood

- New description of recent research studies indicating that children and adolescents who do not have good perspective-taking skills are more likely to have difficulty in peer relations and engage in more aggressive and oppositional behavior (Morosan & others, 2017; Nilsen & Basco, 2017; O’Kearney & others, 2017)
- Inclusion of a longitudinal study that revealed the quality of children’s home environment (which involved assessment of parenting quality, cognitive stimulation, and the physical home environment) was linked to their self-esteem in early adulthood (Orth, 2017)
- New discussion of the recent book *Challenging the Cult of Self-Esteem in Education* (Bergeron, 2018) that criticizes education for promising high self-esteem for students, especially those who are impoverished or marginalized
- Coverage of a longitudinal study that found a higher level of self-control in childhood was linked to a slower pace of aging at 26, 32, and 38 years of age (Belsky & others, 2017)
- New description of an app that is effective in improving children’s self-control: [www.selfregulationstation.com/sr-ipad-app/](http://www.selfregulationstation.com/sr-ipad-app/)
- New discussion of a longitudinal study in which a higher level of emotion regulation in early childhood was linked to a higher level of externalizing problems in adolescence (Perry & others, 2017) • Inclusion of a recent study that revealed females are better than males at facial emotion perception across the life span (Olderbak & others, 2018)
- New section, “Social-Emotional Education Programs,” that describes two increasingly implemented programs: 1) Second Step (Committee for Children, 2018) and 2) Collaborative for Academic, Social, and Emotional Learning (CASEL (2018)
- New career profile on Dr. Melissa Jackson, child and adolescent psychiatrist
- Substantial revision of the discussion of Kohlberg’s theory of moral development to make it more concise and clear
- New coverage of how we need to make better progress in dealing with an increasing array of temptations and possible wrongdoings in a human social world in which complexity is accumulating over time (Christen, Narvaez, & Gutzwiller, 2018)
- Deletion of the section on Gender Role Classification because of decreasing interest in the topic in recent years
- Discussion of a recent study with eighth grade students in 36 countries that revealed girls had more egalitarian attitudes about gender roles than did boys (Dotti Sani & Uaranta, 2015)
- Description of a recent meta-analysis of attachment in middle/late childhood and adolescence in which parents of children and adolescents who more securely attached were more responsive, more supportive of children’s and adolescents’ autonomy, used more behavioral control strategies, and engaged in less harsh control strategies (Koehn & Kerns, 2018). Also in this meta-analysis, parents of children and adolescents who showed more avoidant attachment were less responsive and engaged in less behavioral control strategies. Regarding ambivalent attachment, no links to parenting were found.
- Inclusion of recent research indicating that when children have a better parent-child affective relationship with their stepparent, the children have fewer internalizing and externalizing problems (Jensen & others, 2018)
- Coverage of a recent study of young adolescents in which peer rejection predicted increases in aggressive and rule-breaking behavior (Janssens & others, 2017)
- Description of a longitudinal study that revealed children who were bullied at 6 years of age were more likely to have excess weight gain when they were 12 to 13 years old (Sutin & others, 2016)
- Inclusion of a longitudinal study that revealed being a victim of bullying in childhood was linked to increased use of mental health services five decades later (EvansLacko & others, 2017)

- Description of recent longitudinal studies that indicated victims bullied in childhood and adolescence have higher rates of agoraphobia, depression, anxiety, panic disorder, and suicidality in the early to mid-twenties (Arseneault, 2017; Copeland & others, 2013)
- Coverage of recent research in which adolescents who were bullied in both a direct way and through cyberbullying had more behavioral problems and lower self-esteem than their counterparts who were only bullied in one of two ways (Wolke, Lee, & Guy, 2017)
- Inclusion of a 2017/2018 update on the Every Student Succeeds Act (ESSA) with the Trump administration planning to go forward with ESSA but giving states much more flexibility in its implementation (Klein, 2017)
- Coverage of a recent intervention (City Connects program) with first-generation immigrant children attending high-poverty schools that was successful in improving the children's reading and math skills (Dearing & others, 2016)
- Inclusion of a longitudinal study that involved implementation of the Child-Parent Center Program in high-poverty neighborhoods of Chicago that provided school-based educational enrichment and comprehensive family services from 3 to 9 years of age (Reynolds, Ou, & Temple, 2018). Children who participated in the program had higher rates of postsecondary completion, including more years of education, an associate's degree or higher, and a master's degree.
- New coverage of a recent research review that concluded increases in family income for children in poverty was linked to increased achievement in middle school, as well as higher educational attainment in adolescence and emerging adulthood (Duncan, Magnuson, & Votruba-Drazil, 2017)
- New content on Teach for America and its efforts to place college graduates in teaching positions in schools located in low-income areas and a new career profile on Teach for America instructor Ahou Vaziri
- Update on comparisons of U.S. students with their counterparts around the globe in math and science achievement (Desilver, 2017; TIMMS, 2015)
- Coverage of recent research indicating that many parents and teachers with growth mindsets don't have children and adolescents with growth mindsets (Haimovitz & Dweck, 2017)
- New research that indicates the following are what parents and teachers need to do to create growth mindsets in children and adolescents: teach for understanding, provide feedback that improves understanding, give students opportunities to revise their work, communicate how effort and struggle are involved in learning, and function as partners with children and adolescents in the learning process (Hooper & others, 2016; Sun, 2015)
- Inclusion of recent research that found students from lower income families were less likely to have a growth mindset than were students from wealthier families but the achievement of students from lower income families was more likely to be protected if they had a growth mindset (Claro, Paunesku, & Dweck, 2016)
- Discussion of a recent study that revealed having a growth mindset protected women's and minorities' outlook when they chose to confront expressions of bias toward them in the workplace (Rattan & Dweck, 2018)
- Discussion of a recent study in China that found young adolescents with authoritative parents showed better adjustment than their counterparts with authoritarian parents (Zhang & others, 2017)

## **Chapter 9: Physical and Cognitive Development in Adolescence**

- Coverage of a recent study of non-Latino White and African American 12- to 20-year-olds in the United States that found they were characterized much more by positive than problematic development (Gutman & others, 2017). Their engagement in healthy behaviors, supportive relationships with parents and friends, and positive self-conceptions were much stronger than their angry and depressed feelings.

- New discussion of three recent studies in Korea and Japan (Cole & Mori, 2017), China (Song & others, 2017), and Saudi Arabia (Al Alwan & others, 2017), all of which found secular trends of earlier pubertal onset in recent years
- Coverage of a recent U.S study that indicated puberty occurred earlier in girls with a higher body mass index (BMI) (Bratke & others, 2017) and a recent Chinese study revealed similar results (Deng & others, 2018)
- Description of a recent study that revealed child sexual abuse was linked to earlier pubertal onset (Noll & others, 2017)
- New research that revealed young adolescent boys had a more positive body image than their female counterparts (Morin & others, 2017)
- New content on the role of social media and the internet in influencing adolescents' body images, including one study of U.S. 12- to 14-year-olds that found heavier social media use was associated with body dissatisfaction (Burnette, Kwitowski, & Mazzeo, 2017)
- Inclusion of research in which onset of menarche before 11 years of age was linked to a higher incidence of distress disorders, fear disorders, and externalizing disorders in females (Platt & others, 2017)
- Coverage of a recent study that found early-maturing girls had higher rates of depression and antisocial age as middle-aged adults mainly because their difficulties began in adolescence and did not lessen over time (Mendle & others, 2018)
- Inclusion of a recent study of U.S. college women that found more time on Facebook was related to more frequent body and weight concern comparison with other women, more attention to the physical appearance of others, and more negative feelings about their own bodies (Eckler, Kalyango, Paasch, 2017)
- New research indicating that early-maturing girls are at risk for physical and verbal abuse in dating (Chen, Rothman, & Jaffee, 2018)
- Updated data on the occurrence of various sexual activities engaged in by adolescents according to age, gender, and ethnicity, including updates (Kann & others, 2016a)
- New commentary that while the majority of sexual minority adolescents have competent and successful developmental paths through adolescence, a recent large-scale study revealed that sexual minority youth engage in a higher prevalence of health-risk factors compared to nonsexual minority youth (Kann & others, 2016b)
- Coverage of a recent national study of 7,000 15- to 24-year-olds' engagement in oral sex, including the low percentage of youth who use a condom when having oral sex (Holway & Hernandez, 2018)
- Updated data on the percentage of adolescent males and females engage in oral sex (Child Trends, 2015)
- Description of a recent study that found that early sexual debut was associated with a number of problems, including sexual risk taking, substance use, violent victimization, and suicidal thoughts and attempts in both sexual minority and heterosexual adolescents (Lowry & others, 2017)
- Discussion of a recent study of Korean girls in which early menarche was associated with earlier initiation of sexual intercourse (Kim & others, 2017)
- Inclusion of recent research in which adolescents who in the eighth grade reported greater parental knowledge and more rules about dating were less likely to initiate sex between the eighth and tenth grade (Ethier & others, 2016)
- Description of a recent study of African American girls that revealed those for whom religion was very or extremely important were much more likely to have a later sexual debut (George Dalmida & others, 2018)
- Updated data on the percentage of adolescents who use contraceptives when they have sexual intercourse (Kann & others, 2016a)
- Updated data on the continued decline in adolescent pregnancy to an historic low in 2015 (Martin & others, 2017)

- Important new section on the increasing number of medical organizations and experts who have recently recommended that adolescents use long-acting reversible contraception (LARC), which consists of intrauterine devices (IUDs) and contraceptive implants (Allen & others, 2017; Deidrich, Klein, & Peipert, 2017; Society for Adolescent Medicine, 2017)
- New research on factors that are linked to repeated adolescent pregnancy (Dee & others, 2017; Maravilla & others, 2017)
- Coverage of recent surveys that find a large percentage of sexual health education programs do not cover birth control (Lindberg & others, 2016) and that sexual health information is more likely to be taught in high school than in middle school (Alan Guttmacher Institute, 2017)
- Inclusion of recent studies and research views that find comprehensive sex education programs and policies are far more effective in pregnancy prevention, reduction of sexually transmitted infections, and delay of sexual intercourse than are abstinence-only programs and policies (Denford & others, 2017; Jaramillo & others, 2017; Santilli & others, 2017)
- New content on the recent increase in abstinence-only-until-marriage (AOUM) policies and programs in the United States that don't seem to recognize that a large majority of adolescents and emerging adults will initiate sexual intercourse, especially given the recent increase in the age at which U.S. males and females get married
- New position of the Adolescent Society of Health and Medicine (2017) that states research clearly indicates that AOUM programs and policies are not effective but, in contrast, research documents that comprehensive sex education programs and policies are effective in delaying sexual intercourse and reducing other sexual risk behaviors
- Updated commentary on the recent concern about the increased government funding of abstinence-only programs (Donovan, 2017)
- New career profile on Dr. Bonnie Halpern-Felsher, University Professor in Pediatrics and Director of Community Efforts to Improve Adolescents' Health
- Updated data on the percentage of U.S. adolescents who are obese (Centers for Disease Control and Prevention, 2016)
- Updated national data on adolescents' exercise patterns, including gender and ethnic variations (Kann & others, 2016a)
- Discussion of a recent study that indicated aerobic exercise reduced the depressive symptoms of adolescents with MDD (Jaworksa & others, 2018)
- Inclusion of a recent large-scale study of Dutch adolescents that revealed physically active adolescents had fewer emotional and peer problems (Kuiper & others, 2018)
- Description of a recent research review that found that among a number of cognitive factors, memory was the factor that was most often improved by exercise in adolescence (Li & others, 2017)
- Coverage of a recent study of U.S. eighth, tenth, and twelfth graders from 1991 to 2016 that found psychological well-being abruptly decreased after 2012 (Twenge, Martin, & Campbell, 2018). In this study, adolescents who spent more on electronic communication and screens and less time on non-screen activities such as exercise had lower psychological well-being. •  
Update on the low percentage of adolescents who get 8 hours of sleep or more per night (Kann & others, 2016a)
- Inclusion of a recent national study of more than 10,000 13- to 18-year-olds that revealed that a number of factors involving sleep timing and duration were associated with an increase in anxiety, mood, substance abuse, and behavioral disorders (Zhang & others, 2017)
- Description of a recent study of college students that revealed consistently low sleep duration was associated with less effective attention the next day (Whiting & Murdock, 2016)
- Discussion of a recent study of college students in which a higher level of text messaging activity during the day and at night was related to a lower level of sleep quality (Murdock, Horissian, & Crichlow-Ball, 2017)

- New content on the increase in adolescents who mix alcohol and energy drinks, which is linked to a higher rate of risky driving (Wilson & others, 2018)
- Updated coverage of the Monitoring the Future study's assessment of drug use by secondary school students with 2017 data on U.S. eighth, tenth, and twelfth graders, including recent increases in marijuana and nicotine vaping use (Johnston & others, 2018)
- Coverage of a recent meta-analysis of parenting factors involved in adolescents' alcohol use that indicated higher levels of parental monitoring, support, and involvement were associated with a lower risk of adolescent alcohol misuse (Yap & others, 2017)
- Description of a recent intervention study that revealed Latino parents who had
- Discussion of a recent large scale national study in which friends' use was a stronger influence on adolescents' alcohol use than parental use (Deutsch, Wood, & Shutske, 2018)
- New research indicating that having an increase in Facebook friends across two years in adolescence was linked to an enhanced motivation to be thin (Tiggemann & Slater, 2017)
- Coverage of a recent study in which a greater use of social networking sites was linked to being more narcissistic (Gnambs & Appel, 2018)
- Coverage of a recent study in which teacher warmth was higher in the last 4 years of elementary school and then dropped in the middle school years (Hughes & Cao, 2018). The drop in teacher warmth was associated with lower student math scores.
- Inclusion of new information from the Bill and Melinda Gates Foundation's (2017, 2018) indicating that many adolescents graduate from high school without the necessary academic skills to succeed in college or to meet the demands of the modern workplace
- New research on the transition to high school, including the greatest difficulties and factors that provide for improved adaptation to the transition (Benner, Boyle, & Bakhtiari, 2017; Wigfield, Rosenzweig, & Eccles, 2017)

## **Chapter 10: Socioemotional Development in Adolescence**

- New commentary that too little research attention has been given to developmental changes in the specific domains of identity (Gallagher, McLean, & Syed, 2017; Vosylis, Erentaite, & Crocetti, 2018)
- New content on the dual cycle identity model that separates out identity development into two processes: 1) A formation cycle and 2) a maintenance cycle (Luyckx & others, 2014, 2017)
- New discussion of parental (Crocetti & others, 2017) and peer/friend (Rivas-Drake & Imana-Taylor, 2018; Santos & others, 2017) influences on adolescent identity development
- Updated description of the positive outcomes when individuals have pride in their ethnic group, including recent research (Anglin & others, 2018; Douglass & Umana-Taylor, 2017; Umana-Taylor & others, 2017)
- New content on identity development and the digital environment that explores the widening audience adolescents and emerging adults have to express their identity and get feedback about it in their daily connections on social media such as Instagram, Snapchat, and Facebook (Davis & Weinstein, 2017; Yau & Reich, 2018)
- Coverage of a recent study of Mexican-origin adolescents that found a positive ethnic identity, social support and anger suppression helped them cope more effectively with racial discrimination whereas anger expressions reduced their ability to cope with the racial discrimination (Park & others, 2018)
- Inclusion of recent research with fifth and eighth graders in which a higher level of parental monitoring was associated with students' having higher grades (Top, Liew, & Luo, 2017)
- Discussion of a recent study that found better parental monitoring was linked to lower marijuana use by adolescents (Haas & others, 2018) and another study that revealed lower parental monitoring was associated with earlier initiation of alcohol use, binge drinking, and marijuana use in 13- to 14-year-olds (Rusby & others, 2018)



- Inclusion of a recent study that indicated two types of parental media monitoring--active monitoring and connective co-use (engaging in media with the intent to connect with adolescents)—were linked to lower media use by adolescents (Padilla-Walker & others, 2018)
- Discussion of a recent study that revealed from 16 to 20 years of age, adolescents perceived that they had increasing independence and a better relationship with their parents (Hadiwiya & others, 2017)
- Discussion of a recent study of Latino families that revealed a higher level of secure attachment with mothers during adolescence was linked to a lower level of heavy drug use (Gattamorta & others, 2017)
- Coverage of a recent study that revealed when they had grown up in poverty, adolescents engaged in less risktaking if they had a history of secure attachments to caregivers (Delker, Bernstein, & Laurent, 2018)
- Inclusion of a recent analysis that found secure attachment to the mother and to the father was associated with fewer depressive symptoms in adolescents (Kerstis, Aslund, & Sonnby, 2018)
- Description of a recent study of Chinese American families that found parent-adolescent conflict increased in early adolescence, peaked at about 16 years of age, and then declined through late adolescence and emerging adulthood (Juang & others, 2018)
- New research with Latino families indicating that high parent-adolescent conflict was associated with higher adolescent rates of aggression (Smokowski & others, 2017)
- Inclusion of recent research on adolescent girls that found friends' dieting predicted whether adolescent girls would engage in dieting or extreme dieting ( Balantekin, Birch, & Savage, 2017)
- Discussion of a recent study that indicated that friendship quality was linked to the quality of romantic relationships in adolescence (Kochendorfer & Kerns, 2017)
- Coverage of a recent study that found long-term romantic relationships in adolescence were both supportive and turbulent, characterized by elevated levels of support, negative interactions, higher control, and more jealousy (Lantagne & Furman, 2017)
- New main section, "Socioeconomic Status and Poverty"
- Inclusion of a recent study that found of 13 risk factors, low SES was the most likely to be associated with smoking initiation in fifth graders (Wellman & others, 2017)
- Discussion a recent Chinese study in which adolescents were more likely to have depressive symptoms in low SES families (Zhou, Fan, & Zin, 2017)
- Coverage of a U.S. longitudinal study that revealed low SES in adolescence was linked to having a higher level of depressive symptoms at age 54 for females (Pino & others, 2018). In this study, low SES females who completed college were less likely to have depressive symptoms than low SES females who did not complete college.
- Inclusion of a U.S. longitudinal study that found low SES in adolescence was a risk factor for cardiovascular disease 30 years later (Doom & others, 2017)
- Coverage of a recent study of 12- to 19-year-olds indicating that their perceived well-being was lowest when they had lived in poverty from 0 to 2 years of age (compared to 3 to 5, 6 to 8, and 9 to 11 years of age) and also each additional year lived in poverty was associated with even lower perceived well-being in adolescence (Garipy & others, 2017)
- Description of a recent study that found these four psychological and social factors predicted higher achievement by adolescents living in poverty: 1) academic commitment, 2) emotional control, 3) family involvement, and 4) school climate (Li, Allen, & Casillas, 2017)
- Description of a recent study comparing Asian, Latino, and non-Latino immigrant adolescents in which immigrant Asian adolescents had the highest level of depression, lowest self-esteem, and experienced the most discrimination (Lo & others, 2017)
- Inclusion of a recent study of Mexican origin youth that revealed when adolescents reported a higher level of familism, they engaged in lower levels of risk taking (Wheeler & others, 2017)

- Discussion of a recent study in which heavy media multitaskers were less likely to delay gratification and more likely to endorse intuitive, but wrong, answers on a cognitive reflection task (Schutten, Stokes, & Arnell, 2017)
- Coverage of recent research that found less screen time was linked to adolescents' better health-related quality of life (Yan & others, 2017) and that a higher level of social media use was associated with a higher level of heavy drinking by adolescents (Brunborg, Andreas, & Kvaavik, 2017)
- Discussion of a recent study of 13- to 16-year-olds that found increased night-time mobile phone use was linked to increased externalizing problems and decreased self-esteem (Vernon, Modecki, & Barber, 2018)
- Updated data on the percentage of adolescents who use social networking sites and engage in text messaging daily (Lenhart, 2015; Lenhart & others, 2015)
- Coverage of a recent national study of social media indicating how extensively 18- to 24-year-olds are using various sites such as Snapchat, Instagram, twitter, and YouTube (Smith & Anderson, 2018)
- Updated statistics on the significant decline in juvenile court delinquency caseloads in the United States in recent years (Hockenberry & Puzanchera, 2017)
- Inclusion of a recent study of more than 10,000 children and adolescence revealing that a family environment characterized by poverty and child maltreatment was linked to entering the juvenile justice system in adolescence (Vidal & others, 2017)
- Description of a recent study of middle school adolescents that found peer pressure for fighting and friends' delinquent behavior were linked to adolescents' aggression and delinquent behavior (Farrell, Thompson, & Mehari, 2017)
- Discussion of a recent study that revealed an increase in the proportion of classmates who engage in delinquent behavior increased the likelihood that other classmates would become delinquents (Kim & Fletcher, 2018)
- Inclusion of a recent study that indicated adolescent delinquents were high on affiliating with deviant peers and engaging in pseudomature behavior and low on peer popularity and school achievement (Gordon Simons & others, 2018)
- Coverage of recent research in which having callous/unemotional traits predicts an increased risk of engaging in delinquency for adolescent males (Ray & others, 2017)
- Description of a recent study of female adolescents in which an increase in their self-control was linked to decreased likelihood of police contact (Hipwell & others, 2018)
- New content indicating that at 12 years of age, 5.2 percent of females compared to 2 percent of males had experienced first-onset depression (Breslau & others, 2017). Also in this study, the cumulative incidence of depression from 12 to 17 years of age was 36 percent for females and 14 percent for boys.
- Recent research that found co-rumination with friends was linked to greater peer stress for adolescent girls (Rose & others, 2017)
- Discussion of recent research indicating that family therapy can be effective in reducing adolescent depression (Poole & others, 2017)
- Inclusion of a recent study that revealed adolescents who were isolated from their peers and whose caregivers emotionally neglected them were at significant risk for developing depression (Christ, Kwak, & Lu, 2017)
- Updated coverage of adolescent suicidal thoughts and behavior in the United States (Kann & others, 2016a)
- Discussion of recent research indicating that the most significant factor in a first suicide attempt during adolescence was major depressive episode while for children it was child maltreatment (Peyre & others, 2017)
- Coverage of a recent study in which a sense of hopelessness predicted an increase in suicide ideation in depressed adolescents (Wolfe & others, 2018)

- Description of two recent studies that revealed child maltreatment during the childhood years was linked with suicide attempts in adulthood (Park, 2017; Turner & others, 2017)
- Inclusion of a recent study that confirmed childhood sexual abuse was a significant factor in suicide attempts (Ng & others, 2018)
- Discussion of a recent meta-analysis that revealed adolescents who were the victims of cyberbullying were 2 ½ times more likely to attempt suicide and 2 times more likely to have suicidal thoughts than non-victims (John & others, 2018)

## **Chapter 11: Physical and Cognitive Development in Early Adulthood**

- New section, “The Changing Landscape of Emerging and Early Adulthood,” that describes how today’s emerging and young adults have very different profiles and experiences than their counterparts from earlier generations in education, work, and lifestyles (Vespa, 2017)
- Inclusion of a recent study with U.S. community college students that found they believe they know when they will be an adult when they can care for themselves and others (Katsiaficas, 2017)
- New coverage of recent trends in first year college students’ increasing motivation to be well-off financially, as well as their increased feeling of being overwhelmed with what they have to do, are depressed, and feel anxious (Eagan & others, 2017)
- Discussion of a recent study in which a higher level of energy drink consumption was linked to more sleep problems in college students (Faris & others, 2017)
- Updated data on the incidence of obesity in U.S. adults (Flegal & others, 2016)
- Discussion of recent international comparisons of 33 countries in which the United States had the highest percentage of obese adults (38 percent) and Japan the lowest percentage (3.7); the average of the countries was 19.5 percent of the population being obese (OECD, 2017)
- Coverage of a recent research review in which moderate and vigorous aerobic exercise resulted in a lower incidence of major depressive disorder (Schuch & others, 2017)
- Inclusion of recent research that revealed a mortality risk reduction for individuals who replaced screen time with an increase in daily activity levels (Wijndaele & others, 2017)
- Updated data on binge drinking in college and through early adulthood, including new Figure 3 (Schulenberg & others, 2017)
- Updated data on extreme binge drinking in college students, including data on not only 10 or more drinks at one time in the last two weeks, but also 15 or more in the same time frame (Schulenberg & others, 2017)
- Inclusion of a longitudinal study that revealed frequent binge drinking and marijuana use in the freshman year of college predicted delayed college graduation (White & others, 2018)
- Significant updating of the percentage of individuals 18 to 44 years of age in the United States who report they are heterosexual, gay, lesbian, or bisexual, as well as the percentages of these men and women who report about various feelings involving sexual orientation (Copen, Chandra, & Febo-Vazquez, 2016)
- Inclusion of recent research in which sexual activity in adults on day 1 was linked to greater well-being the next day (Kashdan & others, 2018). In this study, higher reported sexual pleasure and intimacy predicted more positive affect and less negative affect the next day.
- New research indicating that suicide ideation was associated with entrance into a friends-with-benefits (FWB) relationship as well as continuation of the FWB relationship (Dube & others, 2017)
- Updated data based on a national survey that found 3.8 percent of U.S. adults reported that they were gay, lesbian, bisexual, or transsexual (Gallup, 2015)
- New commentary that whether an individual is heterosexual, gay, lesbian, or bisexual, the person cannot be talked out of his or her sexual orientation (King, 2017. 2018)
- Updated statistics on HIV/AIDS in the United States (Centers for Disease Control and Prevention, 2018) and around the world (UNAIDS, 2017)

- New discussion of a study that found the search for and presence of meaning was linked to wisdom in emerging adults (Webster & others, 2018)
- Updated data on the percentage of full-time and parttime college students who work, which has slightly decreased in recent years (National Center for Education Statistics, 2017)
- Updated data on the average number of hours U.S. adults work per week (Saad, 2014)
- Updated data from a recent survey that revealed that employers say that 2017 is the best year for recent college graduates to be on the job market since 2007 (CareerBuilder, 2017)
- Inclusion of recent research in which an increase in job strain increased workers' insomnia while a decrease in job strain reduced their insomnia (Halonen & others, 2018)
- Description of a recent study that found depression following job loss predicted increased risk of continued unemployment (Stolove & others, 2017)
- Coverage of a study that revealed heavy drinking from 16 to 30 was linked to higher unemployment in middle age (Berg & others, 2018)

## **Chapter 12: Socioemotional Development in Early Adulthood**

- Inclusion of a longitudinal study from 13 to 72 years of age in which avoidant attachment declined across the life span and being in a relationship predicted lower levels of anxious and avoidant attachment across adulthood (Chopik, Edelstein, & Grimm, 2018)
- Description of a research review that concluded attachment anxious individuals have higher levels of health anxiety (Maunder & others, 2017)
- Coverage of a recent research review that concluded insecure attachment was linked to a higher level of social anxiety in adults (Manning & others, 2017)
- Discussion of recent research that found insecure anxious and insecure avoidant individuals are more likely than securely attached individuals to engage in risky health behaviors, be more susceptible to physical illness, and have poorer disease outcomes (Pietromonaco & Beck, 2018)
- Updated data on the number of Americans who have tried internet matchmaking and gender differences in the categories males and females lie about in internet matchmaking (statisticbrain.com, 2017)
- Description of recent research on how romantic relationships change in emerging adulthood, including different characteristics of adolescent and emerging adult romantic relationships (Lantagne & Furman, 2017)
- New section, "Relationship Education for Adolescents and Emerging Adults," that examines the increasing number of relationship education programs for adolescents and emerging adults, describes their main components, and evaluates their effectiveness (Hawkins, 2018; Simpson, Lenhardt, & Hawkins, 2018)
- Update on the increasing percentage of U.S. individuals 18 and older who are single (U.S. Census Bureau, 2017)
- Updated data on the continued increase in being older before getting married in the U.S. with the age for men now at 29.5 years and for women 27.4 years (Livingston, 2017)
- Movement of section on gender and friendships from the section on "Love" to the new section on "Gender Relationships"
- New section, "Cross-Cultural Differences in Romantic Relationships", that includes comparisons of collectivist and individualist cultures (Gao, 2016) as well as intriguing comparisons of romantic relationships in Japan, Argentina, France, and Qatar (Ansari, 2015)
- Inclusion of data from the recent Match.com 2017 Singles in America national poll that describes Millennials' interest in having sex before a first date, interest in marrying but taking considerable time to get to know someone before committing to a serious relationship, and males interest in having females initiate the first kiss and asking a guy for his phone number
- Updated data on the percentage of U.S. adults who are cohabiting, which increased to 18 million people in 2016, an increase of 29 percent since 2007 (Stepler, 2017; U.S. Census Bureau, 2016)

- Inclusion of recent research indicating that women who cohabited within the first year of a sexual relationship were less likely to get married than women who waited more than one year before cohabiting (Sassler, Michelmore, & Qian, 2018)
- Coverage of a recent study in which cohabiting individuals were not as mentally healthy as their counterparts in committed marital relationships (Braithwaite & Holt-Lunstad, 2017)
- Description of a recent study of long-term cohabitation (more than 3 years) in emerging adulthood that found emotional distress was higher in long-term cohabitation than in time spent single, with men especially driving the effect (Menitz, 2018). However, heavy drinking was more common in time spent single than in long-term cohabitation.
- New discussion of the marriage paradox including research showing that emerging adults may not be abandoning marriage because they don't like marriage or are disinterested in it, but are delaying marriage because they want to position themselves in the best possible way for developing a healthy marital relationship (Willoughby, Hall, & Goff, 2015; Willoughby & James, 2017)
- Coverage of a recent study of married, divorced, widowed, and single adults that revealed married individuals had the best cardiovascular profile, single men the worst (Manfredni & others, 2017)
- Inclusion of a recent study in Great Britain that found no differences in the causes of breakdowns in marriage and cohabitation (Gravnengen & others, 2017). In this study, "grew apart", "arguments", "unfaithfulness/adultery", "lack of respect, appreciation", and "domestic violence" were the most frequent reasons given for such breakdowns.
- Description of a study of individuals one to 16 years into their marriage that found an increasing trajectory of tension over the course of the marriage was consistently linked to an eventual divorce (Birditt & others, 2017)
- Updated statistics on divorce rates around the world with Russia continuing to have the highest rate (OECD, 2016)
- Coverage of a study that found individuals who were divorced had a higher risk of having alcohol use disorder (Kendler & others, 2017)
- New content indicating that while the divorce rate in first marriages has declined, the divorce rate of remarriages continues to increase (DeLongis & Zwicker, 2017)
- Updated data on the average age at which U.S. women give birth, which occurred more frequently in their 30s than 20s in 2016 for the first time ever, and the average age of a woman giving birth was 27 years of age in 2016 (Centers for Disease Control and Prevention, 2017)
- New research that found the frequency of sexual intercourse in the second to fourteenth years of a marriage was important to marital satisfaction but that a satisfying sex life and a warm interpersonal relationship were more important (Schoenfeld & others, 2017)
- New main section "Gender Communication, Relationships, and Classification"
- Extensive new content on transgender (Budge & Orovecz, 2018; Budge & others, 2017)
- Discussion of a variety of terms used to describe transgender individuals
- New content indicating that it is much more common to have a transgender identity of being born male but identifying with being a female than the reverse (Zucker & Kreukels, 2016)
- Inclusion of a recent research review that concluded transgender youth have higher rates of depression, suicide attempts, and eating disorders than their non-transgender peers (Connolly & others, 2016)

### **Chapter 13: Physical and Cognitive Development in Middle Adulthood**

- Inclusion of a recent research review that found positive subjective time perceptions were linked to better health and well-being while negative subjective time perceptions were associated with lower levels of health and well-being (Gabrain, Dutt, & Wahl, 2017)

- Description of a recent study in which undergraduate students were shown a computer-generated graph of a person identified as a younger adult, middle-aged adult, or older adult (Kelley, Soborff & Lovaglia, 2017). When asked which person they would choose for a work-related task, they selected the middle-aged adult most often.
- Update on the percentage of adults 40 to 59 years of age classified as obese (40.2 percent) (Centers for Disease Control and Prevention, 2016)
- Coverage of recent research in which an increase in weight gain from early to middle adulthood was linked to an increased risk of major chronic diseases and unhealthy aging (Zheng & others, 2017)
- Inclusion of recent research that revealed greater intake of fruits and vegetables was linked to increased bone density in middle-aged and older adults (Qui & others, 2017)
- Discussion of a Chinese study that found men and women who gained an average of 22 pounds or more from 20 to 45-60 years of age had an increased risk of hypertension and cholesterol, as well as elevated triglyceride levels in middle age (Zhou & others, 2018)
- Description of a recent study that revealed a healthy diet in adolescence was linked to a lower risk of cardiovascular disease in middle-aged women (Dahm & others, 2018)
- New coverage of the American Heart Association's Life's Simple 7—the seven factors that people need to optimize to improve their cardiovascular health
- Description of a study in which optimal Life's Simple 7 at middle age was linked to better cardiovascular health recovery following a heart attack later in life (Mok & others, 2018)
- Inclusion of a longitudinal study in which increased respiratory fitness from early adulthood to middle adulthood was linked to less decline in lung health over time (Berick others, 2017)
- Discussion of a recent study of young and middle-aged adults that found females had more sleep problems than males (Rossler & others, 2017). However, the good news in this study is that a majority of individuals (72 percent) reported that they did not have any sleep disturbances.
- New research indicating that perceiving one's self as feeling older predicted an increase in sleep difficulties in middle age over time (Stephan & others, 2017)
- New content on the important role of cortisol in stress and health (Leonard, 2018; Wichmann & others, 2017)
- Coverage of a recent study of men and women from 21 to 55 years of age in which married individuals had lower cortisol levels than either their never married or previously married counterparts (Chin & others, 2017)
- Coverage of a recent cross-cultural study in China that found that Mosuo women had fewer negative menopausal symptoms and higher self-esteem than Han Chinese women (Zhang & others, 2016)
- Inclusion of the recent position statement of the North American Menopause Society (2017) regarding the current status of research on various aspects of hormone replacement therapy (HRT)
- Inclusion of a consensus that there is a slight increase in breast cancer for women taking hormone replacement therapy (American Cancer Society, 2017; [www.breastcancer.org](http://www.breastcancer.org), 2017)
- Discussion of recent studies and research reviews that indicate testosterone replacement therapy does not increase the risk of prostate cancer (Debruyne & others, 2017; Yassin & others, 2017)
- Description of a recent study in which TRT-related benefits in quality of life and sexual function were maintained for 36 months after initial treatment (Rosen & others, 2017)
- Discussion of a recent study that found the more frequently middle-aged and older adults had sex, the better their overall cognitive functioning was, and especially so in working memory and executive function (Wright, Jenks, & Demeyere, 2018)
- Inclusion of recent research on 24- to 93-year-olds that found everyday problem solving performance increased from early to middle adulthood but began to show a decline at about 50 years of age (Chen, Hertzog, & Park, 2017). In this study, fluid intelligence predicted everyday

problem solving performance in young adults, but with increasing age, crystallized intelligence became a better predictor.

- Coverage of a Danish study across 33 years of individuals 20 to 93 years of age that found that those who engaged in a light level of leisure time physical activity lived 2.8 years longer; those who engaged in a moderate level of leisure time physical activity lived 4.5 years longer; and those who engaged in a high level of leisure time physical activity lived 5.5 years longer (Schnohr & others, 2017)
- Discussion of a recent study that found spiritual wellbeing predicted which heart failure patients would still be alive five years later (Park & others, 2016)
- New research that indicated adults who volunteered had lower resting pulse rates and their resting pulse rate improved when they were deeply committed to religion (Krause, Ironson, & Hill, 2017)

#### **Chapter 14: Socioemotional Development in Middle Adulthood**

- Discussion of a recent study in which participating in an intergenerational civic engagement program enhanced older adults' self-perceptions of generativity (Grunewald & others, 2016)
- Inclusion of recent research that found a higher level of generativity in middle age was linked to greater wisdom in late adulthood (Ardelt, Gerlach, & Vaillant, 2018)
- Coverage of a recent study of gender differences in coping with stress that revealed women were more likely than men to seek psychotherapy, talk to friends about the stress, read a self-help book, take prescription medication, and engage in comfort eating (Liddon, Kingerlee, & Berry, 2017). In this study, when coping with stress, men were more likely than women to attend a support group meeting, have sex or use pornography, try to fix problems themselves, and not admit to having problems.
- Description of recent research that found individuals high in openness to experience have superior cognitive functioning across the life span, have better health and well-being (Strickhouser, Zell, & Krizan, 2017), and are more likely to eat fruits and vegetables (Conner & others, 2017)
- Inclusion of recent research that found conscientiousness was linked to better health and well-being (Strickhouser, Zell, & Krizan, 2017), being more academically successful in medical school (Sobowale & others, 2018), having a lower risk of internet addiction (Zhou & others, 2017) not being as addicted to Instagram (Kircaburun & Griffiths, 2018), having a lower risk for alcohol addiction (Raketic & others, 2017), and having a lower risk of dementia (Terracciano & others, 2017)
- Coverage of recent research indicating that being optimistic is linked to having better psychological adjustment (Kolokotroni, Anagnostopoulos, & Hantzi, 2018)
- Inclusion of recent research in which more pessimistic college students had more anxious mood and stress symptoms (Lau & others, 2017)
- Discussion of a recent study of married couples that revealed the worst health outcomes occurred when both spouses decreased their optimism across a four-year period (Chopik, Kim, & Smith, 2018)
- Description of a recent study in which lonely individuals who were optimistic had a lower suicide risk (Chang & others, 2018)
- Inclusion of a recent research review in which the personality trait that changed the most as a result of psychotherapy was emotional stability, followed by extraversion (Roberts & others, 2017). In this study, the personality traits of individuals with anxiety disorders changed the most, those with substance use disorders the least.
- New discussion of the increasing divorce rate in middle-aged adults and the reasons for the increase (Stepler, 2017), as well as the recent labeling of divorce in 50+- year-old adults as "gray divorce" (Crowley, 2018)

- Coverage of a recent study that found the greatest risks for getting divorce in middle adulthood were a shorter duration of marriage, lower marital quality, having financial problems, and not owning a home (Lin & others, 2018). Also in this study, onset of an empty nest, the wife's or husband's retirement, and the wife or husband having a chronic health condition were not related to risk for divorce in middle adulthood.
- Description of a recent Swiss study of middle-aged adults in which single divorcees were more lonely and less resilient than their married and remarried counterparts (Knopfli & others, 2017). Also in this study, single divorcees had the lowest self-reported health.
- New commentary that grandparents especially play important roles in grandchildren's lives when family crises such as divorce, death, illness, abandonment, or poverty occur (Dolbin-McNab & Yancura, 2018)
- New content on how grandparents facilitate women's participation in the labor force in many countries
- Coverage of a recent study of adult grandchildren in which grandparents provided more frequent emotional support to the grandchildren when parents were having life problems and more frequent financial support when parents were unemployed (Huo & others, 2018)

## **Chapter 15: Physical and Cognitive Development in Late Adulthood**

- Update on life expectancy in the United States, which is now at 79 years of age, including the narrowing gender difference (U.S. Census Bureau, 2018)
- Discussion of recent projections for life expectancy in 2030 for 35 developed countries, with the United States increasing in life expectancy but having one of the lowest projected increases of all countries in the study (Kontis & others, 2017). In this study, South Korea is expected to have the highest life expectancy of the 35 countries in 2030, with South Korean women the first group to break the 90-year barrier with a projected life expectancy of 90.8 in 2030.
- Coverage of a recent study of U.S. and Japanese centenarians that found in both countries, health resources (better cognitive function, fewer hearing problems, and positive daily living activities) were linked to a higher level of well-being (Nakagawa & others, 2018)
- Update on gender differences in the oldest people alive in the world today with no men in the oldest 25 individuals
- Description of recent research confirming that shorter telomere length is linked to Alzheimer disease (Scarabino & others, 2017)
- Updated and expanded coverage of the diseases that are linked to mitochondrial dysfunction to include cardiovascular disease (Anupama, Sindhu, & Raghu, 2018), Parkinson disease (Lason, Hanss, & Kruger, 2018), diabetic kidney disease (Forbes & Thorburn, 2018), and impaired liver functioning (Borrelli, 2018)
- Inclusion of recent research in which at-risk overweight and older adults lost significant weight and improved their mobility considerably by participating in a communitybased weight reduction program (Rejeski & others, 2017)
- Updated information about some diseases that women are more likely to die from than men are (Ostan & others, 2016)
- Inclusion of a recent study of older adults that revealed walking a dog regularly was associated with better physical health (Curl, Bibbo, & Johnson, 2017)
- Description of a recent study that found a 10-week exercise program improved the physical (aerobic endurance, agility, and mobility) and cognitive (selective attention and planning) functioning of elderly nursing home residents (Pereira & others, 2017)
- Coverage of a recent study in which relative to low physical fitness individuals, those who increased from low to intermediate or high fitness were at a lower risk for all-cause mortality (Brawner & others, 2017)



- Description of a recent study of frail elderly adults in which a high-intensity walking intervention reduced their frailty, increased their walking speed, and improved their mobility (Danilovich, Conroy, & Hornby, 2017)
- Coverage of recent research on older adults that found poorer visual function was associated with cognitive decline (Monge & Madden, 2016; Roberts & Allen, 2016) and having fewer social contacts and engaging in less challenging social/leisure activities (Cimarolli & others, 2017)
- New discussion of a recent Japanese study of older adults (mean age: 76 years) in which having had cataract surgery reduced their risk of developing mild cognitive impairment (Miyata & others, 2018)
- In a recent study of 80- to 106-year-olds, there was a substantial increase in hearing loss in the ninth and then in the tenth decade of life (Wattamwar & others, 2017). In this study, although hearing loss was universal in the 80- to 106-year-olds, only 59 percent of them wore hearing aids.
- New discussion of a recent study of 65- to 85-year-olds that dual sensory loss in vision and hearing was linked to reduced social participation and less social support, as well as increased loneliness (Mick & others, 2018)
- Coverage of a recent study of elderly adults that found those who had a dual sensory impairment involving vision and hearing had functional limitations, experienced cognitive decline, were lonely, and had communication problems (Davidson & Guthrie, 2018)
- New study indicating that older adults with a dual sensory impairment involving vision and hearing had more depressive symptoms (Han & others, 2018)
- Discussion of a recent research review that concluded older adults have a lower pain sensitivity but only for lower pain intensities (Lautenbacher & others, 2017)
- New commentary that although decreased pain sensitivity can help older adults cope with disease and injury, it also can mask injuries and illnesses that need to be treated
- Coverage of a recent study in which a Mediterranean diet reduced the risk for cardiovascular disease in older adults (Nowson & others, 2018)
- Discussion of a recent study that revealed long sleep duration predicted all-cause mortality in individuals 65 years and older (Beydoun & others, 2017)
- Description of a recent Chinese study that found that older adults who engaged in a higher level of overall physical activity, leisure-time exercise, and household activity were less likely to have sleep problems (Li & others, 2018)
- Description of a recent study that found older adults' lower level of selective attention was linked to their inferior driving performance (Venkatesan & others, 2018)
- Inclusion of a recent study that found slow processing speed predicted an increase in older adults' falls one year later (Davis & others, 2017)
- Inclusion of a recent study of older adults that found playing processing speed games for five sessions a week across four weeks improved their processing speed (Nouchi & others, 2017)
- Description of a recent experimental study that revealed yoga practice that included postures, breathing, and meditation improved the attention and information processing of older adults (Gothe, Kramer, & McAuley, 2017)
- Coverage of a recent study that found that when older adults regularly engaged in mindfulness meditation their goal-directed attention improved (Malinowski & others, 2017)
- Description of a recent study that found a mindfulness training program improved older adults' explicit memory (Banducci & others, 2017)
- Coverage of a recent study that revealed imagery strategy training improved older adults' working memory (Borella & others, 2017)
- Inclusion of recent research in which aerobic endurance was linked to better working memory in older adults (Zettel-Watson & others, 2017)

- Discussion of recent research with young, middle-aged, and older adults that found all three age groups' working memory improved with working memory training but that older adults improved less than young adults with the training (Rhodes & Katz, 2017)
- Coverage of a recent study of older adults that found slower processing speed was associated with unsafe driving (Hotta & others, 2018)
- Discussion of a recent experimental study in which high-intensity aerobic training was more effective than moderate aerobic training or resistance training in improving older adults' processing speed (Coetsee & Terblanche, 2017)
- Description of a recent study in which self-reflective exploratory processing of difficult life circumstances was linked to a higher level of wisdom (Westrate & Gluck, 2017)
- Discussion of a recent study of older adults in 10 European countries that revealed improved memory between 2004 and 2013 with the changes more positive for those who had decreases in cardiovascular diseases and increases in exercise and educational achievement (Hessel & others, 2018)
- New coverage of a recent Australian study that found older adults who had retired from occupations that involved higher complexity maintained their cognitive advantage over their counterparts who worked in less complex occupations (Lane & others, 2017)
- New discussion of a recent study of older adults working in low complexity jobs who experienced novelty in their work (assessed through recurrent work-task changes) was linked to better processing speed and working memory (Oltmanns & others, 2017)
- Inclusion of recent research revealed that older adults with type 2 diabetes had greater cognitive impairment than their counterparts who did not have the disease (Bai & others, 2017)
- Inclusion of a recent study that revealed older adults who continued to work in paid jobs had better physical and cognitive functioning than retirees (Tan & others, 2017)
- Coverage of a recent study that found the following were among the most important motives and preconditions to continue working beyond retirement age: financial, health, knowledge, and purpose in life (Sewdas & others, 2017)
- Description of a recent research review in which engaging in low or moderate exercise was linked to improved cognitive functioning in older adults with chronic diseases (Cai & others, 2017)
- Description of recent research in which participating in physical activity in late adulthood was linked to less cognitive decline (Gow, Pattie, & Geary, 2017)
- Coverage of a recent study that found fish oil supplementation improved the working memory of older adults (Boespflug & others, 2016)
- New description of a study that revealed cognitive training using virtual reality-based games with stroke patients improved their attention and memory (Gamito & others, 2017)
- Updated statistics on the percentage of U.S. older adults in different age groups in the work force, including 2017 data (Mislinski, 2017)
- Inclusion of a recent study that revealed baby boomers expect to work longer than their predecessors from prior generations (Dong & others, 2017)
- Updated data (2017) on the percentage of American workers who are very confident that they will have a comfortable retirement (Greenwald, Copeland, & VanDerhei, 2017)
- Updated data on the number of people in the U.S. who currently have Alzheimer disease (5.7 million) (Alzheimer's Association, 2018)
- New content on women being more likely to have the APOE4 gene than men and commentary about the APOE4 gene being the strongest genetic predictor of late-onset (65 years and older) Alzheimer disease (Dubal & Rogine, 2017; Giri & others, 2017)
- New content on APP, PSEN1, and PSEN2 gene mutations being linked to the early onset of Alzheimer disease (Carmona, Hardy, & Guerreiro, 2018)

- Inclusion of new content on how epigenetic factors might influence Alzheimer disease including the role of DNA methylation (Kader & others, 2018; Marioni & others, 2018; Zaghlool & others, 2018)
- Update on drugs that have been approved by the U.S. Food and Drug Administration to treat Alzheimer disease, now totaling five drugs (Almeida, 2018)

## **Chapter 16: Socioemotional Development in Late Adulthood**

- Description of a recent study that supports the activity theory of aging: an activity-based lifestyle was associated with lower levels of depression in older adults (Juang & others, 2017)
- Coverage of a recent study that found a reminiscence intervention improved the copying skills of older adults (Satorres & others, 2018)
- New commentary by Laura Carstensen (2016) that when older adults focus on emotionally meaningful goals they are more satisfied with their lives, feel better, and experience fewer negative emotions
- New recommendations on ways that older adults can become more socially engaged (Sightlines Project, 2016)
- Inclusion of a recent study of individuals 22 to 94 years of age that revealed on days that middle-aged and older adults, as well as individuals who were less healthy, used more selective optimization with compensation strategies, they reported having a higher level of happiness (Teshale & Lachman, 2016)
- Inclusion of a recent meta-analysis that concluded emotional experiences in older adults are more positive than for younger adults (Laureiro-Martinez, Trujillo, & Unda, 2017). Also, in this review, it was concluded that older adults focus less on negative events in the past than younger adults did.
- New description of a study that found older adults with a higher level of conscientiousness experienced less cognitive decline as they aged (Luchetti & others, 2016)
- In older adults, higher levels of conscientiousness, openness to experience, agreeableness, and extraversion were linked to positive emotions, while neuroticism was associated with negative emotions (Kalbaugh & Huffman, 2017)
- New content indicating that individuals who are extraverted and low in neuroticism are more likely to live longer (Graham & others, 2017)
- Discussion of a recent study of 15- to 105-year-old individuals in 29 European countries that revealed younger individuals engaged in age discrimination more than did older individuals (Bratt & others, 2018)
- Updated data on the significant increase in Internet, smartphone, and social networking use by U.S. older adults (Anderson, 2017)
- Coverage of a recent Hong Kong study that found adults 75 years and older who used smart phones and the Internet to connect with family, friends, and neighbors had a higher level of psychological well-being than their counterparts who did not use this information and communicative technology (Fang & others, 2018)
- Discussion of a recent study in which partnered older adults were more likely to receive Social Security, enjoy relatively higher Social Security benefits, and less likely to live in poverty (Lin, Brown, & Hammersmith, 2017)
- Inclusion of a recent study indicating that the longer older adults had been married, the better their marital quality, owning a home, and being wealthier described older adults who were less likely to get divorced (Lin & others, 2018)
- New discussion of recent research focused on the health and well-being of older adult LGBT individuals, with a focus on comparisons of those who are married, unmarried partnered, and single (Goldsen & others, 2017)
- Updated data on the percentage of men and women 65 years and older who are divorced, which increased dramatically from 1980 to 2015 (U.S. Census Bureau, 2016)

- Updated data on the dramatic increase in older adult men and women who are now cohabiting (Brown & Wright, 2017)
- Coverage of a recent national study of older adults in which among men, cohabitators' psychological well-being fared similarly to married men, better than daters and the unpartnered (Wright & Brown, 2017). In contrast, there were few differences in psychological well-being by partnership status of the women.
- New discussion of research indicating that middle-aged adults feel more positive about providing support for their children than for their aging parents (Birditt & others, 2018)
- Description of a recent study that revealed older adults, compared to younger adults, reported fewer problems with friends, fewer negative friendship qualities, less frequent contact with friends, and more positive friendship qualities with a specific friend (Schlosnagle & Strough, 2017)
- Expanded discussion of socioemotional selectivity theory to include the role of a decreasing amount of time to live as an explanation of prioritizing meaningful relationships when people get old (Moss & Wilson, 2017)
- Updated data on the number of older adults living in poverty, including the continuing gender difference that a larger percentage of older adult women live in poverty (U.S. Census Bureau, 2018)
- Coverage of a recent 2016 Nielsen survey that found older adults watch a staggering amount of television— 51 hours, 32 minutes per week, far more than any other age group (Recode, 2016)
- Description of a longitudinal study from 13 to 72 years of age in which attachment anxiety declined in middle aged and older adults (Chopik, Edelstein, & Grimm, 2018). Also in this study, attachment avoidance decreased in a linear fashion across the life span. Being in a relationship was linked with lower attachment anxiety and attachment avoidance. And men were higher in attachment avoidance throughout the life span.
- Inclusion of a recent study in which 18 percent of older adults stated that they were often or frequently lonely (Due, Sandholt, & Waldorff, 2017)
- Extensive revision and updating of the discussion of volunteering by older adults
- Updated data on the percentage of older adults who engage in volunteering (U.S. Bureau of Labor Statistics, 2016)
- Inclusion of recent research on links between volunteering by older adults and improved health (Burr & others, 2018; Carr, Kail, & Rowe, 2018), better cognitive functioning (Proulx & others, 2018), and less loneliness (Carr & others, 2018)
- Expanded and updating of why volunteering by older adults has positive outcomes for them (Carr, 2018)
- Inclusion of recent research indicating that the life- satisfaction of Latino older adults was higher than for African American and non-Latino older adults (Zhang, Braun, & Wu, 2017)
- Description of a recent study that revealed four factors emerged as best characterizing successful aging: proactive engagement, wellness resources, positive spirit, and valued relationships (Lee, Kahana, & Kahana, 2017)

## **Chapter 17: Death, Dying, and Grieving**

- Inclusion of a recent study in which completion of an advanced directive was associated with a lower probability of receiving life-sustaining treatment (Yen & others, 2017)
- Recent updates on countries that allow assisted suicide (Belgium, Canada, Finland, Luxembourg, the Netherlands, and Switzerland)
- Update on the increasing number of states that allow assisted suicide—California, Colorado, Montana, Oregon, Vermont, and Washington, as well as Washington, DC
- New definition of assisted suicide as a key term and clearer distinctions made between euthanasia, in which the patient self-administers the lethal medication and is allowed to decide

when and where to do this, and assisted suicide, in which the physician or a third party administers the lethal medication

- Inclusion of a recent Gallup poll in which 69 percent of U.S. adults said that euthanasia should be legal, 51 percent said that they would consider ending their own lives if faced with a terminal illness, and 50 percent reported that physician-assisted suicide is morally acceptable (Swift, 2016)
- New content on recent criticisms of the “good death” concept to move away from focusing on a single event in time to improving people’s last years and decades of life (Pollock & Seymour; Smith & Periyakoil, 2018)
- New research on the percentage of adult bereavement cases that involve prolonged grief disorder and ages at which this disorder is more likely to occur (Lundorff & others, 2017)
- Inclusion of a 7-year longitudinal study of older adults in which those experiencing prolonged grief had greater cognitive decline than those with normal grief (Perez & others, 2018)
- Discussion of a recent study that found individuals with complicated grief had a higher level of the personality trait neuroticism (Goetter & others, 2018)
- New research indicating that cognitive behavior therapy reduced prolonged grief symptoms (Bartl & others, 2018)
- Updated statistics on the percentage of widows in the United States (Administration on Aging, 2015)
- Description of a recent cross-cultural study indicating that depression peaked in the first year of widowhood for both men and women, but that depression continued to be present in widowed men for 6 to 10 years post-widowhood (Jadhav & Weir, 2018)
- In a recent study, volunteering reduced widowed older adults’ loneliness (Carr & others, 2018)
- Updated data on cremation with an increase to 51.6 percent of deaths followed by cremation in the United States in 2017 with a projected increase to 57.5 percent in 2022 (Cremation Association of North America, 2018). In 2015 in Canada, cremation occurred following 70.5 percent of deaths with a projected increase to 75.1 percent in 2022.