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Gabriela Martorell
Virginia Wesleyan University

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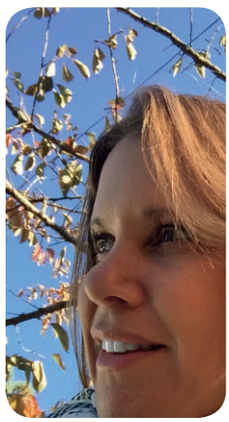

Gabi Martorell

Gabriela Martorell

Gabriela Alicia Martorell was born in Seattle, Washington, but moved as a toddler to Guatemala. At eight, she returned to the United States and lived in Northern California until leaving for her undergraduate training at the University of California, Davis. After obtaining her B.S. in Psychology, she earned her Ph.D. in Developmental and Evolutionary Psychology at the University of California, Santa Barbara. She now works as a Professor of Psychology at Virginia Wesleyan University.

Gabi has taught courses in Introductory Psychology, Research Methods, Lifespan Human Development, Infant Development, Child Development, Adolescent Development, Cross-Cultural Psychology, Evolutionary Psychology, Developmental Psychopathology, and capstone community-based learning courses in Early Childhood Education and Adulthood and Aging. She is committed to teaching, mentoring, and advising. She is also a volunteer trainer for Court Appointed Special Advocates (CASA) and a group fitness instructor for the YMCA of South Hampton Roads.

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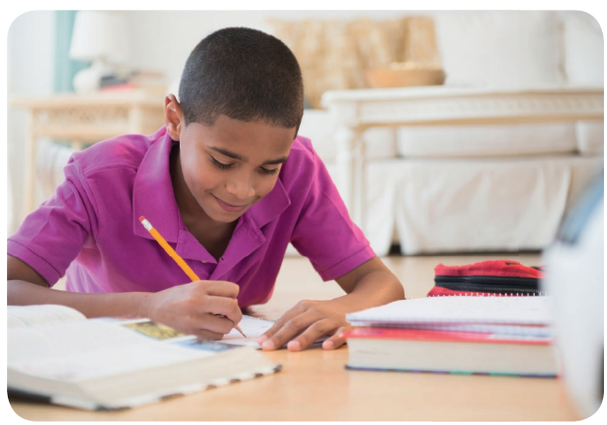

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GUIDE TO DIVERSITY, EQUITY, AND INCLUSION

Information in this text is informed by research drawn from a wide variety of journals dedicated to investigating the diversity of human psychology. This includes journals such as the *Journal of Cross-Cultural Psychology*; *Cross-Cultural Research*; *Psychology and Culture*; *Cultural Diversity and Ethnic Minority Psychology*; *Journal of Black Psychology*; *African Health Sciences*; *American Psychologist*; *American Journal of Community Psychology*; *American Sociological Review*; *Social Policy Report*; *American Ethnologist*; *Ethnology*; *American Anthropologist*; *Cultural Anthropology*; *Annual Review of Anthropology*; *Psychological Anthropologist; International Journal of Intercultural Relations*; *Journal of Intercultural Relations*, *Learning, and Individual Differences*; *International Journal of Psychological Studies*; *Journal of International Women's Studies*; *International Journal of Psychology*; *International Journal of Behavioral Development*; *Sex Roles; GLQ: Journal of Lesbian and Gay Studies*; *Sexualities*; *The Journal of Sexual Medicine*; *Journal of Intellectual Disability Research*; *Journal of Communication Disorders*; *Journal of Attention Disorders*; *Journal of Affective Disorders*; *Journal of Autism and Developmental Disorders*; *Obesity Review*; *Obesity*; *Childhood Obesity*; and *Birth Defects Research*.

As shown in the following list, studies and researchers representing diverse national and international samples and issues are also represented in each chapter.

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- Diversity in family structure with research by Kramer et al. (2019), Kramer (2020), Bradbury et al. (2014), and Kinsella & Phillips (2005)
- Culture, definition and discussion
- Collectivism versus individualism
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- BIPOC, definition
- Race as an important social category and influence with research by Yudell et al. (2016) and Ossorio & Duster (2005)
- Children of immigrant families, highlighting research conducted by Budiman (2020), Camarota & Zeigler (2016), Radford & Noe-Bustamante (2019), and the Migration Policy Institute (2020)
- Poverty and the disproportionate effect of the COVID-19 pandemic on low- and middle-income countries, including data collected by the World Bank Organization (2019), Han et al. (2020), and Parolin et al. (2021)
- Ethnic gloss
- Vygotsky's sociocultural theory
- WEIRD (Western, educated, industrialized, rich, and democratic) samples and the importance of including diverse, non-WEIRD samples in psychological research
- Ethnographic studies
- Diversity in research with information drawn from Swartz et al. (2019) and AlShebli et al. (2018)

Chapter 2 Conception, Heredity, and Environment

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- Adoption; racial and ethnic diversity in, disabilities and special health care needs, same-sex parents with data collected by the U.S. Department of State (2020) and Kreider & Lofquist (2014)
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- Folk beliefs about pregnant mothers with anthropological data collected by Gottleib (2017)
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- Racial and ethnic disparities in childbirth risk and maternal mortality with research by Lu (2018) and Hoyert & Miniño (2020)
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- The influence of cultural values on beliefs about the importance of play with research by Gaskins et al. (2007), Parmar et al. (2004), Izumi-Taylor et al. (2010), and Bodrova & Leong (2005)
- The relationship between cultural values, children's behavior, and peer acceptance with research by Chen (2012), Rogoff (2003), Farver et al. (1995), and Martínez-Lozano et al. (2011)
- Object manipulation and sociodramatic play in non-Western societies with research by Morelli et al. (2003) and Lew-Levy & Boyette (2018)
- Corporal punishment across cultures, data and discussion with research by Human Rights Watch (2014), Ripoll-Núñez & Rohner (2006), Heekes et al. (2020), Lansford & Dodge (2008), Xu et al. (2000), Parker & Horowitz (2015), Ellison & Bradshaw (2009), Renteln (2010), Gershoff et al. (2012), Berlin et al. (2009), and Straus (2010)
- Cultural differences in children's differing interpretations of and responses to disciplinary methods with research by Sharf & Goldner (2018) and Olsen et al. (2002)
- Discussion of biased aspects of Baumrind's parenting styles typology
- Children's varied interpretations of parenting strategies as a function of cultural values with research by Zhao (2002), Chao (1994), Chao (2001), Varela et al. (2004), Baumrind (1972), McLeod et al. (1994), Dornbusch et al. (1987), and Steinberg et al. (1994)
- Traditional cultures and prosocial values with research by Eisenberg et al. (2007, 1992) and Knafo & Plomin (2006)
- Cross-cultural and gender differences in overt and relational aggression with research by Lansford et al. (2012), Hyde (2014), and Archer (2004)
- Cultural values and their influence on aggression in children with research by Zahn-Waxler et al. (1996) and Chen (2010)

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- Cross-cultural data on habits and factors contributing to obesity/overweight in children with research by Monzani et al. (2019), Shriver et al. (2018), Piernas & Popkin (2010), Park et al. (2010), Smith et al. (2019), Cairns et al. (2013), Andreyeva et al. (2011), Potvin et al. (2019), Tan et al. (2018), Evans et al. (2012), and Kelley et al. (2015)
- Fast-food consumption, race/ethnicity and overweight/obesity with research by Vikraman et al. (2015)
- Physical activity trends across cultures and features of modern life contributing to the decline with research by Tomkinson & Olds (2007), Tremblay et al. (2016), Bwynn et al. (2010), and Shephard (2007)
- Poverty and organized sports participation with research by The Aspen Institute (2020)

- Low- and middle-income countries and the "double burden" of malnutrition and obesity with research by the World Health Organization (2020)
- Overweight/obesity and race/ethnicity with research by Fryar et al. (2020)
- The influence of urban versus rural and immigration status on physical inactivity with research by Johnson & Johnson (2015), the Council on Sports Medicine and Council on School Health (2006), and Singh et al. (2013)
- The influence of race/ethnicity, poverty and region on asthma, diabetes, and childhood hypertension with research by the Federal Interagency Forum on Child and Family Statistics (2020), Centers for Disease Control and Prevention (2018b), Patterson et al. (2014), Farsani et al. (2013), Dabelea et al. (2014), Imperatore et al. (2012), Bucher et al. (2013), and Rosner et al. (2013)
- Cultural attitudes and health care with research by Groce & Zola (1993) and Kridli (2002)
- Tooth decay, global data with research by the World Health Organization (2017)
- Racial/ethnic and socioeconomic disparities in dental caries with research by the Centers for Disease Control and Prevention (2021) and the U.S. Department of Health and Human Services (2020, 2016)
- Discussion of how and why economic disadvantage results in disproportionate health care access with research by the National Center for Health Statistics (2019), Kirkpatrick et al. (2012), Federal Interagency Forum on Child and Family Statistics (2020), and Bloom et al. (2012)
- Cultural and gender differences in depression prevalence with research by Polanczyk et al. (2015), Ghandour et al. (2019), and Perou et al. (2013)

Chapter 12 Cognitive Development in Middle Childhood

- Cultural influences on Piagetian task performance with research by Mishra (2001), Dasen (1975, 1984, 1994), Price-Williams et al., (1969), and Shayer et al. (2007)
- Experience in cultural contexts and mathematical abilities with research by Guberman (1996), Resnick (1989), and Carraher et al. (1988)
- Cultural critiques of IQ testing with research by Lynn et al. (2007) and Sternberg (2004)
- Tacit knowledge and the cultural transmission of skills with research by Grigorenko et al. (2004) and Sternberg (2004)
- Data and discussion on racial/ethnic differences in IQ with research by Neisser et al. (1996), Dickens & Flynn (2006), Ang et al. (2010), Rindermann & Pichelmann (2015), Nisbett et al. (2012), and Colman (2016)
- The influence of socioeconomic status on the heritability of IQ with research by Nisbett et al. (2012), Hanscombe et al. (2012), and Tucker-Drob & Bates (2016)
- Asian American student achievement and cultural values with research by Nisbett et al. (2012)
- Varying conceptions of intelligent behavior across different cultures with research by Grigorenko et al. (2001), Rogoff (2003), Wober (1971), Ellis & Siegler (1997), and Helms (1992)
- Culture-free and culture-fair intelligence tests
- Second-language learners in U.S. school systems with research by the Federal Interagency Forum on Child and Family Statistics (2021), the National Center for Education Statistics (2017), Padilla et al. (1991), and Gándara & Escamilla (2017)
- English-immersion approaches and bilingual education with research by Padilla et al. (1991) and Gándara & Escamilla (2017).
- Historical, regional and gender differences in literacy rates across the globe with research by Roser & Ortiz-Espina (2018), and the UNESCO Institute for Statistics (2017)
- Gender differences in school achievement with research by Voyer & Voyer (2014), Halpern et al. (2007), Freeman (2004), Scheiber et al. (2015), Camarata & Woodcock (2006), Reilly et al. (2015), Lindberg et al. (2010), Else-Quest et al. (2010), and Nisbett et al. (2012)
- Indirect influences of socioeconomic status on academic achievement with research by Evans (2004), Davis-Kean (2005), Rathbun et al. (2004), Johnston et al. (2015), Alexander et al. (2007), Reardon (2011), and Paschall et al. (2018)
- The influence of growing up in poverty on brain development with research by Hackman et al., (2010), Blair & Raver (2016), and Hair et al. (2015)
- Racial/ethnic gaps in school achievement with research by Lee & Reeves (2012), the National Center for Education Statistics (2007, 2021), and Hernandez & Macartney (2008)
- Class size across different countries with research by the Organisation for Economic Co-Development and Learning (2021)
- Variations in philosophy and implementation of charter schools with research by White et al. (2020), Betts & Tang (2016), Berends (2015), Clark et al. (2015), McQuiggan et al. (2017), Christian Home Educators Association of California (2013), Ray (2010), Kunzman & Gaither (2013), and Lubienski et al. (2013)
- Differential access of BIPOC and poor children to educational technology with research by Day et al. (2005), DeBell & Chapman (2006), and Van Lancker & Parolin (2020)
- Differential access to educational technology, global data with research by UNESCO (2021) and the Organisation for Economic Co-Development and Learning (2021)
- Educating children with disabilities with research from the National Center for Education Statistics (2020) and Horowitz et al. (2017)

- Causes, interventions and outcomes for children with intellectual disabilities with research by the American Psychiatric Association (2013), Zablotsky et al. (2015), and Olusanya et al. (2020)
- Gender differences in dyslexia with research by Arnett et al. (2017)
- Cross-cultural similarities in brain activation while reading with research by Kerns et al. (2019)
- Racial/ethnic differences in ADHD with research by Pastor et al. (2015)
- Identifying and assessing gifted children with research by McClain & Pfeiffer (2012) and the National Center for Education Statistics (2018)
- Educating gifted children with research by Vogl & Preckel (2014)

Chapter 13 Psychosocial Development in Middle Childhood

- The expression of guilt, shame and pride as a function of culture with research by Trommsdorff & Cole (2011), Olthof et al. (2000), Furukawa et al. (2012), Cole et al. (2002), and Cole et al. (2006)
- Cultural values and their influence on emotional self-regulation and self-restraint with research by Trommsdorff & Cole (2011), Ramzan & Amjad (2017), and Matsumoto et al. (2008)
- Collectivism-individualism, empathy, and prosocial behaviors with research by Chopik et al. (2017) and Huppert et al. (2019)
- Differential consequences of parenting style as a function of cultural values with research by Pinquart (2016, 2017, 2017a), Rudy & Grusec (2006), Kordi & Baharudin (2010), Soenens & Beyers (2012), Halgunseth et al. (2006), Domènech Rodriguez et al. (2009), Kazemi et al. (2010), Garcia & Garcia (2009), and Calafat et al. (2014)
- Data and discussion on direct and indirect influences of poverty on child outcomes with research by the Federal Interagency Forum on Child and Family Statistics (2020), U.S. Census Bureau (2017), Chaudry & Wimer (2016), Morris et al. (2017), and Yoshikawa et al. (2012)
- Demographic changes in family structure, global data with research by the Organisation for Economic Co-Operation and Development (2019)
- Variations in family structure and their influence on child outcomes with research by the Federal Interagency Forum on Child and Family Statistics (2020)
- The interaction of poverty and gender with family transitions with research by Briggs et al. (2019), Fomby & Osborne (2017), and Cavanagh & Fomby (2019)
- Divorce rates, global data and discussion with research by Wang & Schofer (2018), Organisation for Economic Co-Operation and Development (2019), Jones (2015), and Clark & Brauner-Otto (2015)
- Divorce in traditional cultures with research by Howell (1979), Blurton Jones et al. (2000), Marlowe (2010), Enwereji (2008), Greaves & Kramer (2018), and Hurtado & Hill (1996)
- One-parent families, data, outcomes, and resilience factors with research by the U.S. Census Bureau (2020), Brown (2010), Duriancik & Goff (2019), Lerman et al. (2017), Amato (2005), Seltzer (2000), Ricciuti (2004), Heiland & Liu (2006), Craigie (2008), Waldfogel et al. (2010), Brown (2010), and Bjarnason et al. (2012)
- Cohabiting and socioeconomic variables with research by Livingstron (2018), Manning (2017), Mather (2010), and Kroeger & Smock (2014)
- Cohabiting, cultural frequency, and relationship dissolution with research by Liefbroer & Dourleijn (2006)
- Gay and lesbian parents, global and U.S. data with research by the Pew Research Center (2019), Gates (2013, 2015), and the U.S. Census Bureau (2020)
- Gay and lesbian parents and child outcomes with research by Golumbuk et al. (2013), Meezan & Rauch (2005), Pawelski et al. (2006), Biblarz & Stacey (2010), Perrin et al. (2013), Fedewa et al. (2015), Manning et al. (2014), Schumm & Crawford (2019), and Fedewa et al. (2015)
- Racial/ethnic demographics of adopted children over time, data and discussion with research by Brodzinsky & Pinderhughes (2002), and the U.S. Department of Health and Human Services (2020)
- International and transracial adoption with research by Vandivere et al. (2009), Zill (2017), Budiman & Lopez (2017), Bosch et al. (2003), Palacios & Brodzinsky (2010), and Lee et al. (2006)
- Sibling care across cultures with research by Cicirelli (1994), Hafford (2010), and Weisner (1993)
- Bullying, global data and discussion with research by UNESCO (2019, 2017) and Richardson & Hiu (2018)
- Discrimination, group norms, and social contact with research by Raabe & Beelmann (2011), Schmitt et al. (2014), Cameron et al. (2006), van Zalk & Kerr (2014), Tropp et al. (2014), Tezanos-Pinto et al. (2010), Beelmann & Hienemann (2014), and Jones & Rutland (2018)
- Gender-typed styles of children's play with research by Rose & Rudolph (2006), McHale et al. (2004), Rose & Smith (2018), Oberle et al. (2010), and Rose & Asher (2017)
- Cultural values and criteria for popularity with peers with research by Chen et al. (2005) and Chen et al. (2009)
- Gender differences in direct, indirect, and verbal aggression with research by Björkqvist (2018), Card et al. (2008), Preddy & Fite (2012), Smith et al. (2010), and Cillessen & Rose (2005)

- Risk factors for victimization with research by Hodges et al. (1999), Veenstra et al. (2005), Boulton & Smith (1994), Bacchini et al. (2015), Van Geel et al. (2014), and UNESCO (2019)

Chapter 14 Physical Development and Health in Adolescence

- Adolescence as a social construction
- Gender differences in the adolescent growth spurt with research by Susman & Rogol (2004)
- Secular trend and global data for age at puberty with research by Doe et al. (2019, 2019a), Arthur et al. (2016), Lewis et al. (2016), Papadimitriou (2016), Anderson et al. (2003), Euling et al. (2008), Song et al. (2015), Pathak et al. (2014), and Mendle (2014)
- Factors associated with earlier or later pubertal development across countries with research by Soliman et al. (2014), Slyper (2006), and Tremblay et al. (2014)
- Life stressors and early puberty in girls with research by Maisonet et al. (2010), Belsky et al. (2007), Ellis et al. (1999), Mendle et al. (2006), Tither & Ellis (2008), Belsky et al. (2015), Ellis & Del Giudice (2014), and Bleil et al. (2013)
- Variations in pubertal timing by race/ethnicity with research by Biro et al. (2013), Biro & Wien (2010), Cabrera et al. (2014), Papadimitriou (2016), and Herman-Giddens et al. (2012)
- Pubertal ceremonies across cultures with research by Keeney & Keeney (2013), Marván & Alcalá-Herrera (2019), Larson & Wilson (2004), Gilmore (1990), and Schlegel (2011)
- Trends in adolescent physical activity, global data with research by the World Health Organization (2020), Elgar et al. (2015), and Guthold et al. (2020)
- Data on and variations in physical activity in U.S. teens by gender and age with research by Kann et al. (2018), the Office of Disease Prevention and Health Promotion (2020), and Foltz et al. (2011)
- Racial/ethnic differences in sleep amount and quality with research by Wheaton et al. (2018)
- Adolescent overweight and obesity prevalence, global data with research by the World Health Organization (2018), UNICEF (2019), and Murtagh & the NCD Risk Factor Collaboration (2017)
- Adolescent overweight and obesity prevalence, U.S. data and racial/ethnic and socioeconomic differences, with research by the Centers for Disease Control and Prevention (2020), Fryar et al. (2018), Ogden et al. (2018), and Delamater et al. (2013)
- Racial/ethnic and gender differences in body satisfaction and their influence on eating disorders with research by Mäkinen et al. (2012), Susman & Rogol (2004), Bucchianeri et al. (2016), Gillen & Lefkowitz (2012), and Wardle et al. (2004)
- Global data on dieting in girls with research by Vereecken & Maes (2000)
- Eating disorders in BIPOC, data and discussion with research by Cheng et al. (2019), Wildes et al. (2001), Sonneville & Lipson (2018), Becker et al. (2003), and Uri et al. (2021)
- Eating disorders in LGBTQ youth with research by McClain & Peebles (2016), Meneguzzo et al. (2018), and Diemer et al. (2015)
- Alcohol use, global and U.S. data with research by the World Health Organization (2019, 2018), Kuperman et al. (2005), and Wong et al. (2006)
- Adolescent tobacco use, global and U.S. data with research by Gabhainn & François (2000)
- Greater risk from smoking for African American teens with research by Moolchan et al. (2006)
- Gender differences in adolescent depression with research by the World Health Organization (2020), Birmaher et al. (1996), and Hankin et al. (2007)
- Adolescent death, global and U.S. data with research by the World Health Organization (2021) and Heron (2019)
- Firearm deaths in the United States and other countries with research by the Centers for Disease Control and Prevention (2020), Grinshteyn & Hemenway (2016), and Blum & Qureshi (2011)
- Disparities in adolescent firearm deaths by race/ethnicity and gender with research by Price & Khubchandani (2017), Centers for Disease Control and Prevention (2020), and the AAP Committee on Injury and Poison Prevention (2000)
- Adolescent suicide, global data with research by the World Health Organization (2021)
- BIPOC and LGBTQ youth and risk of suicide with research by Curtin et al. (2018), Toomey et al. (2018), and Herman et al. (2014)

Chapter 15 Cognitive Development in Adolescence

- The influence of culturally relevant activities on formal reasoning skills with research by Kuhn (2006), Rogoff & Morelli (1989), Retschitzki (1989), Luri (1976), Gardiner & Kosmitzki (2005), and Chapell & Overton (2002)
- Gender-based critique of Kohlberg's moral development theory with research by Gilligan (1982, 1993), Brabeck & Shore (2003), Jaffee & Hyde (2000), Garmon et al. (1996), and Skoe & Diessner (1994)
- The three ethics, moral reasoning, and cultural values with research by Shweder et al. (1997), Guerra & Giner-Sorolla (2015), and Haidt et al. (1993)
- Variations in developmental trajectories of the three ethics as a function of culture with research by Jensen (2011)

- Religious influences on moral development with research by Jensen (1998, 2011), Fahmy (2018), and Scuipac et al. (2020)
- Cultural differences in the socialization of morality in girls with research by Flannagan et al. (1998)
- Prosocial behavior and well-being, cross-cultural data with research by Aknin et al. (2013) and Chan et al. (2014)
- Motivations for academic achievement in different countries with research by Larson & Wilson (2004)
- Social and economic barriers to education in developing countries with research by Larson & Wilson (2004)
- Cross-cultural variations in math and reading scores for girls and boys with research by the Organisation for Economic Co-Operation and Development (2019)
- Brain differences in boys and girls and their interaction with academic achievement with research by Halpern et al. (2007), Ingalhalikar et al. (2014), Ruigrok et al. (2014), and Luders et al. (2014)
- Trends in gender disparities in higher educational degrees awarded to men and women with research by Hyde & Mertz (2009), Fry (2019), and Okahana & Zhou (2017)
- Race/ethnicity and high school graduation rates, data and discussion with research by Garcia-Coll et al. (1996), Hussar et al. (2020), and Benner & Graham (2009)
- High school achievement across countries and between boys and girls with research by Psacharopoulos & Patrinos (2018), the World Bank (2018), and Hussar et al. (2020)
- Disparities in socioeconomic outcomes and high school achievement with research by Finn (2006), McFarland et al. (2019), Hussar et al. (2020), Stark & Noel (2015), and the Organisation for Economic Co-Operation and Development (2020)
- Gender, discrimination, and career choice with research by Chervan et al. (2017), Eccles (2004), the Organisation for Economic Co-Operation and Development (2020), Funk & Parker (2018), and Wang et al. (2013)
- Non-college-bound students with research by Bozick & DeLuca (2011), Whitmire (2020), Eccles (2004), and the National Research Council (1993)

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- Gender differences in identity processes over time and across cultures with research by Archer (1993), Marcia (1993b), Fischer (1981), Hodgson & Fischer (1979), Årseth et al. (2009), Beyers & Seiffge-Krenke (2010), and Kerpelmen et al., (2012)
- Identity development in and outcomes of LGBTQIA+ with research by Calzo et al. (2017), Bouchey & Furman (2003), Harper et al. (2016), Bregman et al. (2013), and Rosario et al. (2011)
- Transgender identity development processes with research by Flores et al. (2017), Meerwijk & Sevelius (2017), Boskey (2014), Diamond et al., (2011), and Grossman et al. (2005)
- Contextual factors in and outcomes of racial and ethnic identity formation with research by Phinney (1998), Yip et al. (2006), French et al. (2006), Syed & Juan (2012), Portes et al. (2000), Umana-Taylor et al., (2009), Smith & Silva (2011), and Rivas-Drake et al. (2014)
- Influence of perceived discrimination on racial and ethnic identity formation with research by Benner & Kim (2009), Greene et al. (2006), Mandara et al. (2009), Myrick & Martorell (2011), and Brody et al. (2006)
- Cultural socialization practices, definition and discussion of influence on ethnic identity formation with research by Juang & Syed (2010), Hughes et al. (2006), and Else-Quest & Morse (2015)
- Individualism-collectivism, the stability of the self, and self-construal with research by Marcus & Kitayama (1991), Dhawan et al. (1995), Rhee et al. (1995), Trafimow et al. (1991), Dabul et al. (1995), and Ma and Schoeneman (1997)
- Homosexuality prevalence, U.S. data with research by Savin-Williams (2006) and the Guttmacher Institute (2016)
- Biological correlates of sexual orientation with research by Blanchard (2017), Bogaert (2006), Vander-Laan et al. (2015), Skorska et al. (2017), Grimbos et al. (2010), Bao & Swaab (2010), Savic & Lindström (2008), Savic et al. (2005), Berglund et al. (2006), Safron et al. (2017), and Safron et al. (2018)
- Variations in sexual behavior across different cultures with research by Liang et al. (2019)
- Gender and race/ethnicity differences in sexual behavior in U.S. adolescents with research by the Centers for Disease Control and Prevention (2020c) and Finer & Philbin (2014)
- Religiosity, peer group norms, and sexual behavior with research by Haglund & Fehring (2010), Vasilenko & Espinosa-Hernández (2019), Abma et al. (2010), and Landor et al. (2011)
- Sexually transmitted infections, global data and causes with research by the World Health Organization (2019) and Advocates for Youth (2010)
- Vaccines and HPV risk, global data with research by Chibwesha & Stringer (2019)
- HPV, HIV, and other sexually transmitted infections, global and U.S. data from the Centers for Disease Control and Prevention (2021, 2020c, 2019h, 2017c), UNAIDS (2020, 2013), World Health Organization (2020), HIV.gov (2021), Rowley et al. (2019), Cyr et al. (2020), Bradley et al. (2014), and Mühlemann et al. (2018)
- Female genital mutilation with research by the World Health Organization (2020)

- Child marriage, global data and discussion with research by the United Nations Population Fund (2020)
- Teen pregnancy and childbirth in developing and developed countries with research by the World Health Organization (2020)
- Global variations in teen pregnancy and abortion rates with research by the Guttmacher Institute (2013), Lindberg et al. (2016), Sedgh et al. (2015), Fonner et al. (2014), and Santelli et al. (2017)
- Teen pregnancy, U.S. data and discussion with research by Ventura et al. (2014), Martin et al. (2019), and Kost et al. (2017)
- Racial/ethnic and socioeconomical influences on teen pregnancy with research by Martin et al. (2019) and Nash & Dreweke (2019)
- Variations in adolescent discretionary time use by culture with research by Larson & Verma (1999), Verma & Larson (2003), Larson (2001), Rideout et al. (2010), and Fredricks & Eccles (2010)
- Cultural differences in individuation processes with research by Dwairy & Achoui (2010), Giordano et al. (1993), Hardway & Fuligni (2006), and Telzer & Fulingi (2009)
- Cultural findings on the link between family climate and adolescent disclosure with research by Yau et al. (2009) and Yun et al. (2016)
- Outcomes of poverty and maternal unemployment with research by Kalil & Ziol-Guest (2005), Brand & Thomas (2014), and Sobelewski & Amato (2005)
- Sibling care across cultures with research by Weisner et al. (1977) and Maynard (2004)
- Internet use as a buffer for LGBTQ adolescents with research by Korchmaros et al. (2015)
- Cyberbullying, global data with research by Brochado et al. (2017)
- Dating violence, global data with research by UNICEF (2014)
- The risk of sexual violence as a function of race/ethnicity, sexual orientation, and gender with research by the Centers for Disease Control and Prevention (2021), Vagi et al. (2015), and Halpern et al. (2003)
- Poverty and disadvantaged communities as a risk factor for antisocial behavior with research by Piotrowska et al. (2015), Macmillan et al. (2004), Rekker et al. (2015), Chung & Steinberg (2006), Stewart & Simons (2010), Slattery & Meyers (2014), Criss et al. (2017), and Odgers et al. (2009)
- Treatment programs for behaviorally disturbed youth with research by Piquero et al. (2016), Reynolds et al. (2011), Tolan et al. (2003), Vieno et al. (2009), Petrosino et al. (2013), Petitclerc et al. (2013), and Dodge et al. (2006)
- Historical change in and cultural influences on emerging adulthood with research by Furstenberg et al. (2005), Lundberg & Pollak (2014), Arnett (2014), Crocetti et al. (2015), Zhong & Arnett (2014), and Buhl & Lanz (2007)

PREFACE

Child, third edition, is designed to be a brief but thorough account of human development from conception through adolescence, exposing students to culture and diversity and immersing them in practical application. *Child* combines a commitment to scholarly content, critical thinking, and real-life application of theory with a visually engaging and dynamic, interactive format. Written from a developmental framework and borrowing from multiple traditions and theoretical perspectives, *Child* also addresses the major periods of development and focuses on the important biological, psychological, and social forces driving change, highlighting theoretical distinctions, research findings, and new directions in the field. *Child* will engage your students and encourage the application of psychological concepts to everyday life.

Paired with McGraw Hill Education **Connect**, a digital assignment and assessment platform that strengthens the link between faculty, students, and course work, instructors and students accomplish more in less time. Connect for *Child* includes assignable and assessable videos, quizzes, exercises, and interactivities, all associated with learning objectives. Interactive assignments and videos allow students to experience and apply their understanding of psychology to the world with fun and stimulating activities.

Diversity, Equity, and Inclusion

In response to requests from faculty like you, substantial space has been devoted to addressing issues of diversity, equity, and inclusion. When relevant, each chapter includes current U.S. statistics drawn from census data and national governmental databases, including not just major population trends but also demographic and statistical information on ethnic and racial groups. In many cases, information on global statistics, trends, and cultural differences has been included as well.

Additionally, each chapter includes a *Perspectives on Diversity* feature. In this feature, a cross-cultural issue of interest is addressed from a global perspective. These research-based features address a wide variety of topics, including, for example, cultural differences in beliefs about conception and fertility, attitudes toward corporal punishment, and approaches to prenatal care and infant mortality.

Other forms of diversity have also been included. For example, the influence of socioeconomic status is highlighted for topics such as low birth weight, school achievement, tested IQ, and family relationships. Information is also included on children with disabilities and on different family structures, including gay and lesbian parents, stepparents, divorced parents, and families in which adults remain single by choice.

A complete list of diversity, equity, and inclusion topics begins on page xvii.

Current Research

Child, third edition, draws a current picture of the state of the field. In well-established areas of psychology, there is an emphasis on the inclusion of review articles and meta-analyses in order to capture the major trends found through decades of psychological research. In research areas with less information available, the emphasis is on the inclusion of the newest research available in that area.

In addition, to support a diverse narrative, we have included research that provides perspectives on topics from other cultural standpoints. People's experiences shape their understanding of the world, and if most research is carried out within only one frame of reference, we risk misunderstanding or minimizing the influence of diverse experiences and thus misrepresenting human psychology. Additionally, diverse groups produce more innovative and higher-quality research.

The third edition of *Child* features expanded and updated coverage of many key areas, including brain development, gender differences and gender typing, aggression and bullying, and the influences of media on development. Topical areas that have arisen in the public consciousness in recent years have also been included. For example, new sections in the third edition examine topics such as the effects of COVID-19, cultural influences on motor development, alcohol and nicotine use in adolescence, and transgender children.

Apply Concepts and Theories in an Experiential Learning Environment

An engaging and innovative learning game, **Quest: Journey Through the Lifespan**®, provides students with opportunities to apply content from their human development curriculum to real-life scenarios. Students play unique characters who range in age and

make decisions that apply key concepts and theories for each age as they negotiate events in an array of authentic environments. Additionally, as students analyze real-world behaviors and contexts, they are exposed to different cultures and intersecting biological, cognitive, and socioemotional processes. Each quest has layered replayability, allowing students to make new choices each time they play—or offering different students in the same class different experiences. Fresh possibilities and outcomes shine light on the complexity of and variations in real human development. This experiential learning game includes follow-up questions, assignable in Connect and auto-graded, to reach a high level of critical thinking.

Support for Student Engagement

Child, third edition, offers a dynamic learning experience designed for today's students. The research-based content of *Child* is written around key learning objectives to support student mastery. *Did You Know?* features introduce relevant, interesting facts about concepts to further engage students. *Child* supports application of concepts and theories to the real world through the features *What Do You Do?* and *What Do You Think?* and with textual examples. The *Summary* and *Practice Quiz* at the end of each chapter provide students with opportunities to assess and confirm their learning.

A Personalized Experience That Leads to Improved Learning and Results

SMARTBOOK®

How many students think they know everything about developmental psychology but struggle on the first exam? Students study more effectively with **Connect** and **SmartBook**.

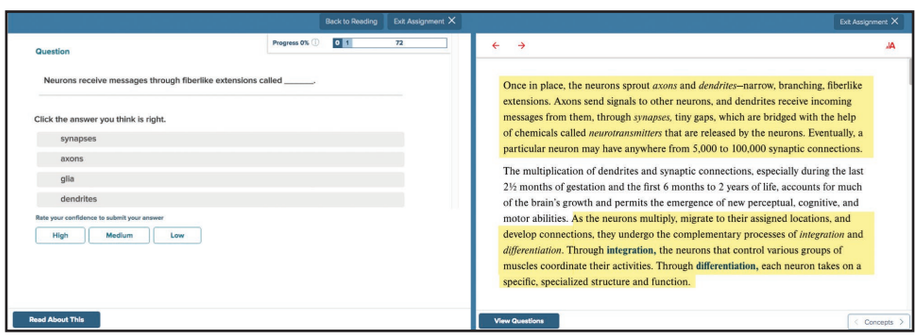
- Connect's assignments help students contextualize what they've learned through application, so they can better understand the material and think critically.
- Connect reports deliver information regarding performance, study behavior, and effort so instructors can quickly identify students who are having issues or focus on material that the class hasn't mastered.
- SmartBook helps students study more efficiently by highlighting what to focus on in the chapter, asking review questions, and directing them to resources until they understand.
- SmartBook creates a personalized study path customized to individual student needs.

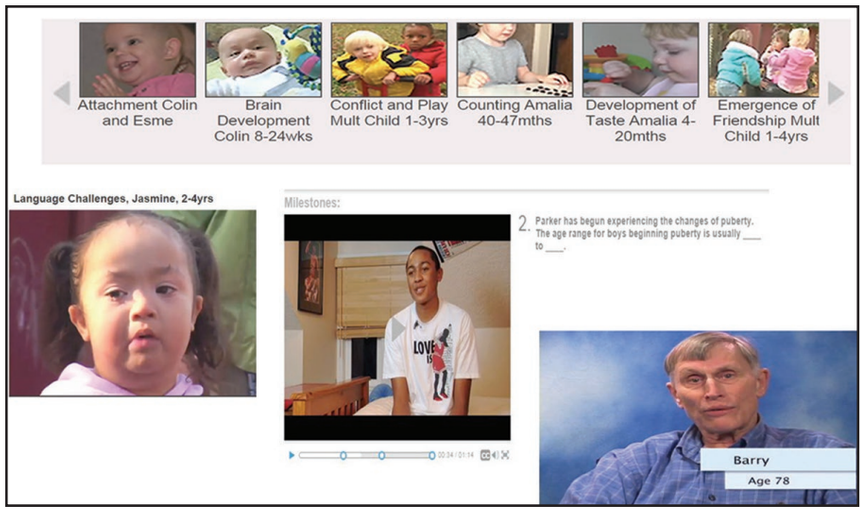
SmartBook is now optimized for mobile and tablet and is accessible for students with disabilities. Content-wise, it has been enhanced with improved learning objectives that are measurable and observable to improve student outcomes. SmartBook personalizes learning to individual student needs, continually adapting to pinpoint knowledge gaps and focus learning on topics that need the most attention. Study time is more productive and, as a result, students are better prepared for class and coursework. For instructors, SmartBook tracks student progress and provides insights that can help guide teaching strategies.

Powerful Reporting

Whether a class is face-to-face, hybrid, or entirely online, Connect for *Child* provides tools and analytics to reduce the amount of time instructors need to administer their courses. Easy-to-use course management tools allow instructors to spend less time administering and more time teaching, while easy-to-use reporting features allow students to monitor their progress and optimize their study time.

- The **At-Risk Student Report** provides instructors with one-click access to a dashboard that identifies students who are at risk of dropping out of the course due to low engagement levels.
- The **Category Analysis Report** details student performance relative to specific learning objectives and goals, including APA outcomes and levels of Bloom's taxonomy.





- The **SmartBook Reports** allow instructors and students to easily monitor progress and pinpoint areas of weakness, giving each student a personalized study plan to achieve success.

Real People, Real World, Real Life

At the higher end of Bloom's taxonomy, the **McGraw Hill Education Milestones video series** offers an observational tool that allows students to experience life as it unfolds, from infancy to adolescence. This groundbreaking, longitudinal video series tracks the development of real children as they progress through the early stages of physical, social, and emotional development in their first few weeks, months, and years of life. Assignable and assessable within Connect, Milestones also includes interviews with adolescents and adults to reflect development throughout the entire life span.

New to this edition, Milestones is available in a more engaging, WCAG-compliant format. Ask your McGraw Hill representative about this new upgrade.

Preparing Students for Higher-Level Thinking

Also at the higher end of Bloom's, **Power of Process** for *Child* helps students improve critical-thinking skills and allows instructors to assess these skills efficiently and effectively in an online environment. Available through Connect, preloaded journal articles are available for instructors to assign. Using a scaffolded framework such as understanding, synthesizing, and analyzing, Power of Process moves students toward higher-level thinking and analysis.

Writing Assignment

New to this edition and found in Connect, **Writing Assignments** offer faculty the ability to assign a full range of writing assignments to students with just-in-time feedback.

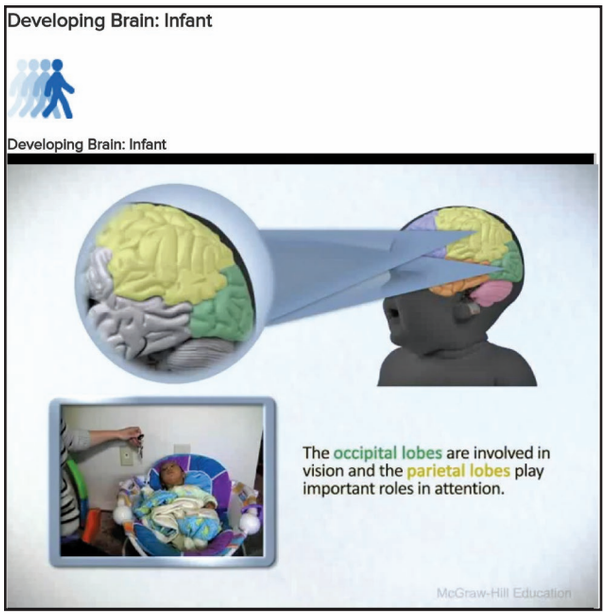
You may set up manually scored assignments in a way that students can:

- automatically receive grammar and high-level feedback to improve their writing before they submit a project to you;
- run originality checks and receive feedback on "exact matches" and "possibly altered text" that includes guidance about how to properly paraphrase, quote, and cite sources to improve the academic integrity of their writing before they submit their work to you.

The new writing assignments will also have features that allow you to assign milestone drafts (optional), easily reuse your text and audio comments, build/score with your rubric, and view your own originality report of student's final submission.

Inform and Engage on Psychological Concepts

At the lower end of Bloom's taxonomy, students are introduced to **Concept Clips**—the dynamic, colorful graphics and stimulating animations that break down some of psychology's most difficult concepts in a step-by-step manner, engaging students and aiding in retention. They are assignable and assessable in Connect or can be used as a jumping-off point in class. Complete with audio narration, Concept Clips focus on topics such as object permanence and conservation, as well as theorists and theories such as Bandura's social cognitive theory, Vygotsky's sociocultural theory, and Kuhl's language development theory.



At varied levels of Bloom's taxonomy:

- Located in Connect, **NewsFlash** is a multimedia assignment tool that ties current news stories, TedTalks, blogs, and podcasts to key psychological principles and learning objectives. Students interact with relevant news stories and are assessed on their ability to connect the content to the research findings and course material. NewsFlash is updated twice a year and uses expert sources to cover a wide range of topics, including emotion, personality, stress, drugs, COVID-19, disability, social justice, stigma, bias, inclusion, gender, LGBTQA+, and many more.
- **Interactivities:** Assignable through Connect, Interactivities engage students with content through experiential activities. New and updated activities include Neurons, Research Ethics, Prenatal Development, Kohlberg's Moral Reasoning, and Gardner's Theory of Multiple Intelligences.

Online Instructor Resources

The resources listed here accompany *Child*, third edition. Please contact your McGraw Hill representative for details concerning the availability of these and other valuable materials that can help you design and enhance your course.

- **Instructor's Manual:** Broken down by chapter, this resource provides chapter outlines, suggested lecture topics, classroom activities and demonstrations, suggested student research projects, essay questions, and critical-thinking questions.
- **PowerPoint Slides:** The PowerPoint presentations, now with improved accessibility, highlight the key points of the chapter and include supporting visuals. All of the slides can be modified to meet individual needs.
- **Test Bank and Test Builder:** Organized by chapter, the questions are designed to test factual, conceptual, and applied understanding; all test questions are available within Test Builder. Available within Connect, Test Builder is a cloud-based tool that enables instructors to format tests that can be printed, administered within a Learning Management System, or exported as a Word document of the test bank. Test Builder offers a modern, streamlined interface for easy content configuration that matches course needs, without requiring a download. Test Builder allows you to:
  - Access all test bank content from a particular title.
  - Easily pinpoint the most relevant content through robust filtering options.
  - Manipulate the order of questions or scramble questions and/or answers.
  - Pin questions to a specific location within a test.
  - Determine your preferred treatment of algorithmic questions.
  - Choose the layout and spacing.
  - Add instructions and configure default settings.

  Test Builder provides a secure interface for better protection of content and allows for just-in-time updates to flow directly into assessments.
- **PowerPoint Presentations:** The PowerPoint presentations, available in both dynamic, lecture-ready and accessible, WCAG-compliant versions, highlight the key points of each chapter and include supporting visuals. All of the slides can be modified to meet individual needs.
- **Remote Proctoring and Browser-Locking Capabilities:** Remote proctoring and browser-locking capabilities, hosted by Proctorio within Connect, provide control of the assessment environment by enabling security options and verifying the identity of the student.

  Seamlessly integrated within Connect, these services allow instructors to control students' assessment experience by restricting browser activity, recording students' activity, and verifying students are doing their own work.

  Instant and detailed reporting gives instructors an at-a-glance view of potential academic integrity concerns, thereby avoiding personal bias and supporting evidence-based claims.

Chapter-by-Chapter List of Changes

Every chapter has been extensively revised and updated for the third edition, with new research findings, updated statistics, and expanded coverage of key topics.

Chapter 1 Introduction to Child Development

- Updated statistics on U.S. household composition and international trends in family structure
- New section on the influence of culture on development
- Updated statistics on ethnic minority populations and trends in the United States
- *Perspectives on Diversity* feature updated
- Updated statistics on U.S. and global poverty
- New information on the effects of the COVID-19 pandemic on poverty
- New section on sampling
- New example used to illustrate experimental research
- New section on diversity in research
- New section on the Open Science Movement in psychological research
- New key terms: polygamy, individualistic culture, collectivistic culture, Black Lives Matter movement, BIPOC, COVID-19, WEIRD samples, operational definition

Chapter 2 Conception, Heredity, and Environment

- New chapter opener vignette with cross-cultural example
- Updated U.S. and international statistics and information on infertility and the use of artificial reproductive technologies
- Added coverage of the risks of multiple pregnancies and new guidelines for transfer of multiple embryos
- Updated information and statistics on adoption
- Updated statistics on genetic and chromosomal abnormalities, including information on Down syndrome
- New section on nonshared environmental influences
- Updated research on the interaction of genes and environment on obesity, temperament, and schizophrenia
- New key term: polygenic inheritance

Chapter 3 Pregnancy and Prenatal Development

- New chapter opener vignette on cultural beliefs about pregnancy
- New section on perceptual and cognitive development in fetuses
- Information and research added on fetal perception of taste, smell, and pain
- Reorganized information on nutrition and weight gain during pregnancy
- Updated malnutrition statistics and expanded research on the cross-generational influence of malnutrition during pregnancy
- Information added on the influence of COVID-19 on pregnancy
- Updated statistics on U.S. and global maternal age and pregnancy
- Updated recommendations for the use of drugs during pregnancy
- Updated information on U.S. and global rates of fetal alcohol syndrome
- New research and discussion on interventions for infants born with fetal alcohol syndrome
- Updated statistics on nicotine and pregnancy
- Original section on marijuana, cocaine, and methamphetamine use during pregnancy split into separate sections, updated, and expanded
- New section on disparities in prenatal care
- New *Perspectives on Diversity* on prenatal care around the world
- New key terms: COVID-19, coronavirus, pandemic

Chapter 4 Birth and the Newborn

- Expanded content on cultural differences in childbirth
- Updated U.S. and global statistics on childbirth, birth complications, and maternal mortality
- Updated information on electronic fetal monitoring
- Updated information on complications and outcomes of cesarean delivery
- Updated information and statistics on vaginal birth after cesarean delivery
- New section on childbirth and COVID-19
- Updated information on neonatal screening
- Expanded section on infant sleep schedules across cultures
- Updated statistics on U.S. and global low birth weight
- Updated statistics and information on low birth weight in BIPOC, especially African American babies
- Updated research on long-term outcomes in low-birth-weight babies
- Updated statistics and recommendations for postmature babies
- Updated statistics for stillbirth
- Expanded information on cross-cultural differences in infant care practices
- Expanded information on the effect of parenthood on marital satisfaction
- New key term: kangaroo care

Chapter 5 Physical Development and Health in Infants and Toddlers

- Revised, expanded, and updated information on breastfeeding in the United States and globally
- Information added on COVID-19 and breastfeeding
- Updated statistics on obesity in infancy
- Updated statistics on malnutrition
- Revised and updated information on infant brain development
- Expanded information on neural plasticity in early childhood
- Revised and updated information on brain plasticity
- Expanded information on prenatal sense of touch
- Updated information on auditory perception in fetuses and infants

- Expanded and reorganized information on facial recognition in infants
- Expanded information on hand control in infancy
- New section on ethnic and cultural influences on motor development
- Revised information on reaching in infants
- Updated statistics and information on global and U.S. infant mortality
- Updated statistics and information on U.S. racial and ethnic disparities in infant mortality rates
- Updated statistics and information on sudden infant death syndrome, child injuries, and child maltreatment rates
- Expanded statistics and information on sleep customs across cultures
- Updated statistics on childhood injuries
- Updated statistics on U.S. and global vaccination rates
- Information added on the influence of COVID-19 on vaccination rates
- Updated statistics on U.S. and global rates of child maltreatment
- Information added on the influence of COVID-19 on child maltreatment
- New section on cultural influences in maltreatment
- Updated information on interventions for child maltreatment
- Revised and updated information on long-term effects of child maltreatment
- New key term: sex trafficking

Chapter 6 Cognitive Development in Infants and Toddlers

- Updated research example for the use of conditioning paradigms in infant research
- Expanded discussion of Piaget's sensorimotor substages
- Expanded discussion of the object concept, including new information on the a-not-b error
- New section on imitation, including information on visible imitation, invisible imitation, deferred imitation, and preferences in imitation
- New section on symbolic development, pictorial competence, and understanding of scale
- New section on perceptual processing abilities
- Expanded and updated information and research on information processing as a predictor of intelligence, on the development of categorization in infancy, and on the development of the understanding of causality
- Expanded and updated discussion of violation-of-expectations research methodology
- Expanded and updated information and research on the development of an understanding of number in infants
- Expanded and updated information and research on the development of neural structures and their link to memory processes
- Expanded discussion of the social constructionist approach and how it applies to early childhood education
- Expanded discussion of the development of infant understanding of phonemic native language patterns
- Updated research on the use of gestures in infants
- Expanded information on language milestones in infancy and on syntactic development
- New section on sign language development in deaf children
- Expanded discussion of characteristics of early speech and language errors
- Expanded discussion of and updated research on the role of social interaction in language development and on child-directed speech
- New key terms: cross-model transfer, language acquisition device (LAD), code mixing, code switching

Chapter 7 Psychosocial Development in Infants and Toddlers

- Information added on cross-cultural displays of emotion
- Cross-cultural differences in crying
- New section on cultural differences in temperament
- Section on attachment reorganized and updated
- Information added on Harlow's classic experiments on attachment in rhesus monkeys
- New section on attachment patterns
- Section on temperament and attachment revised and expanded
- Cross-cultural research on separation anxiety added
- Information added on cultural differences in mutual regulation
- Section on social referencing reorganized and updated
- Information on cultural differences and social referencing included
- Section on the emerging sense of self reorganized and updated
- Information added on visual preference in infants for own-race faces
- Information added on cultural differences in self-recognition
- Information added on the role of emotions in socialization processes
- Information added on cultural differences in socialization
- Section on sex and gender differences in infants and toddlers revised and updated
- Section on siblings reorganized and updated
- Information added on social skills and sibling relationships
- Information added on culture and sibling attachment and care
- Information added on cultural differences in peer relationships

Chapter 8 Physical Development and Health in Early Childhood

- Updated statistics on child growth
- Updated information on brain changes from 3 to 6 years of age

- Expanded discussion and updated research on sleep disturbances
- Expanded discussion and updated research and statistics on night terrors, sleepwalking, sleeptalking, and nightmares
- Expanded discussion and updated research on the relationship between motor development, sports participation, and risk of overweight or obesity
- Expanded discussion and updated research on the origins of handedness
- Expanded discussion and updated research and statistics on obesity, including both global and U.S. data on prevalence, causes, and recommended prevention strategies
- Updated *Perspectives on Diversity* feature with current global data on prevalence and causes of mortality in the first 5 years of life
- Updated discussion and research on undernutrition
- Updated statistics for allergy prevalence in U.S. children
- Expanded discussion and updated research on the use of fluoride for the prevention of dental caries, including a critical analysis of research on fluoride toxicity
- Updated global and U.S. statistics on accidental child injuries and deaths
- Updated statistics and information on access to medical care for children living in poverty
- Updated statistics on the influence of race and ethnicity on children's access to health care
- Updated statistics on the prevalence and causes of homelessness in U.S. children
- Updated statistics on children's exposure to environmental contaminants

Chapter 9 Cognitive Development in Early Childhood

- Revised discussion and updated research on the understanding of number
- Revised discussion and updated research on egocentrism
- Revised discussion and updated research on knowledge about thinking and mental states
- Revised discussion and updated research on distinguishing between appearance and reality
- Revised discussion and updated research on individual differences in theory of mind development
- New section on cultural influences on theory of mind
- New section on metamemory
- New section on executive functioning
- Information added on the influence of social services on measured intelligence
- Revised discussion and updated research on media and cognition
- Information added on conversational skills and gender differences in language use
- Information added on the role of technology in emergent literacy
- New section on cultural variations in preschool
- Updated statistics on universal preschool
- New key terms: metamemory, metacognition

Chapter 10 Psychosocial Development in Early Childhood

- New section on disability and self-concept
- Information added on the influence of race in self-definition
- Information added on the stability of self-esteem
- New section on cultural influences on self-esteem
- Information added on cultural influences on mindset
- New section on cultural influences on emotion regulation
- Revised discussion on understanding emotions in early childhood
- New section on initiative versus guilt
- Revised discussion on gender differences
- New section on biological influences on variations in gender identity development
- Revised discussion of and updated research on peer influences on gender development
- Information added on gender stereotypes in children's books
- Revised discussion of and updated research on gender influences on play
- Revised section on cultural influences on play
- Updated statistics on corporal punishment
- Information added on disciplinary tactics and culture
- New key term: initiative versus guilt

Chapter 11 Physical Development and Health in Middle Childhood

- Updated weight and height statistics for middle childhood in the United States
- Updated recommendations for nutrition in children
- Updated research on snoring and sleep disordered breathing
- Information added on physical activity in different cultures
- Revised discussion and updated research on recess
- New section on the impact of COVID-19 on physical activity
- Updated statistics on overweight/obesity in children, including BIPOC children
- Revised discussion and updated research on obesity/overweight outcomes
- Revised discussion of overweight/obesity interventions
- Updated statistics on chronic medical conditions and accidental injuries in children
- Section on dental health revised and research and statistics updated
- Updated statistics on conduct disorders, anxiety disorders, and depression
- New section on COVID-19 and child mental health
- New key term: oppositional defiant disorder (ODD)

Chapter 12 Cognitive Development in Middle Childhood

- Section on numbers and mathematics reorganized and updated
- New sections on cultural and other influences on Piagetian task performance

- Section on executive functioning revised and updated
- Section on working memory revised and updated
- Section on metamemory revised and updated
- Section on genes and brain development revised and updated
- Revised *Perspectives on Diversity* feature
- Expanded information on vocabulary, grammar, and syntax
- Revised, expanded, and updated section on pragmatics
- Updated statistics on second language learning
- New section on historical and global literacy trends
- Updated statistics on global literacy
- Revised section on learning to read and write
- New section on the influence of technology on literacy
- Updated research on peer acceptance
- Research added on class size across different countries
- New section on charter schools and homeschooling
- New section on the influence of COVID-19 on education, including electronic media and remote learning
- Updated statistics on special education services, intellectual disability, learning disabilities, dyslexia, and attention deficit/hyperactivity disorder
- New key terms: concrete operations, metacognition, culture-fair test

Chapter 13 Psychosocial Development in Middle Childhood

- New section on industry versus inferiority
- New section on emotional development
- New section on cultural influences on emotional development
- New section on cultural differences in family dynamics
- New section on family conflict
- Updated statistics on maternal employment, including information on the influence of COVID-19
- Updated statistics on poverty
- Information and statistics added on U.S. and global trends in family structure, divorce, cohabitation, stepparenting, and gay or lesbian parenting
- Updated research on children's adjustment to divorce
- Information added on cross-cultural findings on cohabitation
- Updated information on gay parents
- Updated statistics on adoption
- Information added on the role of siblings across different cultures
- Revised and updated *Perspectives on Diversity* on bullying
- New key terms: industry versus inferiority, relational aggression

Chapter 14 Physical Development and Health in Adolescence

- Information added on historical changes in pubertal timing
- Section on pubertal timing revised and updated
- New section on consequences of pubertal timing
- New *Perspectives on Diversity* feature on the cultural context of puberty
- Updated global and U.S. statistics on physical activity in adolescence
- Updated statistics on sleep across adolescents by race/ethnicity
- Updated global and U.S. statistics on overweight/obesity
- Information added on psychological consequences of overweight/obesity
- New section added on diversity and eating disorders
- Updated statistics on recovery from anorexia
- Updated global and U.S. statistics on the use of alcohol and tobacco
- Revised and updated section on alcohol use in adolescence
- Updated statistics on marijuana use
- Information added on risks associated with marijuana use
- Information added on trends in the use of e-cigarettes and vaping
- Updated global and U.S. statistics on depression
- New information on the influence of COVID-19 on rates of depression
- Updated global and U.S. statistics on death and suicide in adolescence
- Updated statistics on firearms deaths and school shootings
- New key term: binge eating disorder

Chapter 15 Cognitive Development in Adolescence

- Revised *Perspectives on Diversity* on formal reasoning tasks
- Revised and updated section on immature aspects of adolescent thought
- New section on culture, religion, and moral reasoning
- Information added on the three ethics of autonomy, community, and divinity, and cross-cultural variations in their importance
- Information added on the role of religion in moral development
- New information added on global trends in religiosity
- Revised and updated section on prosocial behavior
- Updated statistics on academic achievement and gender
- Information added on increased technology use during COVID-19
- New section on racial and ethnic influences on academic achievement
- Updated global and U.S. statistics on dropping out of high school
- New section on gender and career choice
- Updated statistics on adolescents in the workplace

Chapter 16 Psychosocial Development in Adolescence

- New section on identity development in LGBTQIA+ youth
- New section on cultural differences in identity formation

- Information added on global trends in sexual behavior
- Updated statistics on sexual behavior in the United States
- Information added on the influence of peer norms and religion on sexual behavior
- Updated statistics on contraceptive use in adolescents
- Information added on barriers to contraception
- Revised and updated section on sex education
- Updated global and U.S. statistics on sexually transmitted infections
- New section on female genital mutilation
- New section on child marriage
- Updated global and U.S. statistics on teen pregnancy
- Revised and expanded section on individuation and family conflict
- Information added on cultural differences in individuation
- Revised and updated section on family structure and atmosphere
- Information added on sibling relationships and culture
- New section on electronically mediated communication in adolescence
- Stalking added as a form of dating violence
- Updated statistics on dating violence
- Revised section on environmental influences on antisocial behavior
- Information added on global and cultural issues in emerging adulthood
- New key terms: identity status, crisis, commitment, psychosocial moratorium, LGBTQIA+

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From Gabi Martorell: Thank you to my students for continuing to teach me new things and always making me laugh.

Chapter 1

Introduction to Child Development

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What's to Come

- The Study of Child Development
- Influences on Development
- Issues in Development
- Theories of Child Development
- Research Methods

In 1877, a young father sat gazing at his newborn son and, pen in hand, took careful notes on his child's behaviors. "During the first seven days various reflex actions, namely sneezing, hiccupping, yawning, stretching, and of course sucking and screaming, were well performed by my infant," the proud new father wrote. "On the seventh day, I touched the naked sole of his foot with a bit of paper, and he jerked it away, curling at the same time his toes, like a much older child when tickled. The perfection of these reflex movements shows that the extreme imperfection of the voluntary ones is not due to the state of the muscles or of the coordinating centres, but to that of the seat of the will."

The young Charles Darwin who theorized about his son's motor capacities was one of the first members of the field of child development. Although modern-day researchers are more likely to use electrodes to view the pattern of brain activation in a baby, show them computerized scenarios of imaginary events, or analyze microexpressions on a videotape, they share with Darwin an interest in the changes that emerge in childhood with extraordinary speed and organization. In this chapter, we outline the basics of the field of child development. We discuss how development is conceptualized, some major influences on development, and recurrent issues in the field. Last, we address the major theoretical perspectives and touch on how scientific data are collected.

The Study of Child Development

Development is lifelong. At the moment of conception, a single cell divides and divides again, over and over, in an orchestrated, organized fashion. Although each child born of this process is a unique individual, development is nonetheless patterned and orderly and follows a blueprint laid out by our evolutionary history. It is not until the heart ceases beating and the neurons of the brain stop firing that our stories end. This book is about the beginning chapters of that story.

child development The scientific study of processes of change and stability in human children.

social construction Concept about the nature of reality based on societally shared perceptions or assumptions.

physical development Growth of body and brain, including biological and physiological patterns of change in sensory capacities, motor skills, and health.

The field of **child development** focuses on the scientific study of systematic processes of change and stability in human children. Developmental scientists look at ways in which children change from conception through adolescence as well as at characteristics that remain more stable. The study of child development is part of the broader study of human development, which covers the entire human life span from conception to death, and is organized around periods and domains of development.

THE FIELD OF CHILD DEVELOPMENT

The first formal efforts to study the development of children involved "baby biographies," such as Charles Darwin's (1877) observations of his infant son quoted at the beginning of this chapter. Darwin kept careful records of his son's development, using them as a springboard for the development of his psychological theories. Other parent-scientists, such as philosopher Dietrich Tiedemann (1787) and developmental psychologist Jean Piaget (1954), kept similar diaries.

In the years following the development of baby diaries, scores of researchers followed in Darwin's footsteps, and more than 30 baby diaries were published in scientific journals (Dennis, 1936). While such efforts served a valuable purpose in that they allowed these scholars to develop ideas and introduced the scientific community to the concept of development as a field of inquiry, they had limited value outside of that. For instance, it is difficult to remain objective when describing one's own child, and what is true of one infant may not be true of all infants. Thus, as the field of child development matured, more scientifically rigorous approaches and sophisticated tools were used.

Modern tools include sensitive instruments that measure eye movements, heart rate, blood pressure, muscle tension, and the like, illuminating previously hidden biological influences. Digital technology, including sensitive video recordings and computer-based analyses, allow researchers to scan babies' facial expressions in minute detail or carefully analyze how caregivers and babies communicate with each other. Brain imaging techniques allow us to investigate the basis of our thought and behaviors at the neural level. All these advances are grounded in the scientific method, the organized body of methods developed by scientists to investigate the world.

The scientific method, however, is not enough. Research must be grounded in theory. Theories tell us what questions to ask, where to look for answers, and how to interpret what we find. Thus, this chapter will also outline the most important theoretical approaches that have shaped our understanding.

PERIODS OF DEVELOPMENT

Division of the life span into periods of development is a **social construction**: a concept or practice that is an invention of a particular culture or society. There is no objectively definable moment that an infant becomes a toddler or a child becomes an adolescent, and indeed some age-related concepts may exist in some cultures but be absent in others. For example, in many preindustrial societies, the concept of adolescence does not exist.

In *Child*, we follow a sequence of five periods generally accepted in Western industrial societies (Table 1.1).

DOMAINS OF DEVELOPMENT

Developmental scientists study three major domains of development. **Physical development** includes growth of the body and brain, sensory capacities, motor skills, and health.

TABLE 1.1 Five Periods of Child Development

Age Period	Physical Developments	Cognitive Developments	Psychosocial Developments
Prenatal Period (conception to birth)	• Conception occurs. Genetic endowment interacts with environmental influences. • Basic body structures and organs form; brain growth spurt begins. Physical growth is rapid. • High vulnerability to environmental influences	• Abilities to learn, remember, and respond to sensory stimuli are developing.	• Fetus responds to and prefers mother's voice.
Infancy and Toddlerhood (birth to age 3)	• All senses and body systems operate at birth. The brain grows in complexity. • Rapid physical growth and development of motor skills	• Abilities to learn and remember are present, even in the early weeks. • Use of symbols and ability to solve problems develop by end of 2nd year. • Comprehension and use of language develop rapidly.	• Attachment to parents and others forms. • Self-awareness develops. • Shift from dependence to autonomy begins. • Interest in other children increases.
Early Childhood (ages 3 to 6)	• Appearance becomes more slender and adultlike. • Appetite diminishes, and sleep problems are common. • Handedness appears; fine and gross motor skills and strength improve.	• Thinking is egocentric, but understanding of other people's perspectives grows. • Cognitive immaturity results in some illogical ideas about the world. • Memory and language improve. • Intelligence becomes more predictable. • Preschool experience is common, and kindergarten experience is more so.	• Gender identity develops. • Self-concept and emotional understanding become more complex; self-esteem is global. • Independence, initiative, and self-control increase. • Play becomes more imaginative, elaborate, and social. • Altruism, aggression, and fearfulness are common. • Family is still primary, but other children become more important.
Middle Childhood (ages 6 to 11)	• Growth slows. • Strength and athletic skills improve. • Respiratory illnesses are common, but health is generally better than at any other time in life span.	• Egocentrism diminishes. Children begin to think logically but concretely. • Memory and language skills increase. • Cognitive gains permit children to benefit from formal schooling. Some children have special educational needs.	• Self-concept becomes more complex, affecting self-esteem. • Coregulation reflects gradual shift in control from parents to child. • Peers assume greater importance.
Adolescence (ages 11 to about 20)	• Reproductive maturity occurs. • Major health risks arise from behavioral issues such as eating disorders and drug abuse.	• Ability to think abstractly and use scientific reasoning develops. • Immature thinking persists in some attitudes and behaviors. • Education focuses on preparation for college or vocation.	• Search for identity becomes central. • Relationships with parents are generally good. • Peer group may exert a positive or negative influence.

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cognitive development Pattern of change in mental abilities, such as learning, attention, memory, language, thinking, reasoning, and creativity.

psychosocial development Pattern of change in emotions, personality, and social relationships.

individual differences Differences among children in characteristics, influences, or developmental outcomes.

maturation Unfolding of a universal natural sequence of physical and behavioral changes.

nuclear family Two-generational household unit consisting of one or two parents and their biological children, adopted children, or stepchildren.

extended family Multigenerational kinship network of parents, children, and other relatives, sometimes living together in an extended-family household.

Cognitive development includes learning, attention, memory, language, thinking, reasoning, and creativity. **Psychosocial development** includes emotions, personality, and social relationships.

For the sake of simplicity, *Child* is organized so each domain is addressed separately within the periods of child development outlined earlier. However, child development is a complex and tangled spiderweb of multiple influences, and understanding these influences requires looking at them from multiple perspectives. Just as a fly caught on one thread of a web sends reverberations across the entire structure, development in one area sends ripples though all other areas. For example, a child with frequent ear infections may develop language more slowly than a child without this physical problem, and the failure to develop language may lead to feelings of frustration because of the difficulty in communicating with others. Thus, scholars of child development draw collaboratively from a wide range of disciplines, including psychology, psychiatry, sociology, anthropology, biology, genetics, education, history, and medicine. *Child* includes findings from research in all these fields. Throughout the text, links between the three major domains of development will be highlighted.

Influences on Development

Children show a range of **individual differences**—that is, differences in characteristics, influences, or developmental outcomes. Heredity, environment, maturation, the contexts of their lives, and normative and nonnormative influences can impact how they develop. The timing of these variables is also a factor in development.

Glow Images

WHAT DO YOU DO?

Early Childhood Education Teacher

Early childhood education teachers support children's early development in the classroom, focusing on infancy and toddlerhood. These teachers plan classrooms that encourage exploration and learning, lead developmentally appropriate activities, and guide their students. Early childhood education teachers may work in private or public schools. Often only an associate's degree is required to work in private settings, though lead teachers typically have at least a bachelor's degree. In public schools, early childhood education teachers must meet the licensure requirements to teach preschool through third grade of the particular state, which generally include a bachelor's degree, practicum or internship, and passage of state exams. To learn more about what an early childhood teacher does, visit www.naeyc.org.

HEREDITY, ENVIRONMENT, AND MATURATION

Some influences are internal and driven by heredity. Heredity can be conceptualized as the genetic roll of the dice. It consists of the inborn traits and characteristics provided by a child's biological parents. Other influences stem from outside the body, starting with the prenatal environment in the womb and continuing throughout life. The relative influence of nature (heredity and biological processes) and nurture (environmental influences) is fiercely debated, and theorists differ in the weight they assign to each. However, contemporary theorists and researchers are increasingly interested in explaining how nature and nurture work together rather than in arguing about which factor is more important.

Many typical changes of infancy and early childhood, such as the emergence of the abilities to walk and talk, are tied to **maturation** of the body and brain—the unfolding of a universal, natural sequence of physical changes and behavior patterns. These maturational processes act in concert with the influences of heredity and environment. As children grow into adolescents and adults, individual differences in innate personal characteristics (heredity) and life experience (environment) play an increasing role as the children adapt to the internal and external conditions.

CONTEXTS OF DEVELOPMENT

For a child, the immediate context normally is the family. How might family experiences shape children? How do family characteristics interact with wider social, cultural and historical influences?

Family

The modern family structure is becoming increasingly diverse. We now see families of single or divorced parents, households that may include a stepparent and stepsiblings or a parent's live-in partner, and an increasing number of unmarried parents, gay and lesbian households with children, and mixed race households.

The **nuclear family** is a household unit generally consisting of one or two parents and their children, whether biological, adopted, or stepchildren. Worldwide, this pattern accounts for 51 percent of families with children under the age of 18 (Kramer et al., 2019).

In Asia, Africa, and Latin America and among some U.S. families that trace their lineage to those countries, the **extended family**—a multigenerational kinship network of grandparents, aunts, uncles, cousins, and

For many children, the immediate context of development is the family. Since the 1980s, the number of people in the United States living in multigenerational households has steadily increased.

realpeople/Shutterstock

more distant relatives—is the traditional family form. Extended family living arrangements are the most common globally and are found in approximately 38 percent of the total population (Kramer, 2020) and 51 percent of children (Kramer et al., 2019). Today the extended-family household is becoming slightly less typical in some developing countries (Bradbury et al., 2014) due to industrialization and migration to urban centers (Kinsella & Phillips, 2005).

Other types of family structures are more rare. Worldwide, only about 7 percent of families with children are headed by a single parent. **Polygamy**, a family structure in which one parent (most commonly the father) is married to multiple spouses, is even more unusual. Polygamous families are found in about 3 percent of households, primarily within Muslim countries (Kramer et al., 2019).

In the United States, the two-parent nuclear family has historically been the most common family unit, although numbers have declined. In 1960, 87 percent of children lived in two-parent families (Stepler, 2015) but by 2018, only 67 percent of children lived in such families. Other family structures have become more common. Economic pressures, housing shortages, and out-of-wedlock childbearing have helped to fuel a trend toward three- and even four-generational family households. In 2014, a record 19 percent of the U.S. population, or 60.6 million people, lived in multigenerational families. Moreover, the United States, at 23 percent, has the highest rate of single-parent families across the globe (Kramer, 2020; Fry, 2019).

Culture

Culture refers to a society's or group's total way of life, including customs, traditions, laws, knowledge, beliefs, values, language, and physical products, from tools to artworks—all the behavior and attitudes that are learned, shared, and transmitted among members of a social group. Culture is constantly changing, often through contact with other cultures.

While cultures can vary in a multitude of ways, one of the primary contrasts involves the tension between individual and group goals. Some cultures, such as the United States, are individualistic. **Individualistic cultures** place a priority on personal goals and encourage people to view themselves as distinct individuals. Other cultures are **collectivistic** and are more concerned with collective goals and group dynamics. In these cultures, people are more likely to view themselves with respect to their relationships with others. These different orientations have far-reaching effects on psychological processes.

Ethnicity and Race

In addition to culture, ethnicity and race can influence child development. An **ethnic group** consists of people united by a distinctive culture, ancestry, religion, language, or national origin, all of which contribute to a sense of shared identity and shared attitudes, beliefs, and values. Within large societies, ethnic groups may also be characterized by minority status. Ethnic minorities are those ethnic groups that have national or cultural traditions different from the majority of the population, and they are often affected by prejudice and discrimination. An increasing number of the children being born today come from mixed racial or ethnic backgrounds (Alba, 2018). According to a 2016 estimate, 2.6 percent of the U.S. population is of two or more races (Vespa et al., 2020).

By 2060 the United States population is predicted to hit 417 million people (Colby & Ortman, 2015; Figure 1.1a and 1.1b). By around 2044, due to rising immigration and high birthrates among immigrant families, ethnic minorities in the United States—roughly one-third of the population in 2008—are expected to become the majority. Because of this, the term traditionally used to describe these populations—*minorities*—may no longer be appropriate. More recently, in part as a response to the **Black Lives Matter** (BLM) movement resurgence of 2020, the person-first acronym **BIPOC** (Black, indigenous, and people of color) has been adopted to refer to these groups.

polygamy Family structure in which one spouse, most commonly the man, is married to more than one partner.

culture A society's or group's total way of life, including customs, traditions, beliefs, values, language, and physical products—all learned behavior passed on from adults to children.

individualistic culture A culture in which people tend to prioritize personal goals ahead of collective goals and to view themselves as distinct individuals.

collectivistic culture A culture in which people tend to prioritize collaborative social goals ahead of individual goals and to view themselves in the context of their social relationships.

ethnic group A group united by ancestry, race, religion, language, or national origin that contributes to a sense of shared identity.

black lives matter A political and social movement focused on eliminating racially based violence against Black people through nonviolent protest and activism.

BIPOC Black, Indigenous, and people of color.

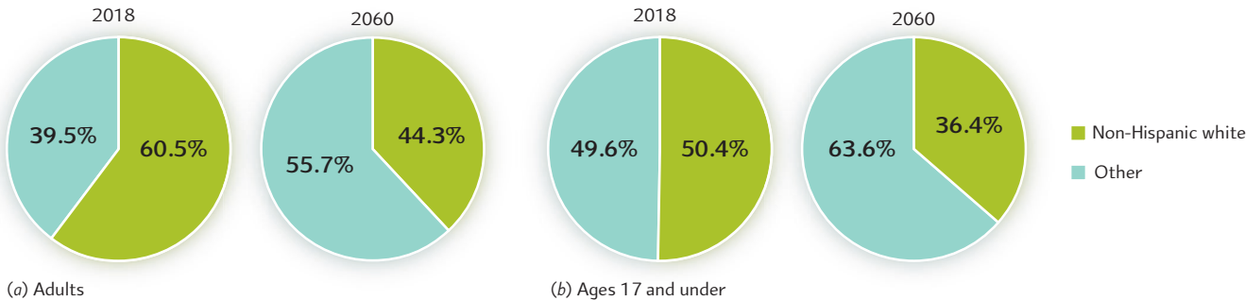


FIGURE 1.1 Population Projections for Non-Hispanic White and Minority Groups, 2018–2060

According to Census Bureau projections, the U.S. population will be 417 million people by 2060, and "minority" children under age 18 are expected to make up 63.6 percent of the child population.

Source: Colby, S. L., & Ortman, J. M. (2015, March). *Projections of the size and composition of the U.S. population: 2014–2060.* Current Population Reports. Washington, DC: U.S. Census Bureau; Frey, W. (2018).

Ethnic and cultural patterns affect child development by their influence on the composition of a household, its economic and social resources, the way its members act toward one another, the foods they eat, the games children play, the way they learn, how well they do in school, the occupations adults engage in, and the way family members think about and perceive the world. In time, however, immigrants tend to learn the language, customs, and attitudes needed to get along in the dominant culture, although many preserve some of their unique cultural practices and values. *Perspectives on Diversity* explores characteristics of immigrant families in the United States.

It is worth considering what we mean when we speak of **race**. All humans belong to the same taxonomic classification—*Homo sapiens*. However, there are important differences in outward appearance of people from different geographical regions—note, for instance, the different skin color of people from northern Europe and from Africa. However, there is no clear scientific consensus on the definition of race and it is impossible to measure reliably (Yudell et al., 2016). Human genetic variation occurs along a broad continuum, and 90 percent of such variation occurs *within* rather than *among* socially defined races (Ossorio & Duster, 2005). In other words, the differences between two people on the opposite ends of a distribution within one race are larger than the differences between two people of different races. Thus, race is not a defensible biological category. However, it is nonetheless important to development because of its role as an important social category.

race A grouping of humans distinguished by their outward physical characteristics or social qualities from other groups. Not a biological construct.

ethnic gloss An overgeneralization that obscures or blurs variations within heterogenous groups.

socioeconomic status (SES) Combination of economic and social factors, that describe an individual or family, including income, education, and occupation.

COVID-19 A novel coronavirus disease causing fatigue, loss of sense of smell, cough, fever, and respiratory distress; the source of the 2019 pandemic.

It is also worth noting that across broad ethnic and racial dimensions, there is still vast diversity within the categories themselves. For example, the term *Hispanics* encompasses a variety of different types of people: Cuban Americans; Central Americans, including Mexicans; South Americans; and those Hispanics who were born in the United States. Moreover, within these groupings, individuals may be white, Black, Native American, or of mixed descent. When a term such as *Hispanics* is used to describe this diverse group as a single entity, this is known as an ethnic gloss. An **ethnic gloss** is an overgeneralization that obscures or blurs variations within heterogenous groups.

Socioeconomic Status and Neighborhood

A family's **socioeconomic status (SES)** is based on family income and the educational and occupational levels of the adults in the household. Throughout *Child,* we examine many studies that relate SES to developmental processes, such as mothers' verbal interactions with their children, and to developmental outcomes, such as health and cognitive performance. SES affects these processes and outcomes indirectly through the kinds of homes and neighborhoods people live in and the quality of nutrition, medical care, and schooling available to them.

In 2017, approximately 689 million people in the world, half of whom were children, lived on less than $1.90 a day. While this is a staggering number, it nonetheless represented slow but steady improvement in global poverty rates over the last 20 years. In 2020, however, the **COVID-19** pandemic reversed that trend. Preliminary estimates are that an additional 88 to 115 million people will now be forced into extreme poverty. Middle-income countries that had made recent gains, such as India and Nigeria, are likely to be the most profoundly affected. Additionally, while prior to COVID-19, the majority of people living in extreme poverty were young, poorly educated, and lived in rural areas (World Bank, 2019), the "new poor" are likely to be from urban areas most affected by lockdowns and restrictions (World Bank, 2021).

In addition to the pandemic, climate change is exerting a negative effect on attempts to raise people out of poverty. Estimates are that by 2030, between 68 to 132 million additional people will be driven into extreme poverty by climate change, most notably in areas such as sub-Saharan Africa and South Asia (World Bank, 2021).

Poverty is also an issue in the United States (Figure 1.2). Race or ethnicity are often associated with SES. In 2018, African American children (32 percent), Native American

Perspectives on Diversity

Digital Vision/Getty Images

CHILDREN OF IMMIGRANT FAMILIES

The United States is a nation of immigrants. In 2018, almost 14 percent of the U.S. population were immigrants, and more than 1 million immigrants arrive in the United States every year (Budiman, 2020).

In 1910, most U.S. immigrants came from Europe and Canada. By 2010, the largest numbers of immigrants were from Mexico, Asia, and the Caribbean. Since that time, the largest percentage increases have occurred in immigration from Southern Asia, the Middle East, and Northern Africa (Camarota & Ziegler, 2016). Until recently, Mexico accounted for the largest proportion of immigrants (Radford & Noe-Bustamante, 2019); however, China and India are now the top countries of origin for immigrants (Budiman, 2020).

In 2019, approximately one-fourth (25.8 percent) of U.S. children lived in immigrant families, and 87.9 percent of these children were born in the United States, making them U.S. citizens (Migration Policy Institute, 2020). Children of immigrants are the fastest growing group of children in the United States. Approximately 5.1 million children under the age of 18 years—30 percent of children of immigrants and 7 percent of all children—have at least one parent who is undocumented (Capps, et al., 2016).

Poverty is higher in children from immigrant families. In 2018, 47 percent of immigrant children lived in poverty, as compared with 36 percent of all children in the United States (Batalova et al., 2020). Having undocumented parents is an even greater risk; 75 percent of these children live in poverty (Capps et al., 2016). Access to health care is also an issue, and health insurance coverage rates of documented (82 percent) and undocumented (67 percent) immigrant children still lag behind those of children with nonimmigrant parents (96 percent; Kaiser Family Foundation, 2020). While data is not yet available, it is reasonable to predict that the COVID-19 pandemic will further exacerbate inequities between immigrant and native-born populations.

As immigration fuels dramatic changes in the U.S. population, developmental issues affecting children in immigrant families will become increasingly important areas of research.

(31 percent), and Hispanic children (26 percent) were far more likely to live in poverty than their white counterparts (11 percent) (Annie E. Casey Foundation, 2020). The COVID pandemic has also affected poverty in the United States. Although government aid initially shielded many Americans from financial ruin, the reduction in aid in August 2020 led to historically rapid increases in poverty in the succeeding months. From July to November 2020, almost 8 million Americans fell beneath the poverty line. Declines were most noticeable for Black people and people with low levels of education, exacerbating existing disparities (Han et al., 2020). In response, in March 2021, President Joe Biden signed the America Rescue Plan into law. The provision of child tax credits benefits to lower- and middle-income families in the bill are projected to reduce child poverty by approximately half (Parolin et al., 2021).

Poverty can damage children and families' physical, cognitive, and psychosocial well-being. Poor children are more likely than other children to go hungry, have frequent illnesses, lack access to health care, experience violence and family conflict, and show emotional or behavioral problems (Coleman-Jensen, et al., 2011; Schickedanz et al., 2015; Eckenrode et al., 2014; Yoshikawa, et al., 2012). Their cognitive potential and school performance suffer as well (Wolf et al., 2017; Hair et al., 2015). Although children from middle- and lower-income families are not as negatively affected as those below the poverty line, they nonetheless are at a disadvantage relative to wealthy peers (Foundation for Child Development, 2015).

The harm poverty does is often indirect through its impact on parents' emotional state and parenting practices and on the home environment they create. Threats to well-being multiply if, as often happens, several **risk factors**, conditions that increase the likelihood of a negative outcome, are present. Moreover, the earlier poverty begins, the longer it lasts, and the higher the concentration of poverty in the community in which children live, the worse the outcomes for those children are (Chaudry & Wimer, 2016).

However, negative outcomes are not inevitable. For example, factors such as supportive parenting (Hostinar & Miller, 2019; Morris et al., 2017; Barton et al., 2018) or particular temperament profiles (Moran et al., 2017; Rudasill et al., 2017) can buffer children against ill effects. Consider television star Oprah Winfrey, singer/songwriter/activist Dolly Parton, musician/producer Jay-Z, and former U.S. President Bill Clinton, all of whom grew up in poverty.

risk factors Conditions that increase the likelihood of a negative developmental outcome.

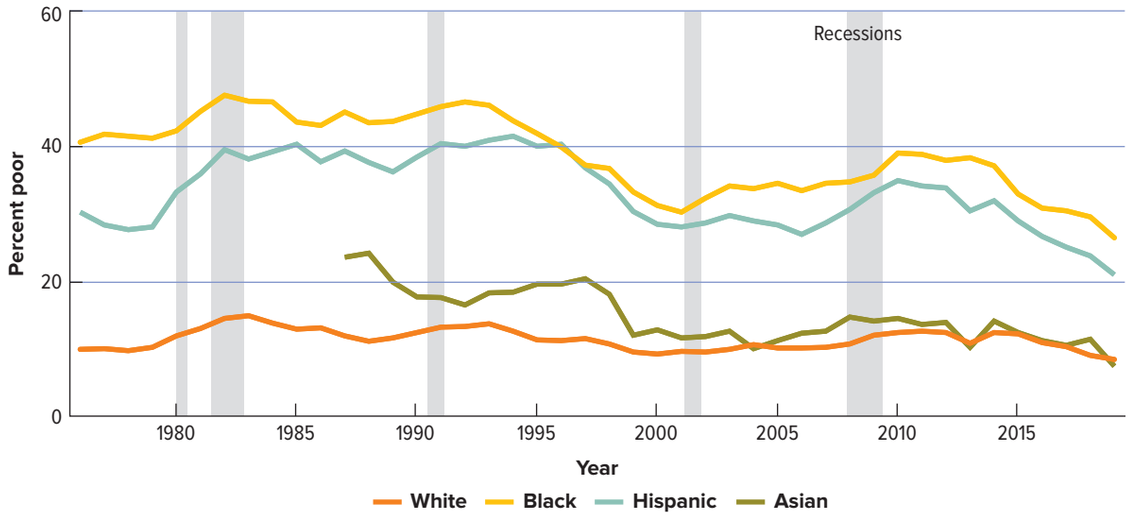


FIGURE 1.2 Child Poverty Rates by Race/Ethnicity—United States: 1976–2019

Poverty rates differ in children from different racial and ethnic groups. Early data on the COVID-19 pandemic indicate existing disparities will likely increase.

Source: Thomas, D. & Fry, R. (2020). *Prior to COVID-19, child poverty rates had reached record low in U.S.* Pew Research Center. Retrieved from www.pewresearch.org/fact-tank/2020/11/30/prior-to-covid-19-child-poverty-rates-had-reached-record-lows-in-u-s/

The Historical Context

At one time, developmental scientists paid little attention to historical context—the time in which people live. However, over time investigators began to focus on how influences tied to time and place affect the course of people's lives.

NORMATIVE AND NONNORMATIVE INFLUENCES

To understand similarities and differences in development, we need to look at **normative** influences, biological or environmental events that affect many or most people in a society in similar ways, and at **nonnormative** influences, events that touch only certain individuals (Baltes & Smith, 2004).

Normative age-graded influences are highly similar for people in a particular age group. The timing of biological events is fairly predictable within a normal range. For example, children do not experience puberty at age 3 or menopause at 12.

Normative history-graded influences are significant events (such as World War II or the COVID-19 pandemic) that shape the behavior and attitudes of a **historical generation**, a group of people who experience the events at a formative time in their lives. For example, the education of approximately 80 percent of the world's children was disrupted during the COVID-19 pandemic when schools shut down in an attempt to stem the spread of the virus. School shutdowns are likely to result in higher food insecurity (as many children rely on school lunches for nutrition) and greater educational inequality between children of higher and lower socioeconomic status (Van Lancker & Parolin, 2020).

normative Characteristic of an event that occurs in a similar way for most people in a group.

nonnormative Characteristic of an unusual event that happens to a particular person or a typical event that happens at an unusual time of life.

historical generation A group of people strongly influenced by a major historical event during their formative period.

cohort A group of people born at about the same time.

A major normative history-graded influence for today's children is the COVID-19 pandemic.

Noushad Thekkayil/Shutterstock

A historical generation is not the same as an age **cohort**, a group of people born at about the same time who experience similar influences. A historical generation may contain more than one cohort, but not all cohorts are part of historical generations unless they experience major, shaping historical events at a formative point in their lives (Rogler, 2002).

Nonnormative influences are unusual events that have a major impact on individual lives because they disturb the expected sequence of the life cycle. They are either typical events that happen at an atypical time of life, such as the death of a parent when a child is young, or atypical events, such as surviving a plane crash.

Taken together, the three types of influences—normative age-graded, normative history-graded, and nonnormative—contribute to the complexity of human development as well as to the challenges people experience in trying to build their lives.

TIMING OF INFLUENCES

In a well-known study, Konrad Lorenz (1957), an Austrian ethologist, showed that newly hatched goslings will instinctively follow the first moving object they see. This phenomenon is called **imprinting.** Usually, this automatic and irreversible bond is with the mother. When the natural course of events is disturbed, however, other attachments, or none at all, can form. Imprinting, said Lorenz, is the result of the readiness of an organism's nervous system to acquire certain information during a brief critical period in early life.

A **critical period** is a specific time when a given event, or its absence, has a specific impact on development. If a necessary event does not occur during a critical period of maturation, normal development will not occur, and the resulting abnormal patterns are generally irreversible (Kuhl et al., 2005).

Do human children experience critical periods? One example of a critical period occurs during gestation. If a pregnant woman receives X-rays, takes certain drugs, or contracts certain diseases, the fetus may show specific ill effects, depending on the nature of the shock, its timing, and characteristics of the fetus itself. However, because many aspects of development, even in the biological, neurological or physical domains, have been found to show **plasticity**, or modifiability of performance, it may be more useful to think about **sensitive periods**, when a developing person is especially responsive to certain kinds of experiences (Bruer, 2001).

Did you know?

The most critical time for a pregnancy is the first trimester, when the major structures of the body are forming. Therefore, any adverse substances encountered during this time can profoundly affect the developing fetus. However, many women do not realize at first that they are pregnant. Luckily, nature has provided us with a safety net—implantation does not occur for approximately 2 weeks after conception, reducing the likelihood of exposure.

PLAINVIEW/E+/Getty Images

Issues in Development

What drives development? Is nature more important than nurture, or vice versa? Is development active or passive? Continuous or discontinuous? Different explanations, or models, of development have emerged out of debates over these issues.

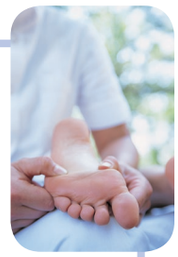
NATURE VERSUS NURTURE?

Some influences on development originate primarily with **heredity** (nature), inborn traits or characteristics inherited from a child's biological parents. Other influences come largely from the inner and outer **environment** (nurture), the world outside the self, beginning in the womb, and the learning that comes from experience. Which of these factors—heredity or environment—has more impact on development?

Most researchers today agree that nature and nurture *always* work together. For example, while tall parents pass on "tall genes" to their children and thus tend to have tall children, nutritional status in childhood also will affect eventual height.

Did you know?

Calluses are the result of the environmental experience of repeated friction on skin: They offer protection against irritation. Yet they would never develop if not for genes that instruct the body to "develop a thick layer of skin when this happens." So, are calluses a product of nature or nurture? The answer is that they are both; they would not exist without both influences.



Michelangelo Gratton/Getty Images

ACTIVE AND PASSIVE DEVELOPMENTAL PROCESSES

Some models of development see it as passive. In this view, people are like machines that react to environmental input. A machine is the sum of its parts. To understand it, we can break it down into its smallest components and then reassemble it. Fill a car with gas, turn the ignition key, press the accelerator, and the vehicle will move. In this view, human behavior is much the same: It results from the operation of biological parts in response to external or internal stimuli. If we know enough about how the human "machine" is put together and about the forces acting on it, we can predict what the person will do. Psychologists who endorse this approach see the child as a hungry sponge, eagerly soaking up and responding to the world.

imprinting Instinctive form of learning in which, during a critical period in early development, a young animal forms an attachment to the first moving object it sees, usually the mother.

critical period Specific time when a given event or its absence has a profound and specific impact on development.

plasticity Modifiability of the brain through experience.

sensitive periods Times in development when a given event or its absence usually has a strong effect on development.

heredity Inborn characteristics inherited from the biological parents.

environment Totality of nonhereditary, or experiential, influences on development.

Other models see children as active, growing organisms that set their own development in motion. They do not just react; they initiate events. Thus, the driving force for change is internal. Environmental influences do not cause development, though they can speed or slow it. Because human behavior is viewed as an organic whole, it cannot be predicted by breaking it down into simple responses to environmental stimulation. In this view, children are not merely sponges soaking up experience, they also create experiences for

quantitative change Change in number or amount, such as in height, weight, or size of vocabulary.

qualitative change Change in kind, structure, or organization, such as the change from nonverbal to verbal communication.

themselves, actively searching for understanding and influencing those around them.

These two models are known as the mechanistic and organismic models of development, and both have a long history of philosophical debate as well as contemporary analogues in modern psychological theories.

CONTINUOUS OR DISCONTINUOUS DEVELOPMENT

Mechanistic and organismic models also differ with respect to what they believe about how change occurs. Mechanistic theorists generally believe in continuous change, while organismic theorists most commonly endorse discontinuous change.

Continuous change is gradual and incremental, like walking or crawling up a ramp. (Figure 1.3a). This is a **quantitative change**, a change in number or amount, such as in height, weight, size of vocabulary, or frequency of communication. A baby who can say 3 words at 12 months and then 20 words at 15 months experiences a quantitative change. Mechanistic theories generally believe in continuous change.

Discontinuous or **qualitative change** is change in kind, structure, or organization. It is marked by the emergence of new phenomena that cannot be predicted easily on the basis of earlier functioning. The change from a nonverbal child to one who understands words and can communicate verbally is a qualitative change.

Organismic theorists most commonly endorse qualitative change. They see development as occurring in a series of distinct stages, like stair steps (Figure 1.3b). Whenever you read or hear about a stage approach to development, one of the things being argued is that development at each stage is fundamentally different from development at other stages.

AN EMERGING CONSENSUS

There are many different viewpoints and controversies in the study of child development. However, as the field has matured, broad agreement has emerged on several fundamental points:

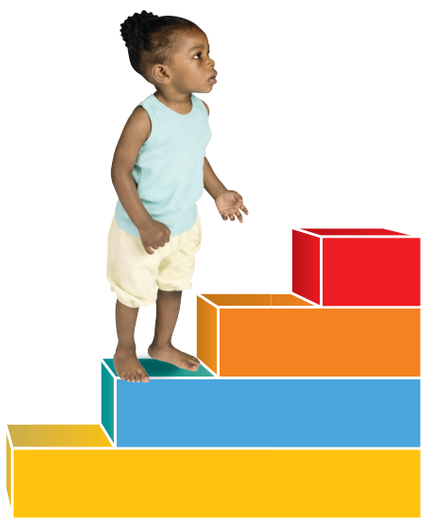
1. *All domains of development are interrelated.* Development in each of the different domains—physical, cognitive, and psychosocial—affects the others in a series of complex interactions.
2. *Typical development includes a wide range of individual differences.* Some of the influences on individual development are inborn; others come from experience.
3. *Influences are bidirectional.* Children affect the environment around them as much as the environment shapes them.
4. *Historical and cultural contexts strongly influence development.* Each child develops within a specific environment bounded by time and place. These different experiences influence the paths of development.
5. *Early experience is important, but children can be remarkably resilient.* A traumatic incident or a severely deprived childhood may have grave emotional consequences, but the effects of painful experience, such as growing up in poverty or the death of a parent, can be overcome.

Did you know?

A good example of quantitative and qualitative change can be seen with pregnancy. Being 3 months versus 6 months pregnant is a quantitative change. It is not fundamentally different, just further along. But there is no such thing as being a little bit pregnant. You either are or you are not—making this an example of qualitative change.

Nancy Ney/Digital Vision/Getty Images

(a) Continuity



(b) Stage theory (Discontinuity)

FIGURE 1.3 The Nature of Change

A major difference among developmental theories is (**a**) whether it proceeds continuously, as learning theorists and information-processing theorists propose, or (**b**) whether development occurs in distinct stages, as Freud, Erikson, and Piaget maintained.

(a) Oksana Kuzmina/Shutterstock; (b) Amos Morgan/Getty Images

6. *Development in childhood affects development throughout the life span.* As long as people live, they have the potential to change in both positive and negative directions. Development is lifelong, from womb to tomb.

In the following section, we expand upon these foundational concepts and look more closely at influential theories of how development takes place and the methods investigators commonly use to study it.

Theories of Child Development

A scientific **theory** is a set of logically related concepts or statements that seek to describe and explain development and to predict what kinds of behavior might occur under certain conditions. Theories organize and explain data, the information gathered by research. Throughout *Child*, different aspects of development are explored through different theories. The major theories used in child development fall under five perspectives (Table 1.2).

Did you know?

In scientific terminology, theories provide stronger evidence than laws. Laws are observations—we know that something happens, but we do not know why. Theories include causal explanations—we know that something happens, and we think we know why.

Charles D. Winters/McGraw Hill

PERSPECTIVE 1: PSYCHOANALYTIC

While most commonly associated with the work of Sigmund Freud, the term *psychoanalytic perspective* is actually a broader umbrella that incorporates an array of related perspectives, generally focused on the lasting effects of childhood experiences and unconscious drives and motivations. In the following section, we describe the two approaches most relevant to the study of child development: the psychosexual and psychosocial perspectives Sigmund Freud and Erik Erikson popularized.

Psychosexual Development

Sigmund Freud (1953), a Viennese physician, originated the **psychoanalytic perspective**. He believed that unconscious, universal biological drives shaped development. Freud also developed the now well-known concept of the unconscious, a vast psychic reserve unavailable to conscious experience. Here, warring aspects of the personality battled over how biological imperatives could be addressed in real life, with all the rules and social conventions found there.

Freud proposed that personality was composed of three parts: the id, the ego, and the superego. Newborns are governed by the id, which operates under the pleasure principle—the drive to seek immediate satisfaction of needs and desires. When gratification is delayed, as it is when infants have to wait to be fed, they begin to see themselves as separate from the outside world. The ego, which represents reason, develops gradually during the

theory Coherent set of logically related concepts that seeks to organize, explain, and predict data.

psychoanalytic perspective View of human development as being shaped by unconscious forces.

TABLE 1.2 Five Perspectives on Human Development

Perspective	Important Theories	Basic Propositions
Psychoanalytic	Freud's psychosexual theory Erikson's psychosocial theory	• Behavior is controlled by powerful unconscious urges. • Personality is influenced by society and develops through a series of crises.
Learning	Behaviorism, or traditional learning theory (Paviov, Skinner, Watson)	• People are responders; the environment controls behavior.
	Social learning (social cognitive) theory (Bandura)	• Children learn in a social context by observing and imitating models. • Children are active contributors to learning.
Cognitive	Piaget's cognitive-stage theory	• Qualitative changes in thought occur between infancy and adolescence. • Children are active initiators of development.
	Vygotsky's sociocultural theory	• Social interaction is central to cognitive development.
	Information-processing theory	• Human beings are processors of symbols.
Contextual	Bronfenbrenner's bioecological theory	• Development occurs through interaction between a developing person and five surrounding, interlocking contextual systems of influences.
Evolutionary/ Sociobiological	Bowlby's attachment theory	• Human beings have the adaptive mechanisms to survive; evolutionary and biological bases for behavior and predisposition toward learning are important.

LWA/Larry Williams/ Blend Images LLC

WHAT DO YOU DO?

Developmental Psychologist

Developmental psychologists focus on life-span or developmental issues from conception through death, often specializing in a specific stage of the life span. A developmental psychologist interested in infants might work for an early intervention program or at a toy company advising on the next developmentally appropriate "must have" toy. Or a developmental psychologist might research ways to improve seniors' lives, such as increasing the time for a cross-walk signal to accommodate the elderly or implementing an exercise program for seniors. A master's degree or doctoral degree is required to become a developmental psychologist. To learn more about what a developmental psychologist does, visit www.apa.org.

first year or so of life and operates under the reality principle. The ego's aim is to find realistic ways to gratify the id that are acceptable to the superego, which develops at about age 5 or 6. The superego includes the conscience and incorporates socially approved "shoulds" and "should nots" into the child's own value system. The superego is highly demanding; if its standards are not met, a child may feel guilty and anxious. The ego mediates between the impulses of the id and the demands of the superego.

Plush Studios/ Blend Images LLC

WHAT DO YOU DO?

Child Psychologist

Child psychologists work directly with children of all ages to help identify and manage mental and behavioral disorders and to overcome traumatic events. For example, parents might be referred to a child psychologist if their toddler is having developmental delays or if they are divorcing and wanted to provide additional support for their children. A child psychologist might also conduct research or supervise social workers. Child psychologists typically work in hospitals, private practices, or schools. Becoming a child psychologist typically requires a doctoral degree, which includes an internship. To learn more about what a child psychologist does, visit www.apa.org.

Freud proposed that development is shaped by an unvarying sequence of five stages of **psychosexual development** (Table 1.3) in which sensual pleasure shifts from one body zone to another. At each stage, the behavior that is the chief source of gratification (or frustration) changes.

psychosexual development
In Freudian theory, an unvarying sequence of stages of personality development during infancy, childhood, and adolescence in which gratification shifts from the mouth to the anus and then to the genitals.

According to Freud, if children receive too little or too much gratification in any of these stages, they are at risk of fixation—an arrest in development that can show up in adult personality. For example, babies whose needs are not met during the oral stage, when feeding is the main source of sensual pleasure, may grow up to become nail-biters or smokers.

In the anal stage of development, occurring during the toddler years, if the mother did not handle toilet training appropriately, a child might develop an anal fixation and as an adult be obsessively clean and overly rigid or, by contrast, excessively messy and undisciplined.

A key event occurs in the phallic stage of early childhood. Boys develop sexual attachment to their mothers, and girls to their fathers, and they have aggressive urges toward the same-sex parent, whom they regard as a rival. Freud called these developments the Oedipus and Electra complexes. Children eventually resolve their anxiety over these feelings by identifying with the same-sex parent.

Following this, children would move into the relative calm of the latency stage of middle childhood, where social energies were redirected toward schoolwork, relationships, or hobbies.

The genital stage, the final stage, lasts throughout adulthood. The sexual urges repressed during latency now resurface to flow in socially approved channels, which Freud defined as heterosexual relations with persons outside the family of origin.

Freud's theory made historic contributions and inspired a whole generation of followers. Many of Freud's ideas, however, now are widely considered obsolete, cannot be scientifically tested, or have not been supported in research. Additionally, his ideas, shaped by the context of Victorian society and developed out of his interactions with his psychologically distressed clients, were culturally bound, relatively negative about human development, and often sexist. However, several of his central themes have stood the test of time. Freud made us aware of the importance of unconscious thoughts, feelings, and motivations; the role of childhood experiences in forming personality; the ambivalence of emotional responses, especially to parents; the role of mental representations of the self and others in establishing intimate relationships; and the path of normal development from an immature, dependent state to a mature, interdependent one (Westen, 1998).

"Anatomy is destiny."
Sigmund Freud

TABLE 1.3 Developmental Stages According to Freud, Erikson, and Piaget

Psychosexual Stages (Freud)	Psychosocial Stages (Erikson)	Cognitive Stages (Piaget)
Oral *(birth to 12–18 months).* Baby's chief source of pleasure involves mouth-oriented activities (sucking and feeding).	**Basic trust versus mistrust** *(birth to 12–18 months).* Baby develops sense of whether world is a good and safe place.	**Sensorimotor** *(birth to 2 years).* Baby learns about the environment through sensory and motor activity.
Anal *(12–18 months to 3 years).* Child derives sensual gratification from withholding and expelling feces. Zone of gratification is anal region, and toilet training is important activity.	**Autonomy versus shame and doubt** *(12–18 months to 3 years).* Child develops a balance of independence and self-sufficiency over shame and doubt.	**Preoperational** *(2 to 7 years).* Child develops a representational system and uses symbols to represent people, places, and events. Language and imaginative play are important manifestations of this stage. Thinking is still not logical.
Phallic *(3 to 6 years).* Child develops sexual feelings for other-sex parent leading to fear and eventual identification with same-sex parent. Superego develops. Zone of gratification shifts to genitals.	**Initiative versus guilt** *(3 to 6 years).* Child develops initiative when trying new activities and is not overwhelmed by guilt.	**Concrete operations** *(7 to 11 years).* Child can solve problems logically if they are concrete but cannot think abstractly.
Latency *(6 years to puberty).* Time of relative calm between more turbulent states.	**Industry versus inferiority** *(6 years to puberty).* Child must learn skills of the culture or face feelings of incompetence.	**Formal operations** *(11 years through adulthood).* Person can think abstractly, deal with hypothetical situations, and think about possibilities.
Genital *(puberty through adulthood).* Reemergence of sexual impulses of phallic stage channeled into mature. adult sexuality.	**Identity versus identity confusion** *(puberty to young adulthood).* Adolescent must determine sense of self ("Who am I?") or experience confusion about roles.	
	Intimacy verus isolation *(young adulthood).* Person seeks to make commitments to others or may suffer from isolation and self-absorption.	
	Generativity versus stagnation *(middle adulthood).* Mature adult is concerned with establishing and guiding the next generation or else feels personal impoverishment.	
	Integrity versus despair *(late adulthood).* Elderly person achieves acceptance of own life, allowing acceptance of death, or else despairs over inability to relive life.	

Note: All ages are approximate.

Psychosocial Development

Erik Erikson (1902–1994) modified and extended Freudian theory by emphasizing the influence of society on the developing personality. He is notable in that he was one of the first theorists to emphasize the life-span perspective. Like Freud, and like all theorists who endorse stage theories of development, Erikson would argue for qualitative change. However, unlike Freud, Erikson believed in active development and that people were motivated to resolve the issues that emerged during development.

> *"Children love and want to be loved and they very much prefer the joy of accomplishment to the triumph of hateful failure."*
> *Erik Erikson*

Erikson's (1950) theory of **psychosocial development** covers eight stages across the life span (see Table 1.3). While Freud essentially stopped the developmental clock at adolescence, Erikson argued that the entire life span was marked by change and development. Each stage in his approach involved what Erikson originally called a "crisis" in personality—a major psychosocial theme that was particularly important at that time.

Each stage requires the balancing of a positive trait and a corresponding negative one. Successful resolution of one crisis puts the person in a particularly good position to address the next crisis, a process that occurs iteratively across the life span. For example, the critical theme of infancy is basic trust versus basic mistrust. People need to trust the world and the people in it, but they also need to learn some mistrust to protect themselves from danger. In toddlerhood, the critical theme is autonomy, or a sense of agency and independence. A child who first successfully developed a sense of trust would be in a particularly good position to develop this strength. After all, if you feel that

psychosocial development
In Erikson's eight-stage theory, the socially and culturally influenced process of development of the ego, or self.

learning perspective View of human development that holds that changes in behavior result from experience.

classical conditioning Learning based on association of a stimulus that does not ordinarily elicit a particular response with another stimulus that does elicit the response.

others have your back, you are likely to try new things and thus develop new skills. By contrast, if you feel alone and uncertain, you can still develop autonomy, but it is more difficult. Ideally, each stage builds on the preceding one.

Erikson's theory is important for a number of reasons. First, while the crises that Erikson outlined were particular to one place and time, Erikson did make clear that social and cultural influences mattered. Erikson highlighted the social clock, the conventional, culturally preferred timing of important life events. Moreover, Erikson held a much more positive view of development than Freud. Freud focused more strongly on the ways in which development could go awry. Erikson, while acknowledging that crises could be resolved poorly, left room for improvement. At any point in the life span, development could shift in a positive direction, and a crisis might be successfully resolved and a new strength developed.

PERSPECTIVE 2: LEARNING

Theorists within the **learning perspectives** argued that development was the result of learning, a relatively long-lasting change in development based on experience or adaptation to the environment. Learning theorists were not interested in the inner working of the mind because those processes could not be directly observed. Because behavior is observable and countable and confers more objectivity, the focus was on behavior. Terms could be defined precisely, and theories could be tested scientifically in the laboratory, thus, in the opinion of proponents of this view, lending psychology greater legitimacy and respectability.

Learning theorists believed the mind was *tabula rasa*, a blank slate upon which experience could write. In this view, everything a person became depended upon experience. Thus, anyone, no matter what race or whatever individual characteristics might be present, could be anything. This implied cultural and contextual influences were primary in importance in shaping differences between people. The belief that all people were fundamentally the same held a powerful attraction.

Behaviorists also saw development as continuous, emphasizing incremental quantitative changes over time, and reactive, occurring in response to environmental input. The learning approach was the dominant ideology in the field of psychology in the 1950s. Two of the major subtheories were behaviorism and the social learning approach.

Behaviorism

Behaviorism is a mechanistic approach in psychology centered around the observation of behaviors and the belief in the environment's strong influence. Behaviorists hold that human beings at all ages learn about the world by reacting to aspects of their environment that they find pleasing, painful, or threatening and that these processes govern learning in all areas of development in the same way. In other words, young children learn how to walk and how to talk via the same process—learned associations. Behavioral research focuses on associative learning in which a mental link is formed between two events. Two kinds of associative learning are classical conditioning and operant conditioning.

Classical Conditioning Sometimes, discoveries are serendipitous. This is the case with one of the most influential theories developed in psychology. Ivan Pavlov (1849–1936) was a Russian physiologist studying the role of saliva in dogs' digestive processes. In order to collect saliva from the dogs, Pavlov would secure them with a harness to prevent them from lowering their head and place a saliva collection device on their throat. Because dogs salivate readily to meat, he would then place a bowl of meat underneath the dog. While conducting this research, Pavlov realized that the dogs, shortly after being introduced to the methodology, would salivate *before* the presentation of the meat. Once he realized this was occurring, he investigated this process, using a "bell" (in actuality, a metronome) as a predictor for the meat. This was the foundation for **classical conditioning**, a type of learning in which a response (salivation) to a stimulus (a bell) is elicited after repeated association with a stimulus that normally elicits the response (food).

This research was extended by the American behaviorist John B. Watson (1878–1958), who applied stimulus-response theories to children, claiming he could mold any infant in any way he chose. In one of the earliest and most famous demonstrations of classical conditioning in human beings, he taught an 11-month-old baby known as "Little Albert" to fear a furry white rat (Watson & Rayner, 1920).

Classical conditioning is a type of learning first studied in experiments with dogs.
Life on white/ Alamy Stock Photo

"Give me a dozen healthy infants, well-formed, and my own specified world to bring them up in and I'll guarantee to take any one at random and train him to become any type of specialist I might select—doctor, lawyer, artist, merchant-chief and, yes, even beggar-man and thief, regardless of his talents, penchants, tendencies, abilities, vocations, and race of his ancestors." John Watson

In this study, Albert was exposed to a loud noise when he started to stroke the rat. The noise frightened him, and he began to cry. After repeated pairings of the rat with the loud noise, Albert whimpered with fear when he saw the rat. Moreover, Albert also started showing fear responses to white rabbits and cats, and elderly men's beards. Although the study would be considered highly unethical today, it did demonstrate that a baby could be conditioned to fear something they had not been afraid of previously.

Classical conditioning occurs frequently in everyday life. Fear responses to objects such as a dog may be the result of a bad experience. Much advertising is based upon attempts to condition associations between products (such as a car) and positive stimuli (such as an attractive person).

Operant Conditioning Kasem lies in his crib. When he starts to babble ("ma-ma-ma"), his mother smiles and repeats the syllables. Kasem learns his behavior (babbling) can produce a desirable consequence (loving attention), so he learns to keep babbling to attract his mother's attention. An originally accidental behavior (babbling) has become a conditioned response.

This type of learning is called **operant conditioning**. The individual learns from the consequences of "operating" on the environment. Unlike classical conditioning, operant conditioning involves voluntary behavior, such as Kasem's babbling, and the consequences rather than the predictors of behavior. If classical conditioning involves the "before" of actions, operant conditioning is about the "after."

The American psychologist B. F. Skinner (1904–1990), who formulated the principles of operant conditioning, found an organism will tend to repeat a response that has been reinforced by desirable consequences and will suppress a response that has been punished. Thus, **reinforcement** is the process by which a behavior is strengthened, increasing the likelihood the behavior will be repeated. In Kasem's case, his mother's attention reinforces his babbling. **Punishment** is the process by which a behavior is weakened, decreasing the likelihood of repetition. If Kasem's mother frowned when he babbled, he would be less likely to babble again.

Reinforcement and punishment can be positive, involving "adding" a stimulus to the environment, or negative, involving the "subtraction" or removal of a stimulus from the environment. For example, positive reinforcement is provided by Kasem's mother's smiles and encouragement, and because this is reinforcing, it increases the likelihood that Kasem will perform this action again. Negative reinforcement (commonly confused with punishment) should likewise result in a greater likelihood of a behavior occurring, but it should do so by removing a negative stimulus. A good example of this can be found in seatbelt alerts in cars. When the ignition key is turned and the seatbelt is not attached, an irritating buzzer sounds. The buzzer shuts off immediately when the seatbelt is clicked close. The cessation of the sound (the removal of an unpleasant stimulus) is reinforcing (should result in a greater likelihood of the seatbelt being buckled the next time a person drives).

The same process can be applied to punishment. An example of positive punishment is speaking sharply to a dog that got into the garbage. This negative experience should result in a reduction of the likelihood of the dog misbehaving again. Punishment can also be negative. If two siblings are fighting over what to watch on television and a parent decides to turn the television off, the children have experienced negative punishment. The removal of a positive stimulus (the television) should result in a reduced likelihood of fighting over the television again.

Reinforcement is most effective when it immediately follows a behavior. If a response is no longer reinforced, it will eventually be extinguished, that is, return to its original (baseline) level. If after a while, no one responds to Kasem's babbling, he may babble less often.

Skinnerian psychology has been influential. For many years, the bulk of work in psychology occurred within this approach. Behavioral modification, a form of operant conditioning used to eliminate negative behaviors, has been widely used as a therapeutic approach for children with special needs. It has been extraordinarily effective in managing problem behaviors.

However, as an overarching theory of development, behaviorism falls short. While learning theorists advocated a *tabula rasa* approach, we know now that children come into the world with a host of individual differences that profoundly impact development. There is no room for such variability within the learning approach. Moreover, it has become clear that the "rules" for learning in different domains do not always follow behavioral predictions and can differ

operant conditioning Learning based on association of behavior with its consequences.

reinforcement In operant conditioning, a process that increases the likelihood that a behavior will be repeated.

punishment In operant conditioning, a process that decreases the likelihood that a behavior will be repeated.

social learning theory Theory that behaviors are learned by observing and imitating models. Also called social *cognitive theory*.

reciprocal determinism Bandura's term for bidirectional forces that affect development.

observational learning Learning through watching the behavior of others.

self-efficacy Sense of one's capability to master challenges and achieve goals.

cognitive perspective Perspective that looks at the development of mental processes such as thinking.

organization Piaget's term for the creation of categories or systems of knowledge.

schemes Piaget's term for organized patterns of thought and behavior used in particular situations.

adaptation Piaget's term for adjustment to new information about the environment.

assimilation Piaget's term for incorporation of new information into an existing cognitive structure.

depending on what is being learned. For example, children learn language far more rapidly than learned associations can account for, and the way in which children learn to talk is fundamentally different from how they learn to walk. Last, psychologists have realized, over time, that while we cannot directly access what is going on in people's heads, we can use indirect measures (such as reaction time) to make objective scientific predictions and collect empirical data. Thus, the earlier reluctance to examine mental processes has abated as the field has progressed.

Social Learning (Social Cognitive) Theory

The psychologist Albert Bandura (b. 1925) developed many of the principles of **social learning theory**. Whereas behaviorists saw the environment as the chief impetus for development, Bandura (1989) suggested that the impetus for development was bidirectional. He called this concept **reciprocal determinism**—the child acts on the world as the world acts on the child.

Classic social learning theory maintains that people learn appropriate social behavior chiefly by observing and imitating models; that is, by watching other people and learning both about what potential behaviors might be as well as the likely consequences of such behaviors. This process is called **observational learning**, or modeling. For example, by watching her older sister get disciplined for eating a cookie cooling on the counter, Clara can learn to restrain herself from doing the same thing without herself getting punished.

> *"Coping with the demands of everyday life would be exceedingly trying if one could arrive at solutions to problems only by actually performing possible options and suffering the consequences." Albert Bandura*

Bandura's (1989) updated version of social learning theory is social cognitive theory. The change of name reflects a greater emphasis on cognitive processes as central to development. Cognitive processes are at work as people observe models, learn "chunks" of behavior, and mentally put the chunks together into complex new behavior patterns. Rita, for example, imitates the toes-out walk of her dance teacher but models her dance steps after those of Carmen, a slightly more advanced student. Even so, Rita develops her own style of dancing by putting her observations together into a new pattern. As children experience success in areas of functioning, they also begin to develop a sense of **self-efficacy**, or confidence in their abilities.

PERSPECTIVE 3: COGNITIVE

In the following section, we discuss three theoretical traditions within the **cognitive perspective**: Piaget's cognitive theory, Vygotsky's sociocultural theory, and the information-processing approach to cognition.

Piagetian Approach

The fields of both cognitive psychology and developmental psychology owe an enormous debt to the work of the Swiss theoretician Jean Piaget (1896–1980). Through his careful observations and thoughtful questions, Piaget developed a theory that reintroduced the concept of scientific inquiry into mental states. Because he developed a series of experimental paradigms that yielded objective observational data, he demonstrated that "real" science could indeed investigate hidden mental phenomena, as we will see throughout this text. Piaget viewed development organismically, as the product of children's attempts to understand and act upon their world. He also believed in qualitative development, and thus his theory delineates a series of stages.

Piaget believed that children came equipped with a few basic capacities that allowed them to begin learning. Most importantly, development is initially based on motor activities such as reflexes. By rooting for a nipple, feeling a pebble, or exploring the boundaries of a room, young children first learn how to control and refine their movements, and then learn how to explore their world with their bodies. In this way, they develop a more accurate understanding of their surroundings and greater competence in dealing with them. This cognitive growth occurs through three interrelated processes: organization, adaptation, and equilibration.

Organization is the tendency to create categories, such as birds, by observing the characteristics that individual members of a category, such as sparrows and cardinals, have in common. According to Piaget, people create increasingly complex cognitive structures called **schemes**, or ways of organizing information about the world. These schemes can be either motor or mental in nature. Take sucking, for example. A newborn infant has a simple scheme for sucking but soon develops varied schemes for how to suck at the breast, a bottle, or a thumb. The infant may have to open her mouth wider or turn her head to the side or suck with varying strength.

Adaptation is Piaget's term for how children handle new information in light of what they already know. Adaptation occurs through two complementary processes: (1) **assimilation**, taking in new information and incorporating it into existing

cognitive structures, and (2) **accommodation**, adjusting one's cognitive structures to fit the new information.

Equilibration—a constant striving for a stable balance—motivates the shift from assimilation to accommodation. For example, Anaya knows what birds are and sees a plane for the first time. She labels the plane a "bird" (assimilation). Over time Anaya starts to notice differences between planes and birds. For example, she might notice although both planes and birds fly, birds have feathers, while planes are made of something hard and smooth, and that birds have eyes and planes do not. These observations bring about an uneasy motivational state known as disequilibrium. Anaya is then motivated to change her understanding to more closely reflect her observations—perhaps by learning the label for plane and realizing that planes and birds are not, after all, the same thing. In other words, accommodation has occurred and she is now at equilibrium. Throughout life, the quest for equilibrium is the driving force behind cognitive growth.

Piaget described cognitive development as occurring in four qualitative stages (listed in Table 1.3). From infancy through adolescence, mental operations evolve from learning based on simple sensory and motor activity to logical, abstract thought. Children's minds are not just miniature adult minds. The way they think is fundamentally different from how adults think.

While Piaget was profoundly influential in the field and provided a series of rough but useful benchmarks of development, he underestimated the abilities of infants and young children. Some contemporary psychologists question his distinct stages, pointing to evidence that cognitive development is more gradual and continuous (Courage & Howe, 2002). Others have pointed out that children's cognitive processes seem closely tied to specific content (what they are thinking about) as well as to the context of a problem and the kinds of information and thought a culture considers important (Case et al., 1996).

"What we see changes what we know. What we know changes what we see." Jean Piaget

According to Piaget, children's development is initially based on motor activities as they learn to explore the world with their bodies.

lostinbids/E+/Getty Images

Sociocultural Theory

The Russian psychologist Lev Semyonovich Vygotsky (1896–1934) focused on the social and cultural processes that guide children's cognitive development. Whereas previous theorists viewed development as a primarily individual process, Vygotsky believed that learning was social and collaborative. Children, said Vygotsky, learn through social interaction and shared activities. Rather than believing in universal aspects of development, Vygostky believed there are as many ways to develop as there are different cultures and different experiences. While psychology as a field has increasingly incorporated issues of diversity into theory and research, Vygotsky's realization that culture was profoundly important to development was far ahead of his time and remains a fundamental and important contribution of his approach.

"Through others, we become ourselves." Lev Vygotsky

According to Vygotsky, adults or more advanced peers must help direct and organize a child's learning. This guidance is most effective in helping children cross the **zone of proximal development (ZPD)**, the imaginary psychological space between what children can do on their own and what they could achieve with another person's assistance. Over time, as a child's abilities increase, responsibility for directing and monitoring learning gradually shifts from the adult to the child. This temporary support that parents, teachers, or others give a child is known as *scaffolding*, and it helps new learners work at the high end of their ZPD.

For example, Noah receives a new puzzle for his birthday, but after emptying the pieces on the dining room table and trying to fit pieces together randomly, he makes little progress. His older sister sees him trying, sits next to him, and offers advice on how to begin. "Try putting all the pieces of the same color in piles," she says. "That makes it easier to see what goes together. You can look at the box for clues. And, if you do the edges first, then you have the outline already done." With his sister's coaching, Noah is able to start assembling the puzzle. His sister has provided him with scaffolding with her coaching and allowed Noah to move to the high end of his zone of proximal development and maximize his learning.

Vygotsky made significant contributions to the understanding of developmental processes. However, he did not use traditional quantitative experimental methodology. Rather

accommodation Piaget's term for changes in a cognitive structure to include new information.

equilibration Piaget's term for the tendency to seek a stable balance among cognitive elements; achieved through a balance between assimilation and accommodation.

zone of proximal development (ZPD) Vygotsky's term for the difference between what a child can do alone and what the child can do with help.

WHERE DO YOU STAND?

Vygotsky has been credited with drawing attention not to just what a person knows at any one particular time but to what the person *could* know with help. Do you agree with this perspective? And does this mean that traditional intelligence tests, which assess knowledge already learned, are measuring the wrong thing?

Sergey Furtaev/Shutterstock

than conducting a carefully controlled experiment, for example, Vygotsky was more likely to conduct experiments such as asking a toddler to draw a representation of an event or putting two children who spoke different languages in a room and asking them to complete a task together. The data collected often consisted of detailed descriptions of what occurred and contained little in the way of quantifiable information or statistics (Vygotsky, 1980). Vygotsky viewed experiments as different; rather than providing statistical tests of competing hypotheses, they were springboards for the development of understanding.

Despite this, Vygotsky's ideas have grown in stature and prominence as their implications for education and cognitive testing have become more apparent. For example, an intelligence test within the Vygotskian tradition might allow testers to offer hints to children who were having trouble answering a question, thereby focusing on that child's potential learning rather than on what they had already learned. Additionally, Vygotsky's ideas have had an enormous impact in early childhood education, and they show great promise for promoting the development of self-regulation, which later affects academic achievement (Barnett et al., 2008).

The Information-Processing Approach

The **information-processing approach** seeks to explain cognitive development by analyzing the processes involved in making sense of incoming information and performing tasks effectively. For example, theorists within this tradition focus on processes such as attention, memory, planning strategies, decision errors, decision making, and goal setting. The information-processing approach is not a single theory but a framework that undergirds a wide range of theories and research. Information-processing theorists view development as continuous. They note age-related increases in the speed, complexity, and efficiency of mental processing and in the variety of material that can be stored in memory. However, they do not consider those processes to be fundamentally different at different ages.

information-processing approach Approach to the study of cognitive development by observing and analyzing the mental processes involved in perceiving and handling information.

contextual perspective View of child development that sees the individual as inseparable from the social context.

bioecological theory Bronfenbrenner's approach to understanding processes and contexts of child development that identifies five levels of environmental influence.

The most common model for this theory is that of a computer, which has certain inputs (such as sensory impressions) and certain outputs (such as behaviors). Information-processing theorists are interested in what happens in the middle. How does the brain use sensations and perceptions, say, of an unfamiliar word to recognize that word again? Why does the same input sometimes result in different outputs? How do people gather, store, retrieve, and use information?

Note that it is impossible to directly observe what paying attention to or remembering something looks like. However, it is possible to use indirect measures to infer what is happening inside a person's head. For example, one classic demonstration can be found in the Stroop effect. When asked to indicate the color of font a word is written in, subjects are faster and more accurate doing so when the color term matches the font color the word is printed in. When they do not match, such as when the word *red* is printed in green font, subjects are slower to answer. Why does this happen? According to Stroop (1935), an experienced reader cannot help but read the word. Because upon reading the word the concept (red) is activated, there is interference with the correct response (green). While this explanation is based on inference, the result itself is an objective fact that can be tested scientifically.

The information-processing approach has taught us a great deal about the mechanics of how the mind works. It has also demonstrated that we *can* access cognitive processes, even though they are internal.

PERSPECTIVE 4: CONTEXTUAL

According to the **contextual perspective**, development can be understood only in its social context. Contextualists see the individual not as a separate entity interacting with the environment but as an inseparable part of it. Vygotsky's sociocultural theory, which we discussed as part of the cognitive perspective, also can be classified as contextual.

"Development, it turns out, occurs through this process of progressively more complex exchange between a child and somebody else—especially somebody who's crazy about that child." Urie Bronfenbrenner

The American psychologist Urie Bronfenbrenner's (1917–2005) **bioecological theory** (1979, 1986, 1994) identifies five levels of environmental influence, ranging from very intimate to very broad: microsystem, mesosystem, exosystem,