

CHILD DEVELOPMENT

Sixteenth Edition

JOHN W. SANTROCK

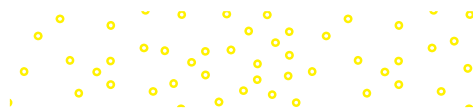
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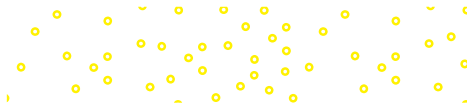
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CHILD DEVELOPMENT, SIXTEENTH EDITION

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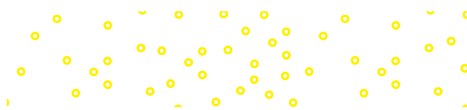
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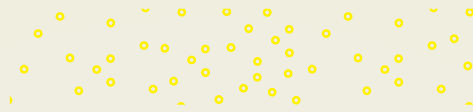
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Dedication

*With special appreciation to my mother,
Ruth Santrock, and my father, John Santrock.*

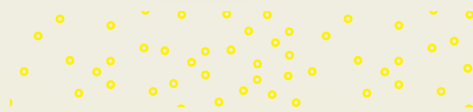
—John W. Santrock

*I am dedicating this edition to all of the wonderful
“kids” in my family who continue to teach me about human
development—my children Anna and Lee, eleven nieces
and nephews, and five great-nieces.*

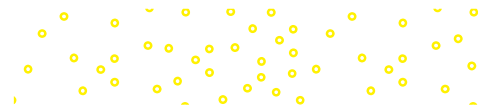
—Kirby Deater-Deckard

*I gratefully acknowledge my parents, David and Maxine Kuehn,
my husband, Chris Lansford, and our children, Katherine and Nick,
who have guided my development and given me insights into theirs.*

—Jennifer E. Lansford



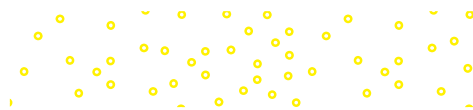
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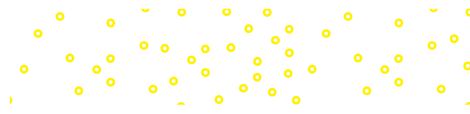
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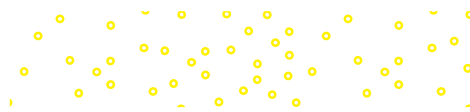
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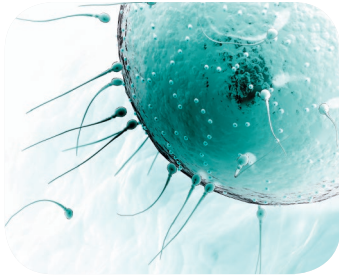
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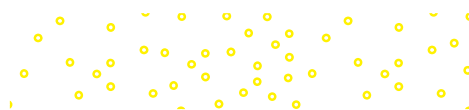
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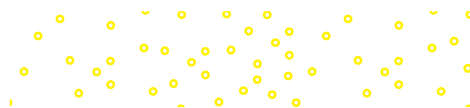
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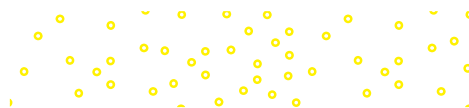
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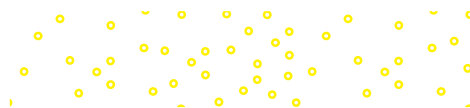
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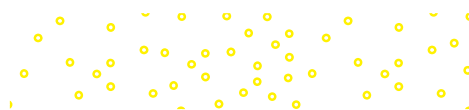
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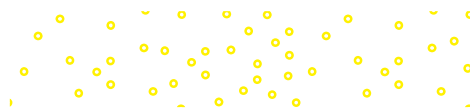
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Psychology APA Documentation Guide



guide to diversity, equity, and inclusion

Special attention is given to diversity, equity, and inclusion (DEI) in this new edition, including updating preferred pronouns and terminology to refer to different racial and ethnic groups. Studies conducted by researchers representing diverse and global populations and topics are included throughout to ensure a balanced view of human development.

Given the importance of culture, race/ethnicity, socioeconomic status, and technology as contexts that influence many aspects of children’s physical, cognitive, and social development, this revised and updated foundational material now appears early in this edition in new Chapter 2: Contexts of Development: Culture, Race/Ethnicity, Socioeconomic Status, and Technology. Additionally, all of the *Connecting with Careers* boxes have been updated, and many new profiles introduce the reader to a diverse group of active professionals.

Following is a chapter-by-chapter list of examples of current content and revisions involving DEI topics and research.

Chapter 1: Introduction

- The section “Sociocultural Contexts and Diversity” includes the latest definitions, concepts, and research. This expanded section includes scholarship on racial and ethnic identity and pride, exposure to and impact of discrimination, and the effects of socioeconomic disparities and inequity.
- Updated definition of gender clearly distinguishes it from biologically oriented definitions of female or male sex
- Updated and expanded *Connecting with Diversity* feature, including the latest international data regarding culture and gender, and disparities that often put girls at greater risk for not being able to attend or complete school or for receiving opportunities for economic security (Ozdenrol, 2021; UNICEF, 2021, 2022)
- Latest data on childhood poverty rates in the United States for the whole population and by racial and ethnic group, as well as in comparison to other industrialized countries

Chapter 2: Contexts of Development: Culture, Race/Ethnicity, Socioeconomic Status, and Technology

- Reconceptualized, reorganized, and relocated earlier in the text to emphasize the importance of culture, race/ethnicity, socioeconomic status, and technology as contexts that affect many aspects of children’s physical, cognitive, and social development
- New opening scenario and introduction to how culture, race/ethnicity, socioeconomic status, and technology serve as contexts for development

- First section focuses on the role of culture in child development
- Second section focuses on how race and ethnicity are linked to child development
- New *Connecting with Diversity* box highlights ongoing discussions regarding preferred terminology for describing ethnic and racial groups and how this terminology will be addressed throughout this edition
- Latest statistics on racial and ethnic diversity in the United States
- Updated numbers of immigrant families in the United States and how race and ethnicity can be confounded with immigrant status, but individuals who identify with underrepresented racial and ethnic groups are not necessarily immigrants
- Updated section on immigration and child development
- Discussion of bicultural orientation
- New *Connecting with Careers* profile on Adriana Umaña-Taylor, a professor and researcher of ethnic-racial identities who studies immigrant families in the United States
- Updated section on race/ethnicity and socioeconomic status
- New qualitative study of racial identity (Onnie Rogers & others, 2021)
- Contemporary research on psychological strengths of Black American adolescents
- Discussion of diversity within racial and ethnic groups
- Subsection on “Prejudice and Discrimination” within the discussion of “Race and Ethnicity”
- New research on different types of discrimination faced by Black American adolescents (English & others, 2020)

Chapter 3: Biological Beginnings

- Anthropological research in current hunter-gatherer societies that has implications for understanding human evolution, including why humans are the only great apes in which women live long past reproductive age and why social orientation and cooperation are so central to our species (Hrdy & Burkart, 2020)
- Diversity of adopted children and adoptive parents, including transracial and international adoptions

Chapter 4: Prenatal Development and Birth

- Section on cultural differences in childbirth settings and typical attendants
- New *Connecting with Careers* profile featuring midwife Jennifer Nguyen, who works with diverse communities in Canada and strives to reduce inequities in healthcare in rural and remote areas

- Updated cesarean rates internationally
- *Connecting with Diversity* discussion and Figure 7 on cross-cultural variations in the incidence and causes of low birth weight

Chapter 5: Physical Development and Health

- Expanded coverage of the research evidence that the onset of puberty is taking place at younger ages for girls in many places around the globe (Eckert-Lind & others, 2021)
- Inclusion of the latest information and research evidence regarding the impacts of the United States' Women, Infants, and Children (WIC) nutrition program for improving access and utilization of nutritious food and reducing racial, ethnic, and income disparities in nutrition (Paolicelli & others, 2021; Testa & Jackson, 2021)
- Expanded coverage of the latest research evidence regarding gender and race or ethnic group disparities in access to spaces and programs for physical activity and exercise (Underwood & others, 2020), and presentation of evidence from China regarding the importance of physical activity among adolescents to reduce rates of depression during the social and physical isolation of the COVID-19 pandemic (Ren & others, 2021)
- Information regarding studies examining racial, ethnic, and socioeconomic disparities in childhood and adolescent obesity rates within the United States and globally (Schiff, 2021; WHO, 2020)

Chapter 6: Motor, Sensory, and Perceptual Development

- Brain-imaging studies showing structural and functional changes that fine-tune the auditory cortex for children who are blind from a young age (Huber & others, 2019)
- Laboratory tests demonstrating that individuals who are blind are better than individuals with sight at voice recognition tasks (Pang & others, 2020) and tasks that rely on the ability to use olfactory cues to locate objects (Manescu & others, 2021)
- Research on important cultural differences in caregivers' understanding and beliefs about development that can influence how parents stimulate and support gross motor skills in infancy (van Schaik, Oudgenoeg-Paz, & Atun-Einy, 2018)
- Several studies on cultural variations related to infants' motor development
- Cross-cultural research on school-age children in Greece, Italy, and Norway revealing national differences in fine and gross motor skills that were influenced in part by cultural differences in physical activities and attitudes about exercise (Haga & others, 2018)
- Research showing that infants exposed to tone languages that use pitch to convey different word meanings retain the ability to discriminate these pitches, but infants not exposed to tone languages lose the ability to distinguish certain pitches by the age of 6 to 9 months (Kager, 2018)
- Discussion indicating that milestones in the development of gross motor skills generally show cross-cultural similarities, although experiences provided in some cultural contexts can speed or slow the attainment of particular milestones

Chapter 7: Historical Foundations of Cognitive Developmental Theories

- Updated content on the impacts of Rogoff's work on guided participation in which children learn—through observation and practice—many of the key cognitive skills and understanding that are valued by and supported within their culture (Alcalá, Montejano, & Fernandez, 2021)

Chapter 8: Information Processing

- Inclusion of the latest evidence that processing speed is associated with better reading skill and comprehension in a diverse array of languages (Gerst & others, 2021)
- New research indicating the important role that working memory plays in math skill development among bilingual children (Swanson, Arizmendi, & Li, 2021)
- Updated theory and evidence regarding the impacts of culture on how memories are formed and utilized, including research on cultural life scripts (Bohn & Bundgaard-Nielsen, 2021)
- Latest evidence for the impact of low-income environments that impede access to resources needed to support development of executive function in early and later childhood (Baker & Brooks-Gunn, 2020; Deer, Hastings, & Hostinar, 2020)
- New evidence that the well-established link between theory of mind and executive function development has been observed in multiple cultural contexts (Fujita, Devine, & Hughes, 2022)

Chapter 9: Intelligence

- New policy and practice information regarding the challenges faced in low-income communities and families, and how these can be addressed in ways that promote more opportunities for supporting development of intelligence in children and youth (Ramey, 2019; Schiariti, Simeonsson, & Hall, 2021)
- Expanded discussion on recent theory and evidence offering critical analysis of intelligence testing and use of test scores for group comparisons, with an emphasis on consideration of the harm caused by, and solutions to, cultural bias in testing and use of test scores (Sternberg, 2021a, b)
- Latest scholarship regarding inequities in selection of candidates for gifted student programs, and the approaches needed to ensure equitable and inclusive representation of diverse youth (Wright, Ford, & Moore, 2022)
- New *Connecting with Careers* profile highlighting the work of Geoffrey Moon, a gifted student education specialist in New Mexico whose goals include broadening representation of minoritized youth and students with disabilities in gifted education programs in schools

Chapter 10: Language Development

- Expanded discussion of the role of culture and cultural context in pragmatics in language learning and comprehension (Nadasdi, 2021; Rowe & Weisleder, 2020)
- Updated coverage of the research and theory regarding young infants' developmental progression from perceiving all possible speech sounds, toward a preferential improvement in perceiving speech sounds in their own first language (Kuhl, 2021)

- Latest theory and evidence regarding the consistency of expanded word learning around the globe within most languages, even with highly language-specific speech sounds, word meanings, and pragmatics (Bruhn de Garavito & Schwieter, 2021; Schwieter, 2021)
- Expanded theory and research regarding the problem of “deficit” interpretations of family socioeconomic status and children’s language environments, and alternative approaches that can address this bias (Florit & others, 2021; Masek & others, 2021)
- Updated research regarding culture-specific learning of phonology, syntactic rules, pragmatics, and higher-level understanding of language (“metalinguistic awareness”) across middle childhood (McBride, Pan, & Mohsani, 2021; Nadasdi, 2021)
- New research on second language learning in childhood, including the mixed results with respect to cognitive benefits arising from bilingual language development (Grundy, 2020; Pace & others, 2021) and the dual-language learning approach in schools (Harrell & Jordan, 2020; Tao & others, 2021)
- New information noting that over 60 countries (not including the United States) have legal status and national education standards for bilingual and sometimes trilingual language use and instruction (Jezak, 2021)
- New *Connecting with Careers* feature on Verlee Garcia, a speech pathologist who has extensive experience working with children from indigenous groups
- *Connecting with Careers* profile on Salvador Tamayo, a middle school broadcasting teacher in West Chicago, Illinois, who mentors a student club focused on empowering Latino youth to lead and strengthen their communities through college and career readiness

Chapter 11: Emotional Development

- New findings from the most recent comprehensive review and meta-analysis of global impacts of the COVID-19 pandemic on children’s emotional functioning and problems, in 10 countries spanning Asia and South America (Kumar Panda & others, 2021)
- Updated coverage of theory and research regarding cultural values and practices that emphasize different aspects of emotion expression and regulation as part of child temperament (Jenzer & others, 2019; Matsumoto & Juang, 2020), including the addition of results of the largest and most recent study to date of 14 countries spanning Asia, South and North America, and Europe (Desmarais & others, 2021)
- Addition of the latest study on division of labor in caregiving of young children in gay couple co-parenting (Carone & Lingardi, 2022), as well as the most recent research on gender similarities and differences in caregiving patterns of men and women in straight couple co-parenting (Cabrera & Roggman, 2017; Volling & Palkovitz, 2021)
- New information about certain countries’ work and family-balance policies that strive to promote more equal caregiving among women and men with infants and young children (Greve & Hussain, 2021; Hakovirta & Eydal, 2020)

Chapter 12: The Self and Identity

- Longitudinal study of students from ninth to eleventh grade showing that Black American and Latino adolescents develop a social justice perspective that is increasingly aware of the

disparities that exist between vulnerable and less vulnerable social groups in regard to racism and discrimination (Seider & others, 2019)

- Discussion of how adolescents’ perceptions of their possible selves are tied to race and social class, reflecting experiences with discrimination that constrain opportunities for some adolescents more than others
- Addition of a qualitative study using in-depth interviews to understand academic identity of Black and White American 12- and 13-year-olds (Legette, 2018)
- A study of more than 5,000 young people in 19 countries showing that self-esteem was not related to personal values but rather to fulfilling values of other people in that culture (Becker & others, 2014)
- Research suggesting that cultures differ in the importance placed on self-esteem (Miller & Cho, 2018)
- A study of immigrant and non-immigrant adolescents in Greece, which found that national identity and friendship networks developed in tandem, with identity influencing friendship choices, and friends influencing identity development (Umaña-Taylor & others, 2020)
- Section “Culture and Race/Ethnicity” on identity development
- Research finding that many aspects of sociocultural contexts may influence ethnic identity
- Introduction of the concept of bicultural identity or multicultural identities that encompass different cultural environments and can reflect individuals’ experiences with immigration and globalization (Ferguson, Iturbide, & Raffaelli, 2020)
- New *Connecting with Careers* profile on Anna Boyer-Chadwick, an academic advisor whose university’s advising and retention program is a nationally recognized model for promoting Latino student success

Chapter 13: Gender

- Thorough updating of terminology, to clearly distinguish binary sex (usually assigned at birth) terms of “female” and “male” from gender terms, and a broadening of inclusive representation of gender terms including “cis,” “girl/woman,” “boy/man,” and “transgender”
- Inclusion of information about providing children and adolescents with opportunities and support for challenging traditional gender roles and biases with their peers and families, in order to address gender inequity (Best & Gibbon, 2019; Rogers & others, 2020)
- Updated and expanded theory and research regarding the mixed evidence for benefits of “single sex” education and its effects on development and academic achievement (Herr, Grant, & Price, 2020)
- New information about the very small overall average differences seen in human brain structures and functions when comparing females and males (Eliot & others, 2021; Grabowska, 2020)
- Substantial updating of the *Caring Connections* feature informing students about ways to guide children’s gender development while also challenging gender bias and stereotypes
- New information regarding the cultural shift (observed also in research) toward more flexible and inclusive beliefs regarding

gender identity and expression, especially with regard to challenging traditional binary gender identity and stereotypes

- New *Connecting with Careers* feature on Terrance Weeden, a pediatrician who is also a vocal advocate for LGBTQ youth

Chapter 14: Moral Development

- New opening scenario describing the benevolence of a high school student who, after receiving a full-tuition college scholarship, contributed some of his college savings to launch a scholarship fund for fellow historically underrepresented students to maximize their academic potential
- Section on “Culture and Moral Reasoning”
- A study of moral reasoning in 67 countries (Atari, Lai, & Dehghani, 2020)
- Research on how children’s notions of fairness differ across cultural contexts
- A longitudinal study of 11 cultural groups in eight countries demonstrating that parental warmth during childhood predicted an increase in prosocial behavior during children’s transition to adolescence (Pastorelli & others, 2021)
- A study of over 5,000 individuals ranging in age from 10 to 30 years in 11 countries showing that improvements in aspects of psychosocial maturity involved in decision-making in emotionally charged situations continued beyond age 18 (Icenogle & others, 2019)
- A study indicating that both parents’ socialization practices and national contexts that vary in religiosity and secularism affect children’s religious beliefs and practices (Voas & Storm, 2021)
- Updated information on global trends in religiosity

Chapter 15: Families

- A study of how Chinese parents’ cognitive, emotional, and autonomy support in math activities is related to children’s performance on a standardized mathematics exam (Huang & others, 2022)
- Discussion of the specificity principle in developmental science, which emphasizes that specific cultural contexts, characteristics of individual people, and historical times are all important in understanding developmental processes in specific domains (Bornstein, 2017)
- Updated statistics on fertility patterns globally
- Research on parenting styles in different cultural contexts
- Research with Latino families showing how having several generations living together or near one another and helping each other may be important in shaping children’s identity (Constante & others, 2020)
- Updated statistics in Figure 4 on the prevalence of corporal punishment in different countries
- New data on how parents’ use of corporal punishment has declined over historical time and been outlawed in dozens of countries
- A review of research on parental autonomy support among Black, White, Latino, and Asian American families concluding that understanding this aspect of parenting needs to be

grounded in cultural concepts related to independence and expectations of parents (Benito-Gomez & others, 2020)

- A five-country study showing that adolescents who had less destructive conflict with their parents were less likely to experience an increase in emotional and behavioral problems in early adulthood during the COVID-19 pandemic, suggesting the protective role of low-conflict parent-adolescent relationships (Skinner & others, 2021)
- Research showing the positive role that siblings play in each other’s lives, with youth in non-Western nations and cultures taking on more formal caregiving and teaching roles compared with their Western counterparts (Hughes, McHarg, & White, 2018)
- Current information about demographics of same-sex couples with children in their households
- Analysis of 72 reviews of the literature concluding that parents’ sexual orientation is not related to their children’s sexual orientation (Schumm & Crawford, 2019)
- Section on “Cultural, Ethnic, and Socioeconomic Variations in Families”
- Research on how parental monitoring varies across cultures in ways that are related to cultural expectations regarding adolescent autonomy and how much control parents should have over adolescents’ decisions and activities (Soenens & Vansteenkiste, 2020)
- Discussion of how a global increase in the availability of smartphones and Internet access enables frequent contact among generations even across vast distances (Fingerman, Huo, & Birditt, 2020)
- New research on immigrant families and transnational families
- Research demonstrating that parenting in many underrepresented ethnic families emphasizes issues associated with promoting children’s ethnic pride, knowledge of their ethnic group, and awareness of discrimination (Umaña-Taylor & Rivas-Drake, 2021)

Chapter 16: Peers

- Cross-cultural comparisons of peer relationships
- Research suggesting that in many areas of rural India and in Arab countries, opportunities for peer relations in adolescence are restricted, especially for girls (Makhlouf Obermeyer, 2015)
- Research showing that in cultural contexts with sex-segregated schools, opportunities for cross-sex peer and romantic relationships are less frequent (Gibbons & Poelker, 2019)
- An 18-country cross-cultural analysis surveying nearly 5,000 youth around the globe to find out how they experienced stress and enjoyment in their relationships with their peers, friends, and parents (Persike & Seiffge-Krenke, 2016)
- Studies showing that in some settings, peers assume responsibilities usually handled by parents, such as when street youth in Brazil rely on networks of peers to help them negotiate survival in urban environments (Lima & others, 2021)
- New study on how perspective-taking skills can reduce ethnic discrimination in elementary school (Alan & others, 2021)
- A nine-country longitudinal study showing that biases in children’s social information processing predicted aggressive behavior in the transition to early adolescence (Dodge & others, 2015)

- Section on “Romantic Relationships in Gay, Lesbian, and Bisexual Youth”
- Section on “Sociocultural Contexts and Dating”

Chapter 17: Schools and Achievement

- Substantial updates to sections in Figure 1 (*Core Considerations in Developmentally Appropriate Practice* and *Principles of Child Development and Learning that Inform Practice*) (from NAEYC, 2020), to ensure that young learners with a wide range of advantages and disadvantages, and skills and areas needing improvement are provided with effective learning experiences in preschool and school
- Presentation of the latest information about *Head Start* and *Early Head Start*, preschool-based programs to address income inequities for infants, toddlers, and preschoolers (Administration for Children and Families, 2022; Bierman & others, 2021; Slater & others, 2021)
- New *Connecting with Careers* feature on Rakaya Humphreys, Director of Head Start for the Northwest Tennessee Economic Development Council, who also benefitted from Head Start services as a young mother
- Improved clarity and specification of the distinctions and intersections between socioeconomic status, race, and ethnicity throughout the chapter
- Updated statistics (through 2018) in Figure 4 regarding children in public schools in the United States who receive educational support for various disabilities (National Center for Education Statistics, 2020)
- New *Connecting Through Research* featuring researcher Lawrence Jackson’s study of over 1000 Black youth across the United States on the impact of parents’ expectations for academic achievement on Black boys’ own academic attitudes and math achievement outcomes

about the authors

John W. Santrock

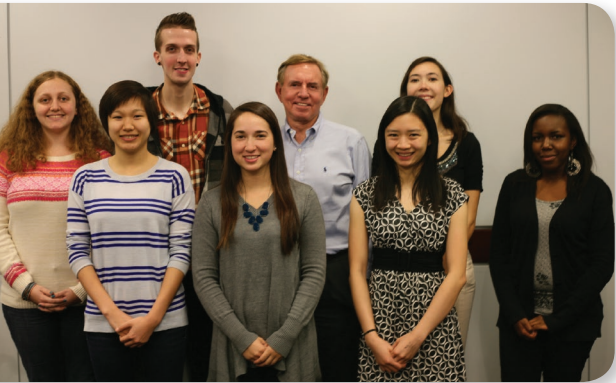
John Santrock received his Ph.D. from the University of Minnesota in 1973. He taught at the University of Charleston and the University of Georgia before joining the program in Psychology in the School of Behavioral and Brain Sciences at the University of Texas at Dallas, where he currently teaches a number of undergraduate courses and has received the University's Effective Teaching Award.

In 2010, he created the UT-Dallas Santrock undergraduate travel scholarship, an annual award that is given to outstanding undergraduate students majoring in developmental psychology to enable them to attend research conventions. In 2019, he created an endowment that will provide the travel awards for students at UT-Dallas for decades to come. Additionally, Dr. Santrock and his wife, Mary Jo, created a permanent endowment that will provide academic scholarships for six to ten undergraduate psychology students per year, with preference given to those majoring in developmental psychology.

Dr. Santrock has been a member of the editorial boards of *Child Development* and *Developmental Psychology*. His research on father custody is widely cited and used in expert witness testimony to promote flexibility and alternative considerations in custody disputes. He also has conducted research on children's self-control. Dr. Santrock has authored these exceptional McGraw Hill texts: *Psychology* (7th edition),

Children (16th edition), *Adolescence* (18th edition), *Life-Span Development* (19th edition), *A Topical Approach to Life-Span Development* (11th edition), and *Educational Psychology* (7th edition).

For many years, he was involved in tennis as a player, teaching professional, and a coach of professional tennis players. As an undergraduate, he was a member of the University of Miami (FL) tennis team that still holds the record for most consecutive wins (137) in any NCAA Division I sport. He has been married for four decades to his wife, Mary Jo, who created and directed the first middle school program for children with learning disabilities and behavioral disorders in the Clarke County Schools in Athens, Georgia, when she was a professor at the University of Georgia. More recently, Mary Jo has worked as a Realtor. He has two daughters—Tracy and Jennifer—both of whom are Realtors after long careers in technology marketing and medical sales, respectively. In 2016, Jennifer became only the fifth female to have been inducted into the SMU Sports Hall of Fame. He has one granddaughter, Jordan, age 29, who completed her master's degree from the Cox School of Business at SMU and currently works for the accounting firm CBIZ, and two grandsons—the Belluci brothers: Alex, age 18, and Luke, age 16. In the last decade, he also has spent time painting expressionist art.



John Santrock (back row middle) with recipients of the Santrock Travel Scholarship Award in developmental psychology. Created by Dr. Santrock, this annual award provides undergraduate students with the opportunity to attend a professional meeting. A number of the students shown here attended the meeting of the Society for Research in Child Development.

Courtesy of Joanna Kain Gentsch, Ph.D.



Michael McDermott

Kirby Deater-Deckard

Kirby Deater-Deckard is a Professor in the Department of Psychological and Brain Sciences at the University of Massachusetts Amherst, where he serves as graduate program leader in developmental science, and a faculty member in neuroscience and behavior. He also is a Fellow of the Association for Psychological Science and director of the Healthy Development Initiative in Springfield, Massachusetts. He earned his Ph.D. in Developmental Psychology from the University of Virginia in 1994. Dr. Deater-Deckard has authored more than 300 publications that focus on the biological and environmental influences in the development of individual differences in social-emotional and cognitive outcomes in childhood and adolescence. The emphasis of his recent work is on parenting and inter-generational transmission of self-regulation (e.g., executive function, emotion regulation) that uses behavioral, cognitive neuroscience, and genetic research methods. He is principal or co-investigator on several longitudinal studies funded by the National Institutes of Health and the National Science Foundation. Dr. Deater-Deckard serves as a consulting investigator on several longitudinal research project teams around the globe and is a scientific review panelist for the Institute of Education Sciences (US Department of Education). He is a former co-editor of the book series, *Frontiers in Developmental Science* (Taylor & Francis), and currently serves on editorial boards for journals in developmental and family sciences. Dr. Deater-Deckard's wife, Keirsten, is a community volunteer, and they have two children: Anna, age 26, and Lee, age 19.



Courtesy of Erika Hanzely-Layko

Jennifer E. Lansford

Jennifer E. Lansford is a Research Professor at the Sanford School of Public Policy and Director of the Center for Child and Family Policy at Duke University. She earned her Ph.D. in Developmental Psychology from the University of Michigan in 2000. Dr. Lansford has authored more than 275 publications that focus on the development of aggression and other behavior problems during childhood and adolescence, with particular attention to how parent, peer, and cultural factors contribute to or protect against these problems. Dr. Lansford leads the Parenting Across Cultures Project, a longitudinal study of mothers, fathers, and children from nine countries (China, Colombia, Italy, Jordan, Kenya, Philippines, Sweden, Thailand, and the United States). In addition, Dr. Lansford has consulted for UNICEF on the evaluation of parenting programs in several low- and middle-income countries and on the development of a set of international standards for parenting programs. She serves in editorial roles on several academic journals and has served in a number of national and international leadership roles, including chairing the U.S. National Institutes of Health Psychosocial Development, Risk and Prevention Study Section; chairing the U.S. National Committee for Psychological Science of the National Academies of Sciences, Engineering, and Medicine; chairing the Society for Research in Child Development International Affairs Committee; and serving on the Secretariat of the International Consortium for Developmental Science Societies. Dr. Lansford's husband, Chris, is a surgeon who specializes in head and neck cancer. They have two children: Katherine, age 19, and Nick, age 16.

expert consultants

Child development has become an enormous, complex field, and no single author, or even several authors, can possibly keep up with all of the rapidly changing content in the many different areas of child development. To solve this problem, the authors have sought the input of leading experts about content in a number of areas of child development. The experts provided detailed evaluations and recommendations in their area(s) of expertise.

The following individuals are among those who served as expert consultants for one or more of the previous editions of this text:

Celia Brownell

Steven Ceci

Dante Cicchetti

Cynthia Garcia Coll

W. Andrew Collins

John Colombo

Rina Eiden

Tiffany Field

Mary Gauvain

Hill Goldsmith

James Graham

Joan Grusec

Daniel Hart

Susan Harter

Nancy Hazen

Diane Hughes

Scott Johnson

Rachel Keen

Claire Kopp

Deanna Kuhn

Jeffrey Lachman

Debbie Laible

Michael Lamb

Michael Lewis

Virginia Marchman

Catherine McBride

David Moore

Herb Pick

Karl Rosengren

Carolyn Saarni

Dale Schunk

Robert Siegler

Janet Spence

Robert J. Sternberg

Ross Thompson

Lawrence Walker

Following are the biographies of the expert consultants for the sixteenth edition of this text, who (like the expert consultants for the previous editions) literally represent a Who's Who in the field of child development.



Courtesy of Jim Hoste

Mary Gauvain Mary Gauvain is a developmental psychologist with expertise in cognitive development in early and middle childhood. She obtained her Ph.D. from the University of Utah and currently is Distinguished Professor of Psychology at the University of California, Riverside. Dr. Gauvain's research concentrates on social and cultural contributions to the development of thinking, principally in the areas of spatial cognition, problem solving, and planning skills. In recent years she has studied children's learning within and outside of school, children's concept development regarding water and food contamination in sub-Saharan Africa, and child development during cultural change. Dr. Gauvain is a Fellow of the American Association for the Advancement of Science, the American Educational Research Association, the American Psychological Association, and the Association for Psychological Science. She has held leadership roles in the Society for Research in Child Development and Division 7 (Developmental Psychology) of the American Psychological Association. She is the author of *The Social Context of Cognitive Development* (2001) and recently served as the Principal Investigator on an interdisciplinary NSF-IGERT award, *Water SENSE: Social, Engineering, and Natural Sciences Engagement*. Dr. Gauvain's work has been published in leading research journals such as *Child Development*, *Developmental Psychology*, *Cognitive Development*, and *Current Directions in Psychological Science*. She has served as Associate Editor for the journals *Child Development* and *The Merrill-Palmer Quarterly* and has been on the editorial boards of several other major developmental journals.



Courtesy of Jennifer Hogan

Melinda Gonzales-Backen Melinda Gonzales-Backen is an expert in the formation of ethnic-racial identity and other cultural processes among Latino adolescents and families. She obtained her Ph.D. in Family and Human Development from Arizona State University. She is currently an Associate Professor in the Department of Human Development and Family Science at Florida State University. Her research focuses on the psychosocial well-being of Latino youth and families. Specifically, Dr. Gonzales-Backen is interested in how cultural stressors (e.g., discrimination, acculturative stress, etc.), cultural strengths (e.g., ethnic identity, familial ethnic socialization, etc.), adolescent development, and family processes intersect to predict adolescent adjustment. Dr. Gonzales-Backen is currently an associate editor of *Developmental Psychology* and a member of the editorial boards of the *Journal of Youth and Adolescence* and *Cultural Minority and Ethnic Diversity Psychology*. Her work has been published in top journals such as *Child Development*, *Developmental Psychology*, and *Family Process*.



Courtesy of Lionel C. Howard

Lionel C. Howard Lionel C. Howard is an Associate Professor in the Graduate School of Education and Human Development at The George Washington University. Dr. Howard received his Ed.D. in Human Development and Psychology from Harvard University, Graduate School of Education, and completed a National Institute of Child Health and Development postdoctoral fellowship at the University of North Carolina at Chapel Hill. He also has a M.A. in Measurement, Statistics, and Evaluation from the University of Maryland, College Park, and a B.A. in Applied Mathematics and Statistics from William Paterson University of New Jersey. Dr. Howard is a developmental psychologist whose research interests include gender and racial identity development and socialization, motivation and academic achievement, and research methodology. He has worked on several local and national research projects focused on Black child development and improving the educational trajectory and schooling experiences of minoritized students. Dr. Howard has published in the *Journal of Applied Developmental Psychology*, *Journal of Black Psychology*, *Journal of Orthopsychiatry*, *Journal of Boyhood*, *International Journal of Inclusive Education*, *Journal of Homosexuality*, *International Journal of Qualitative Studies in Education*, and *Harvard Educational Review*. He is co-editor of *Facing Racism in Education* (3rd ed), published by Harvard University Press, and is completing a manuscript on researcher vulnerability in social science research and a manuscript on Black boys' socioemotional learning and development during the formative years.



Courtesy of UCLA Newsroom

Scott Johnson Scott Johnson is one of the world's leading experts on perceptual and cognitive development in infancy. He is currently a Professor of Psychology and Professor of Psychiatry and Biobehavioral Sciences at UCLA. Dr. Johnson obtained his Ph.D. from Arizona State University and then did postdoctoral work in the Center for Visual Science at the University of Rochester. His research

interests center on mechanisms of perceptual, cognitive, motor, social, and cortical development, and relations among different developmental processes. Current research topics include object perception, face perception, intermodal perception, visual attention, early language development, and learning mechanisms in typical and at-risk populations. In studying infants, Dr. Johnson uses a combination of methods, including preferential looking, eye movements, electroencephalography, and modeling. He has served on numerous grant review panels in the United States and Europe as well as the editorial boards of *Infancy*, *Infant Behavior & Development*, *Child Development*, *Cognition*, *Developmental Psychology*, *Early Development and Parenting*, *British Journal of Developmental Psychology*, and *Frontiers in Neuroscience*.



Courtesy of Robert Lickliter

David S. Moore David S. Moore is a professor of psychology at Pitzer College. He received his Ph.D. in developmental and biological psychology from Harvard University. As a developmental cognitive neuroscientist with expertise in infant cognition, he has explored the contributions of genetic, environmental, and epigenetic factors to human development.

His book *The Dependent Gene* has been widely adopted for use in undergraduate education and was nominated for the Cognitive Development Society's Best Authored Volume award. His book *The Developing Genome* won both the William James Book Award and the Eleanor Maccoby Book Award from the American Psychological Association, recognizing a book expected to have a profound effect on developmental psychology. Dr. Moore has served on the consulting editorial board for *Child Development Perspectives* and has been the editor of special issues of *New Ideas in Psychology*, *Developmental Psychobiology*, and *Infant Behavior and Development*. From 2016 to 2018, Dr. Moore served as the Director of the U.S. National Science Foundation's Developmental Sciences Program in Washington, D.C. He was elected a Fellow of the American Psychological Association in 2021.



Courtesy of Alejandra Livas

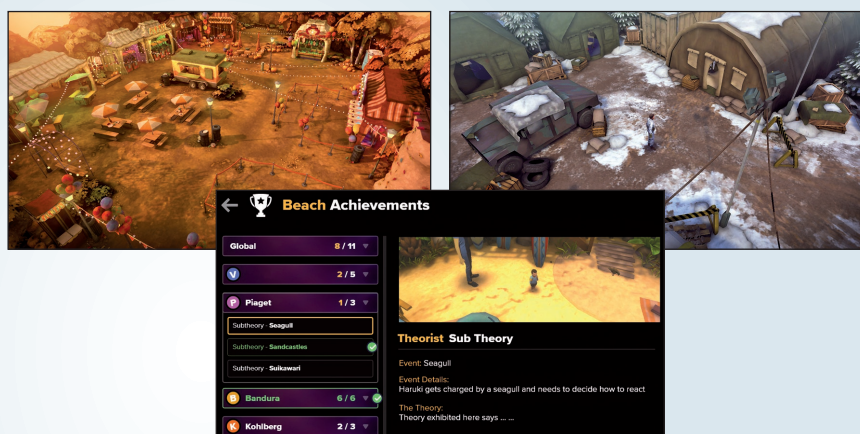
Gabriela Livas Stein Gabriela Livas Stein is a leading expert on Latinx youth and their families. She is a licensed psychologist and Professor of Clinical Psychology at the University of North Carolina at Greensboro. Dr. Stein received her doctoral degree in clinical psychology with a specialization in child and family psychology from University of North Carolina-Chapel Hill. Broadly, her research uses developmental psychopathology and cultural-

ecological frameworks to investigate the impact of culturally relevant factors on the development of psychopathology in minoritized youth and their families. She has served as the Vice President of Programming for the Society of Research on Adolescence, as a co-chair of the Ethnic Racial Issues Committee of the Society of Research on Child Development, and a past chair of the Latinx Caucus of the Society of Research on Child Development. She has also served as an Associate Editor for *Journal of Research on Adolescence* and has been a consulting editor for *Child Development* and *Developmental Psychology*. Dr. Stein's work has been published in leading research journals such as *Developmental Psychology*, *Journal of Research on Adolescence*, and *Journal of Youth and Adolescence*.

Connecting *Research and Results*

Child Development connects current research and real-world applications. Through an integrated, personalized digital learning program, students gain the insight they need to study smarter and improve performance.

McGraw Hill Connect is a digital assignment and assessment platform that strengthens the link between faculty, students, and coursework, helping everyone accomplish more in less time. *Connect Psychology* 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.



Apply **Concepts and Theory** 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 new experiential learning game includes follow-up questions, assignable in Connect and auto-graded, to reach a higher level of critical thinking.

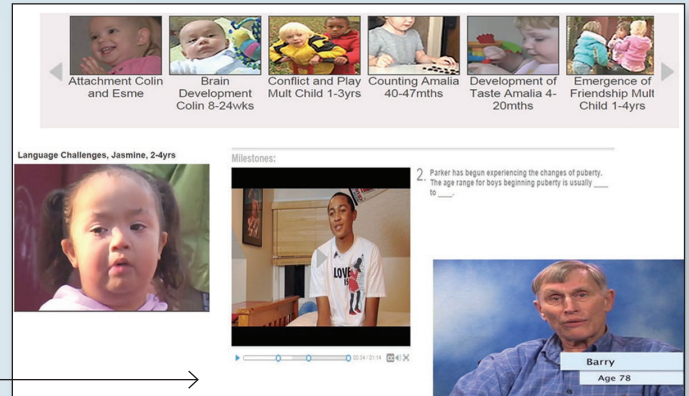
Diversity, **Equity, and Inclusion**

Substantial discussion in this edition is devoted to addressing issues of diversity, equity, and inclusion. The revised chapter “Contexts of Development: Culture, Race/Ethnicity, Socioeconomic Status, and Technology” now appears early in the text, as these contexts lay the foundation for understanding subsequent topics. When relevant, each chapter includes citations of studies and topical coverage that represent diverse U.S. and global populations. A complete listing of diversity, equity, and inclusion coverage can be found on pages xv–xix.

In addition, all of the *Connecting with Careers* features have been updated, and two-thirds are new profiles that introduce the reader to a diverse group of active professionals. For example, pediatrician Terrance Weeden is a vocal advocate for LGBTQ youth; Anna Boyer-Chadwick is an academic advisor whose university’s advising and retention program is a nationally-recognized model for Latino student success; and midwife Jennifer Nguyen works with diverse communities to reduce inequities in health care in rural and remote areas of Canada.

Real People, Real World, Real Life

At the higher end of Bloom’s taxonomy (analyze, evaluate, create), the **McGraw Hill Milestones** video series is an observational tool that allows students to experience life as it unfolds, from infancy to late adulthood. This ground-breaking, 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 Psychology, Milestones also includes interviews with adolescents and adults to reflect development throughout the entire life span. New to this edition, Milestones are available in a more engaging, WCAG-compliant format. Ask your McGraw Hill representative about this new upgrade!

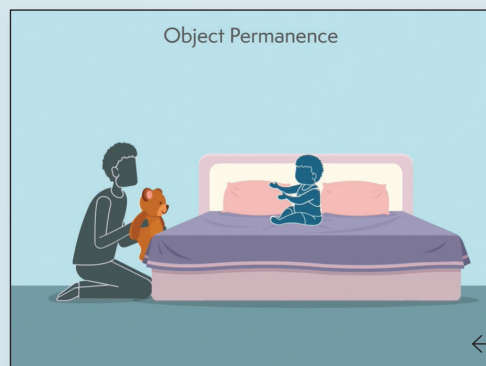
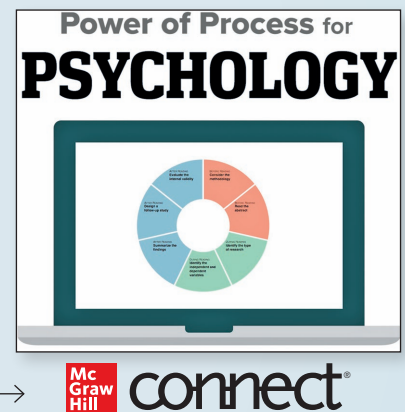


Develop Effective Responses

McGraw Hill’s new **Writing Assignment Plus** tool delivers a learning experience that improves students’ written communication skills and conceptual understanding with every assignment. Assign, monitor, and provide feedback on writing more efficiently and grade assignments within McGraw Hill Connect. Writing Assignment Plus gives you time-saving tools with a just-in-time basic writing and originality checker.

Prepare Students for Higher-Level Thinking

Also at the higher end of Bloom’s taxonomy, **Power of Process** for Psychology helps students improve critical thinking skills and allows instructors to assess these skills efficiently and effectively in an online environment. Available through Connect, pre-loaded 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.



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. For example, there are Concept Clips on topics such as object permanence and conservation, as well as theories and theorists like Bandura’s social cognitive theory, Vygotsky’s sociocultural theory, Buss’s evolutionary theory, and Kuhl’s language development theory.

← New to this edition, Concept Clips feature a more modern visual style, updated scripts and assessment items, and enhanced accessibility.

Connect **Media Sources to Content**

Also at the lower end of Bloom's and located in Connect, **NewsFlash** is a multi-media 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, such as emotion, personality, stress, drugs, COVID-19, abilities and disabilities, social justice, stigma, bias, inclusion, gender, LGBTQA+, and many more.

Better **Data, Smarter Revision, Improved Results**



SMARTBOOK™

McGraw Hill's **SmartBook** helps students distinguish the concepts they know from the concepts they don't, while pinpointing the concepts they are about to forget. SmartBook's real-time reports help both students and instructors identify the concepts that require more attention, making study sessions and class time more efficient.

SmartBook is optimized for mobile and tablet use and is accessible for students with disabilities. Content-wise, measurable and observable learning objectives help 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.

Online **Instructor Resources**

The resources listed here accompany *Child Development*, Sixteenth 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.

Test Bank and Test Builder This comprehensive Test Bank includes more than 1,500 multiple-choice, short answer, and essay questions. Organized by chapter, the questions are designed to test factual, applied, and conceptual knowledge. New to this edition and available within Connect, Test Builder is a cloud-based tool that enables instructors to format tests that can be printed and administered within a Learning Management System. Test Builder offers a modern, streamlined interface for easy content configuration that matches course needs without requiring a download. Test Builder enables instructors 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

PowerPoint Slides The PowerPoint presentations, now WCAG compliant, highlight the key points of the chapter and include supporting visuals. All of the slides can be modified to meet individual needs.

Remote Proctoring New remote proctoring and browser-locking capabilities are seamlessly integrated within Connect to offer more control over the integrity of online assessments. Instructors can enable security options that restrict browser activity, monitor student behavior, and verify the identity of each student. Instant and detailed reporting gives instructors an at-a-glance view of potential concerns, thereby avoiding personal bias and supporting evidence-based claims.



preface

Making Connections . . . From the Classroom to *Child Development* to You

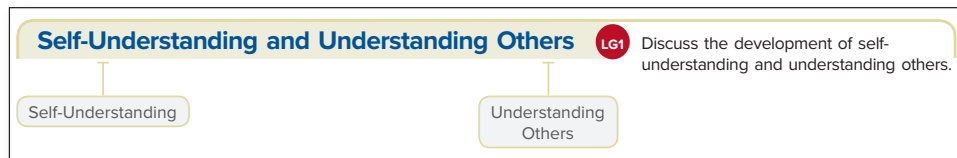
The material in *Child Development* has been shaped by thousands of students taking countless undergraduate developmental courses across four decades. These students have consistently said that when instructors highlight the connections among the different aspects of children’s development, they can more readily understand the concepts, theories, and research presented in the course. As a result, *Child Development* has focused on providing a systematic, integrative approach that helps students make these connections in their learning and practice. This new edition continues that philosophy, with the main goals of the text as follows:

1. **Connecting with today’s students** Helping students learn about child development more effectively
2. **Connecting research to what we know about children’s development** Providing students with the best and most recent *theory and research* in the world today about each of the periods of child development
3. **Connecting topical and developmental processes** Guiding students in making *developmental connections* across different points in child development
4. **Connecting development to real life** Helping students understand ways to *apply* content about child development to the real world and improve people’s lives, and to motivate students to think deeply about *their own personal journey through life* and better understand who they were, are, and will be

Connecting with Today’s Students

Development courses are challenging because of the amount of material often covered. To help today’s students focus on the key ideas, the Learning Goals system in *Child Development* provides extensive learning connections throughout the chapters. The learning system connects the chapter-opening outline, learning goals for the chapter, mini-chapter maps that open each main section of the chapter, **Review, Connect, and Reflect** at the end of each main section, and the chapter summary at the end of each chapter.

The learning system keeps the key ideas in front of the student from the beginning to the end of the chapter. The main headings of each chapter correspond to the learning goals, which are presented in the chapter-opening spread. Mini-chapter maps that link up with the learning goals are presented at the beginning of each major section in the chapter.



Then, at the end of each main section of a chapter, the learning goal is repeated in **Review, Connect, and Reflect**, which prompts students to review the key topics in the section, connect these topics to existing knowledge, and relate what they learned to their own personal journey through life. **Reach Your Learning Goals**, at the end of the chapter, guides students through the bulleted chapter review, connecting with the chapter outline/

learning goals at the beginning of the chapter and the *Review, Connect, and Reflect* material at the end of each major section.

reach your learning goals

The Self and Identity

Self-Understanding and Understanding Others

LG1 Discuss the development of self-understanding and understanding others.

Self-Understanding

- Self-understanding is a child's cognitive representation of the self—the substance and content of the child's self-conceptions. It provides the rational underpinnings for personal identity. Infants develop a rudimentary form of self-recognition as early as 3 months of age and a more complete form of self-understanding at approximately 18 months of age. Self-understanding in early childhood is characterized by confusion of self, mind, and body; concrete, physical, and active descriptions; and unrealistic positive overestimations. Self-understanding in middle and late childhood involves an increased use of psychological characteristics and traits, social descriptions, and social comparison; distinction between the real and ideal self; and increasingly realistic self-evaluations. Adolescents develop abstract and idealistic conceptions of themselves, become more self-conscious about their self-understanding, and engage in more social comparison than when they were children. Their self-understanding often fluctuates and they construct multiple selves, including possible selves.

Understanding Others

- Young children display more sophisticated self-understanding and understanding of others than was previously thought. Even 4-year-olds understand that people make statements that aren't true to obtain what they want or to avoid trouble. Children increase their perspective

Connecting Research to What We Know About Children's Development

It is critical to include the most up-to-date research available. As with previous editions, we continue to look closely at specific areas of research, involve experts in related fields, and update research throughout. *Connecting Through Research* describes a study or program to illustrate how research in child development is conducted and how it influences our

connecting through research


How Does Theory of Mind Differ in Children with Autism?

Key Points:

- Children diagnosed with autism may show distinct behaviors.
- Difficulty with theory of mind is more common in children with autism than in typically developing children.

Approximately 1 in 54 children is estimated to have some sort of autism spectrum disorder (National Autism Association, 2022). Autism can usually be diagnosed by the age of 3 years, and sometimes earlier. Children with autism show a number of behaviors different from typically developing children their age, including a lack of social interaction and communication as well as higher prevalence of repetitive behaviors or intense interests. They often show low interest toward others, in many instances preferring to be alone and showing more interest in objects than people. It now is accepted that autism is linked to genetic and brain differences (Tremblay & Jiang, 2019). Children and adults with autism have more difficulty in social interactions compared to others who have intellectual disabilities or are typically developing (Greenberg & others, 2018). Researchers have found that children with autism have difficulty in developing a theory of mind, especially in understanding others' beliefs and emotions (Fletcher-Watson & Happé, 2019). Although children with autism tend to do poorly when reasoning on false-belief tasks, they can perform much better on reasoning tasks requiring an understanding of physical causality.

In relation to theory of mind, however, it is important to consider the effects of individual variations among children with autism. Children with autism are not a homogeneous group, and some have less severe social and communication problems than others. Thus, it is not surprising that children who have less severe forms of autism do better than those who have more severe forms of the disorder on some theory of mind tasks (Jones & others, 2018). A further important consideration in thinking about autism and theory of mind is that children with autism might have difficulty in understanding others' beliefs and emotions not solely due to theory of



A young boy diagnosed with autism spectrum disorder. What are some characteristics of children who have ASD? What are some differences in their theory of mind?
Poliyana Ventura/Getty Images

mind difficulties but to other aspects of cognition such as problems in focusing attention, eye gaze, face recognition, memory, language, or some general intellectual impairment (Boucher, 2017; Rice & others, 2022). For instance, weaknesses in executive function may be related to the problems experienced by those with autism in performing theory of mind tasks. Other theories have pointed out that typically developing individuals process information by extracting the big picture, whereas those with autism process information in a very detailed way. It may be that in autism, a number of different but related features lead to social cognitive differences that make social interactions and relationships more difficult and less likely to occur (Moseley & Pulvermueller, 2018; Rajendran & Mitchell, 2007).

understanding of the discipline. Topics range from “Do Children Conceived Through In Vitro Fertilization Show Significantly Different Outcomes in Childhood and Adolescence?” to “How Can We Study Newborns’ Perception?” to “What Risks Are Experienced By Children Living in Poverty?”.

The tradition of obtaining detailed, extensive input from leading experts in different areas of child development also continues in this edition. Biographies and photographs of the leading experts in the field of child development appear on pages xxii–xxiii. Finally, the research discussions have been updated in every period and topic in order to keep *Child Development* as current as possible. To that end, there are more than 1,000 citations from 2020, 2021, and 2022 in this new edition. Highlighted research focuses on relevant classic and current findings by a diverse group of researchers. Additionally, Chapter 7: Historical Foundations of Cognitive Developmental Theories is retitled to emphasize the focus on the essential, relevant theories from early researchers and their importance today. Chapter-by-chapter highlights of new research content are listed on pages xxxii–xli.

Connecting Topical and Developmental Processes

Too often we forget or fail to notice the many connections from one point in child development to another. Thus, several features have been designed to help students connect topics across the processes and periods of child development:

1. **Developmental Connection**, which appears multiple times in the margins of each chapter, points students to where the topic is discussed in a previous, current, or subsequent chapter. This feature highlights links across development *and* connections among biological, cognitive, and socioemotional processes. The key developmental processes are typically discussed in isolation from each other, and so students often fail to see their connections. Included in **Developmental Connections** is a brief description of the backward or forward connection.
2. A **Connect** question appears in self-reviews—**Review, Connect, and Reflect**—at the end of each main section in a chapter so students can practice making connections among topics.

developmental connection

Dynamic Systems Theory

Sensory and motor development are coupled in many aspects of children's acquisition of skills. Connect to “Motor, Sensory, and Perceptual Development.”

Connecting Development to Real Life

In addition to helping students make research and developmental connections, *Child Development* shows the important connections among the concepts discussed and the real world. Real-life connections are explicitly made in the chapter-opening vignette, in **Caring Connections**, **Connecting with Diversity**, and **Connecting with Careers**.

Each chapter begins with a story designed to increase students' interest and motivation to read the chapter. **Caring Connections** provides applied information about parenting, education, or health and well-being in relation to topics ranging from “From Waterbirth to Music Therapy” to “Parents, Coaches, and Children's Sports” to “Guiding Children's Creativity.”

caring connections

Parenting Recommendations for Raising a Moral Child

A comprehensive and influential review of the research (Spinrad, Eisenberg, & Valiente, 2019) concluded that, in general, children who behave morally tend to have parents who:

- are warm and supportive rather than punitive;
- use inductive discipline;
- provide opportunities for the children to learn about others' perspectives and feelings;
- involve children in family decision making and in the process of thinking about moral decisions;
- model moral behaviors and thinking themselves, and provide opportunities for their children to do so;
- provide information about what behaviors are expected and why; and
- foster an internal rather than an external sense of morality.

Parents who show this configuration of behaviors likely foster concern and caring about others in their children, and create a positive parent-child relationship. In addition, parenting recommendations based on Ross Thompson's (2020) analysis of parent-child relations suggest that children's conscience and moral development benefits when there are mutual parent-child obligations involving warmth and responsibility, and



What are some good strategies parents can adopt to foster their child's moral development?
Anna Pekunova/Getty Images

when parents use proactive strategies instead of punitive reactions, when disciplining for misbehavior.

One of the strategies above suggests modeling moral behaviors and thinking. According to the research cited in the Moral Exemplars section of this chapter, which two traits were common to moral exemplars?

Child Development puts a strong emphasis on diversity. To highlight the importance of culture, race/ethnicity, socioeconomic status, and access to technology as contexts that influence many aspects of children's development, this edition has a new organization that features these contexts of development early in the text (Chapter 2: Contexts of Development: Culture, Race/Ethnicity, Socioeconomic Status, and Technology) in order to frame understanding of all the subsequent topics. Additionally, new discussion is included regarding debates on current terminology used for various demographic groups, and related terms are updated and consistent throughout the text.

Further, a feature called *Connecting with Diversity* appears throughout the text, focusing on a diversity topic related to the material at that point in the chapter. Topics range

connecting with diversity

Culture and Children's Memory

A culture sensitizes its members to certain objects, events, and strategies, which in turn can influence the nature of memory (Bauer & Fivush, 2013; Wagoner, 2017; Wang, 2021). In schema theory, a child's background, which is encoded in schemas, is revealed in the way the child reconstructs a story. This effect of cultural background on memory is called the *cultural-specificity hypothesis*. It states that cultural experiences determine what is relevant in a person's life and thus what the person is likely to remember. For example, imagine a child living on a remote island in the Pacific Ocean whose parents make their livelihood by fishing. The child's memory about how weather conditions affect fishing is likely to be highly developed. By contrast, the same child might recall fewer details of a job involving work on large farms, or cutting lumber on forested mountains.

Cultures may vary in the strategies that children use to remember information, and these cultural variations are due in part to schooling (Packer & Cole, 2016, 2020). Children who have experienced schooling are more likely to cluster items together in broader categories, which helps them to remember the items. Schooling also provides children with specialized information-processing tasks, such as committing large amounts of information to memory in a short time frame and using logical reasoning, that may generate specialized strategies. However, there is no evidence that schooling increases memory capacity per se; rather, it influences the strategies for remembering (Packer & Cole, 2016).

Scripts are schemas for an event. In one classic illustrative study, adolescents in the United States and Mexico remembered according to script-based knowledge (Harris, Schoen, & Hensley, 1992). In line with common practices in their respective cultures, adolescents in the United States remembered information about a dating script better when no chaperone was present on a date, whereas adolescents in Mexico remembered the information better when a chaperone was present.

Family narratives and stories pass down memories from one generation to the next, and these family memories may be particularly salient in



Students in class at a school in Mali, Africa. How might their schooling influence their memory?
Pascal Deloche/Corbis Documentary/Getty Images

cultures in which individuals are highly "interdependent" with each other (Reese & others, 2017).

These family narratives, along with other sources of experiences and information in the culture, provide essential information to gradually developing "cultural life scripts"; these scripts incorporate the typical features and timelines for culturally relevant experiences that become deeply stored in memory (Bohn & Bundgaard-Nielsen, 2021).

How might guided participation, which is used in many different cultures, support the influence of culture on memory?

from “The Increased Diversity of Adopted Children and Adoptive Parents” to “Cultural Variations in Guiding Infants’ Motor Development” to “The Contexts of Ethnic-Racial Identity Development.”

All of the *Connecting with Careers* features have been updated, and two-thirds are new profiles that introduce the reader to a diverse group of active professionals. For example, pediatrician Terrance Weeden is a vocal advocate for LGBTQ youth; Anna Boyer-Chadwick is an academic advisor whose university’s advising and retention program is a nationally recognized model for Latino student success; and midwife Jennifer Nguyen works with diverse communities to reduce inequities in health care in rural and remote areas of Canada. The careers highlighted extend from the Careers Appendix, which provides a comprehensive overview of careers to show students where knowledge of child development could lead them.

connecting with careers

Alyssa Cantal, Pediatric Occupational Therapist

Children who are or at risk for overweight or obesity can be limited in their ability to participate in meaningful, satisfying activities (Cantal, 2019). Occupational therapy practitioners provide the vital tools, framework, and interventions necessary to support the child and the child’s family. Alyssa Cantal is an occupational therapist at Gallagher Pediatric Therapy in Fullerton, California. After receiving her undergraduate degree in human development with a minor in psychology from the University of California-San Diego, she earned a Doctorate of Occupational Therapy at the University of Southern California.

Cantal says her passion for working with others as well as her sister’s experience as a pediatric physical therapist motivated her to pursue a career in rehabilitation. During her medical residency, she participated in “Imagining America: CREATE your Vision,” a community-based therapeutic arts program that guides children through health-related topics. In Cantal’s experiences with clients, she has seen disparities in healthy weight by race, ethnicity, and physical ability. As a pediatric occupational therapist, she can play a pivotal role in promoting health, well-being, and quality of life for all children.



Alyssa Cantal, a pediatric occupational therapist, works with a group of school children to strengthen their knowledge about healthy behaviors. Courtesy of Dr. Alyssa Cantal

Finally, part of applying knowledge of child development to the real world is understanding its impact on oneself. Students should be motivated to think deeply about their own journey through life. *Reflect: Your Own Personal Journey of Life* prompts in the end-of-section review ask students to reflect on some aspect of the discussion in the section they have just read and connect it to their own life. For example, related to a discussion of the early-later experience issue in development, students are asked,

Can you identify an early experience that you believe contributed in important ways to your development?

Can you identify a recent or current (later) experience that you think had (is having) a strong influence on your development?

Content Revisions

A significant reason why *Child Development* has been successfully used by instructors for edition after edition is the painstaking effort and review that goes into making sure the text provides the latest research on all topic areas discussed in the classroom. This new edition is no exception, with more than 1,000 citations from 2020, 2021, and 2022. The highlighted research reflects relevant classic and current findings by a diverse group of researchers. Additionally, Chapter 7: Historical Foundations of Cognitive Developmental Theories is retitled to emphasize the focus on the essential, relevant theories from early researchers and their importance today.

To highlight the importance of culture, race/ethnicity, socioeconomic status, and access to technology as contexts that influence many aspects of children's physical, cognitive, and social development, this edition has a new organization that features these contexts of development early in the text (Chapter 2: Contexts of Development: Culture, Race/Ethnicity, Socioeconomic Status, and Technology) in order to frame understanding of all the subsequent topics. Additionally, new discussion is included regarding debates on current terminology used for various demographic groups, and related terms are updated and consistent throughout the text.

In order to provide students with more current examples of related and attainable career opportunities, all of the *Connecting with Careers* boxes have been updated, and many new profiles introduce the reader to additional careers and a very diverse group of active professionals.

Following is a sample of the many chapter-by-chapter changes that were made in this new edition of *Child Development*.

Chapter 1: Introduction

- Expanded coverage of research regarding the causes of lack of access to socioeconomic resources (Mayo & Wadsworth, 2020), and the impact of inequities in access to these resources with regard to child and adolescent development (Peverill & others, 2021)
- New discussion of the importance of racial and ethnic identity and pride, and how this plays a crucial role in healthy and resilient development for children and adolescents in minoritized groups in the United States who face racism and discrimination (Clauss-Ehlers & others, 2021; Umaña-Taylor & Hill, 2020)
- Updated definition of gender to clarify its distinction from biologically oriented definitions of female or male sex
- Updating of key sources regarding gender identity and its importance to child and adolescent development (Erickson-Schroth & Davis, 2021; Gutierrez & others, 2020)
- New data from the United Nations regarding gender disparities in educational and economic outcomes around the globe (UNICEF, 2021, 2022)
- New data for the United States on changes in childhood poverty rates, information on how these rates differ as a function of child race and ethnicity (Semega & others, 2020), and comparisons to rates in other industrialized countries (OECD, 2021)
- Expanded definitions and coverage of information about “generation Z/post-millennials” and generational cohort differences (Dimock, 2019; Vogels, 2019)
- Updating of key concepts, findings, and the out-of-date debate about “nature versus nurture,” information on how these influences work together in child and adolescent development, and an explanation of how epigenetic changes can occur to influence gene \times environment interactions in development (Champagne, 2021; Mason & others, 2021)
- New research evidence and theories regarding the roles of early and later/recent experience on developmental outcomes (Dagan & Sagi-Schwartz, 2021; McCrae & others, 2021)

- Expanded information about the importance of studying the diversity of identities and experiences among first- and second-generation immigrant youth and families in the United States (Diaz-Rico & others, 2020; Parke & others, 2020)
- Updated and expanded *Connecting with Diversity* feature, including the latest international data regarding culture and gender, and disparities that often put girls at greater risk for not being able to attend or complete school or for receiving opportunities for economic security (Ozdenerol, 2021; UNICEF, 2021, 2022)

Chapter 2: Contexts of Development: Culture, Race/Ethnicity, Socioeconomic Status, and Technology

- Reconceptualized, reorganized, and relocated chapter positioned early in the text to emphasize the importance of culture, race/ethnicity, socioeconomic status, and technology as contexts that affect many aspects of children's physical, cognitive, and social development
- New opening scenario and introduction to how culture, race/ethnicity, socioeconomic status, and technology serve as contexts for development
- Updated statistics on racial and ethnic diversity in the United States
- New *Connecting Through Diversity* feature that highlights ongoing discussions regarding preferred terminology for describing ethnic and racial groups and how this terminology is addressed throughout this edition
- New research on how early physical and cognitive development are negatively affected by inadequate nutrition and food insecurity that often accompany poverty (Alam & others, 2020)
- Added attention to social structures and barriers that make it difficult for families to escape the cycle of ongoing poverty across generations
- Updated numbers of immigrant families in the United States

- Discussed how race and ethnicity can be confounded with immigrant status, but individuals who identify with underrepresented racial and ethnic groups are not necessarily immigrants
- New qualitative study of racial identity (Onnie Rogers & others, 2021)
- Coverage of contemporary research on the psychological strengths of Black American adolescents
- New research on different types of discrimination faced by Black American adolescents (English & others, 2020)
- New research on technology and development in the context of the COVID-19 pandemic (Yates & others, 2021)
- Description of new intervention in which elementary school boys with obesity who were randomly assigned to an exergame condition in which they played Xbox Kinect for 60 minutes per day, three days per week, benefited from weight reduction and improved lung function compared with a no-exergame control group (Irandoust & others, 2021)
- New research showing the connections between parenting and the development of problematic Internet use in adolescents (Lukavská, Vacek, & Gabhelík, 2020)
- New *Connecting with Careers* profile on Adriana Umaña-Taylor, a professor and researcher of ethnic-racial identities who studies immigrant families in the United States
- New comprehensive research review and meta-analysis demonstrating that a high level of maternal stress during pregnancy is associated with neural tube defects in offspring (Jia & others, 2019)
- New research on the prenatal progression of neural development
- Updated research showing that higher maternal caffeine intake during pregnancy predicts lower birth weight (Gleason & others, 2021) and structural brain alterations and poorer neurocognitive outcomes during childhood (Christensen, Freedman, & Foxe, 2021)
- Added acknowledgement that the World Health Organization (WHO) and many other public health bodies around the globe, not only in the United States, recommend that women not consume alcohol during pregnancy
- New studies regarding the recent dramatic increase in the use of e-cigarettes (Rostron & others, 2020) and the fact that using them during pregnancy is associated with the same risks for premature birth and low birth weight as combustible cigarettes (Regan & Pereira, 2021)
- New study demonstrating that, after birth, infants who were exposed to cocaine regularly in utero experience withdrawal (Mark, 2022)
- Expanded consideration of effects of prenatal exposure to marijuana, which a number of studies have linked to a wide range of problematic child and adolescent outcomes

Chapter 3: Biological Beginnings

- New description of recently developed next-generation sequencing, which can sequence an entire human genome in one day. The new technology sequences millions of small DNA fragments (Foux & others, 2021).
- Added information about infertility, with a male factor being the primary or a contributing cause in 50 percent of infertility cases (Agarwal & others, 2021)
- Updates on U.S. abortion legislation
- New data suggesting that fertility drugs are more likely than IVF to produce multiple births (March of Dimes, 2017)
- New discussion of links between multiple births and an increased likelihood that the babies will have life-threatening and costly problems such as extremely low birth weight (March of Dimes, 2017)
- Discussion of new perspectives that emphasize the importance of taking a polygenic approach across the whole genome rather than focusing solely on single genes (Davidson & others, 2021)
- New discussion of difficulties in replicating results regarding gene \times environment interaction ($G \times E$), despite researchers' enthusiasm for this approach
- New *Connecting with Careers* feature on Jennifer Leonhard, a genetic counselor who assists clients with family planning decisions
- Recent review of studies showing that despite widespread evidence of negative outcomes, marijuana use by pregnant women has increased over the past two decades, raising concern that marijuana use by pregnant women may increase further given the increasing number of states that are legalizing or decriminalizing marijuana (Kees & others, 2020)
- Addition of the largest study to date (over 41,000 infants born in the United States) indicating that newborns with physical defects are more likely to have diabetic mothers than newborns without such defects (Tinker & others, 2019)
- New review of evidence suggesting that although newborns can be infected with COVID-19, the infections did not appear to have occurred *in utero* (Yang & others, 2021)
- Recent recommendations from the U.S. Food and Drug Administration and American Pregnancy Association that pregnant women should avoid eating fish with high mercury content but increase their consumption of fish that have a low mercury content, such as salmon, tilapia, and cod
- New research showing that positive mood and overall good emotional health during pregnancy benefit the fetus, the newborn baby, and the developing child for years to come (Phua, Kee, & Meaney, 2019)
- New research reviews concluding that there is an increased risk of spontaneous abortion, autism spectrum disorder, and schizophrenic disorders when the father is 40 years of age or older at the time of conception (Brandt & others, 2019)
- New content regarding how fathers can contribute to healthy pregnancies by providing support to the mother and having a positive attitude toward the pregnancy

Chapter 4: Prenatal Development and Birth

- Updated data on similarities in fetal growth in populations around the globe when mothers have access to adequate nutrition and prenatal care

- New information regarding recommended exercises for early in pregnancy and as the pregnancy progresses (Bowersock & Lin, 2020)
- New information on pain management during labor and delivery
- Updated global cesarean rates
- New research showing that COVID-19 increases risk for premature birth and that there is a high risk of mother-to-newborn transmission after delivery (Segars & others, 2020)
- New *Connecting with Careers* profile featuring midwife Jennifer Nguyen, who works with diverse communities in Canada and strives to reduce inequities in health-care access in rural and remote areas

Chapter 5: Physical Development and Health

- Updated statistics and information regarding physical growth and development from the fetal period through adolescence, including puberty-based changes (Hay & others, 2021; National Center for Health Statistics, 2022; Pfeifer & Allen, 2021)
- Expanded coverage of research evidence that the onset of puberty is occurring at younger ages for girls in many places around the globe (Eckert-Lind & others, 2021)
- Revised emphasis on the most recent theories, hypotheses, and empirical evidence regarding brain development across infancy, childhood, and adolescence, including brain plasticity and development (Esteves & others, 2021); neuron development, including myelination (Moss & others, 2021); growth and change in neural circuitry (Heckman & Doe, 2021), including neural “pruning” (Sugama & Kakinuma, 2021); role of experience, especially in early brain development (Rachwani, Hoch, & Adolph, 2021); gradual frontal lobe development across childhood that moves the brain toward more focalized functioning to support higher-level cognitive capacities (Bigler, 2021); and changes in limbic system and frontal cortex development across adolescence (Kolk & Rakic, 2022)
- New research on the correlates and causes of sudden infant death syndrome (SIDS) (Cowgill, 2020; U.S. Preventive Services Task Force & others, 2021)
- Expanded coverage of recent research indicating how important it is for children and youth to get adequate sleep (Willumsen & Bull, 2020) and also how common it is for adolescents to have poor sleep habits in many places around the globe (Garipey & others, 2020)
- Updated information on the most common causes of disability and death among children in the United States (Heron, 2021)
- Updated statistics regarding breast feeding and bottle feeding of infants in the United States, and the presence or absence of the effects of breast feeding on child and maternal health and other outcomes (CDC, 2020; Landa-Rivera & others, 2022; Linde & others, 2020; WHO, 2021)
- Updated information about the challenges of encouraging and supporting breast feeding of infants in low-income settings within countries and between countries globally (Walters, Phan, & Mathisen, 2019)

- New research regarding the positive impacts of the Women, Infants, and Children (WIC) federal nutrition program for low-income families in the United States (Paolicelli & others, 2021; Testa & Jackson, 2021)
- Expanded coverage of the latest research evidence regarding gender and race or ethnic group disparities in access to spaces and programs for physical activity and exercise (Underwood & others, 2020) and presentation of evidence from China that physical activity reduced rates of depression in adolescents during the social and physical isolation of the COVID-19 pandemic (Ren & others, 2021)
- New statistics and research regarding increased rates of childhood and adolescent obesity in the United States and other countries (WHO, 2020)
- New discussion of the largest and most recent meta-analysis showing the efficacy of school-based interventions for improving healthy eating choices and behaviors (Pineda & others, 2021)
- Latest recommendations for physical activity frequency and intensity for children and teens from the World Health Organization (2019) and Society of Health and Physical Educators (2022), along with the latest evidence regarding the positive effects of vigorous physical activity on health, cognitive development, and social-emotional functioning (Lee, 2021; Sun & others, 2021)
- New evidence that increased rates of “screen time” may impede physical activity, which in turn is related to higher rates of physical and behavioral problems, as well as lower academic performance (van Sluijs & others, 2021)
- New *Connecting with Careers* profile on Alyssa Cantal, a pediatric occupational therapist
- New *Connecting with Careers* feature on Ariana Lorenzo, a child life specialist

Chapter 6: Motor, Sensory, and Perceptual Development

- New laboratory tests showing that individuals who are blind are better than individuals with sight at voice recognition tasks (Pang & others, 2020) and tasks that rely on the ability to use olfactory cues to locate objects (Manescu & others, 2021)
- New research on how infants plan and guide their locomotion under challenging conditions and how walking skills are related to other aspects of development
- New study demonstrating that youth who participated in organized sports had better cardiometabolic health (indexed by blood pressure, cholesterol, and other indices) not just in childhood and adolescence but also in young adulthood (Logan & others, 2020)
- New description of advances in 4D ultrasound technology that have made it possible to examine the visual preferences of fetuses by projecting images through the mother’s tissue for the fetus to see
- New research on how infants’ experiences with emotional expressiveness of their families are predictive of their ability to match emotions across facial and vocal modalities (Ogren, Burling, & Johnson, 2018)

- New study showing that infants exposed to tone languages that use pitch to convey different word meanings retain the ability to discriminate these pitches, but infants who are not exposed to tone languages lose the ability to distinguish certain pitches by the age of 6 to 9 months (Kager, 2018)
- New research on fetal development indicating that fetuses in the second and third trimesters of pregnancy respond to external stimuli by moving their heads, mouths, and arms as their mothers touch their abdomen (Nagy & others, 2021)
- New information that milestones in the development of gross motor skills generally show cross-cultural similarities, although experiences provided in some cultural contexts can speed or slow the attainment of particular milestones
- New *Connecting with Careers* profile on Laura Faith Kendall, a board-certified music therapist

Chapter 7: Historical Foundations of Cognitive Developmental Theories

- New chapter title emphasizing the focus on relevant, classic theories and theorists
- Updated framing of Piaget’s and Vygotsky’s theories to convey their historical and foundational impact and also to set the stage for the discussion of contemporary information processing approaches in the subsequent chapter
- Clarification of the enumeration of the substages within Piaget’s sensorimotor stage of development
- Updating of the critical analysis of Piaget’s stage theory of cognitive development, with an emphasis on the alternative perspectives in contemporary research that now guide the field (Adolph & Hoch, 2021; Hayne & Herbert, 2021; Oakes, 2021)
- Revised presentation of the latest theory and empirical evidence from Baillargeon’s research on early and possibly inborn cognitive capabilities of very young infants, as well as updating of information about critiques of “nativist” views of the earliest cognitive capacities and the variety of methods and theories available for understanding cognitive development in infancy
- New research exemplifying distinct features of adolescent decision making, such as risky decision making involving the use of substances such as nicotine (Burrow-Sánchez & Ratcliff, 2021)
- Updated evidence of some of the positive developmental effects of children’s use of private self-directed speech (Day & Smith, 2019; Smolucha & Smolucha, 2021)
- Revised emphasis on the latest theory and empirical support for concepts directly or indirectly based on Vygotsky’s theory being applied to education and learning (Dunphy, 2020; Johnson & Cochran, 2021; Nicholas, Veresov, & Clark, 2021)
- Updated content on the impacts of Rogoff’s work on guided participation demonstrating that children learn—through observation and practice—many of the key cognitive skills and understanding that are valued by and supported within their culture (Alcalá, Montejano, & Fernandez, 2021)
- New *Connecting with Careers* profile on Katherine McMillan Culp, a research scientist and Chief Learning Officer at the New York Hall of Science

Chapter 8: Information Processing

- Updates involving the implications of the latest theories, research methods, and empirical findings within the information processing approach for understanding cognitive development (Bjorklund, 2022; Dotan, Eliahou, & Cohen, 2021)
- Latest research evidence regarding the importance of speed of information processing in children’s developing cognitive capacities (Gerst & others, 2021; Śmigasiewicz & others, 2021; Smolak & others, 2021)
- New research evidence that processing speed is associated with better reading skill and comprehension in a diverse array of languages (Gerst & others, 2021)
- New presentation of the most recent thinking and evidence regarding Siegler’s three mechanisms of developmental change and self-modification processes in children’s thinking and learning (Davis & others, 2021; Dos Santos Kawata & others, 2021; Graham & others, 2021; Siegler & Alibabi, 2020)
- Updated information on the role of attention in cognitive development and learning (Bell & Broomell, 2022; Richards & Conte, 2021), with particular emphasis on orienting, sustained attention, habituation, and joint attention with caregivers (Gattis & others, 2020; Piazza & others, 2020; Tham & others, 2021; Wang & Feigenson, 2021)
- New research indicating the important role that working memory plays in math skill development among bilingual children (Swanson, Arizmendi, & Li, 2021)
- New findings from one of the most recent attention training experiments conducted with children (Nava, Focker, & Gori, 2020)
- Latest evidence of the detrimental impact of multitasking behavior on the academic and cognitive skills of adolescents (Clinton-Lisell, 2021)
- Recent research on the role of working memory in children’s cognitive and academic skills (Nelwan & others, 2022; Rosenberg & others, 2020; Traverso & others, 2021; Vernucci & others, 2020)
- Newest theory and research on memory processes and how the formation and updating of memories occurs throughout child and adolescent development (Forsberg, Adams, & Cowan, 2022; Newberry, Feller, & Bailey, 2021; Rubinova & others, 2021; Schacter, 2021)
- Updated theory and evidence regarding the impacts of culture on how memories are formed and utilized, including research on cultural life scripts (Bohn & Bundgaard-Nielsen, 2021)
- New information on how strategies such as elaboration and organization can improve memory performance (Graham & others, 2021; Hutchison, Ross, & Cunningham, 2021), as well as the impact of development in specific brain regions across adolescence (Montez, Calabro, & Luna, 2019)

- Latest theory and research on categorization development in infancy (Oakes, 2021; Schlegelmilch & Wertz, 2021)
- New research regarding the development of executive function, critical thinking, scientific thinking, and problem solving across childhood and adolescence (Bell & Garcia Meza, 2020; Filion & Sirois, 2021; Howard & others, 2021; Manz, Lehrer, & Schauble, 2020; Sternberg & Halpern, 2020)
- Updated research on the development and implications of improvements in metacognitive and theory of mind skills (Devine & Lecce, 2021; Dos Santos Kawata & others, 2021; Yates, Ellis, & Turk-Browne, 2021), including important connections with autism spectrum disorder (National Autism Association, 2022; Rice & others, 2022)
- Latest evidence on the impact of low-income environments that impede access to resources needed to support development of executive function in early and later childhood (Baker & Brooks-Gunn, 2020; Deer, Hastings, & Hostinar, 2020)
- New evidence that the well-established link between theory of mind and executive function development has been observed in multiple cultural contexts (Fujita, Devine, & Hughes, 2022)

Chapter 9: Intelligence

- Updated definitions and theories regarding intelligence and how it can be measured (Bjorklund, 2022; Cavinez & others, 2020; Sternberg, 2021a, b)
- Updated evidence and interpretation of the potential for appropriate use and misuse of intelligence tests and IQ scores (Furnham, 2021; Lam & Zhou, 2022; Wright, 2020)
- New theories and research regarding other viewpoints about intelligence, including entity versus incremental theories, emotional intelligence, multiple intelligences, and a general intelligence factor (“g”) (Dasborough & others, 2022; Di Fabio & Saklofske, 2021; Karlen & others, 2021; Kornhaber, 2020; Rindermann, Becker, & Coyle, 2020)
- Recent summaries of evidence and theory regarding the role of the brain and its functions in intelligence (Haier, 2020; Kindu & Risk, 2021; Schubert & Frischkorn, 2020)
- New evidence regarding genetic and environmental influences on individual differences in intelligence (Mayer, 2020; Sternberg, 2021a, c; von Stumm & Plomin, 2021), including impacts of early interventions for vulnerable populations of children (Bredenkamp, 2019; Ramey, 2019)
- Expanded discussion of recent theory and evidence offering critical analysis of intelligence testing and use of test scores for group comparisons, with an emphasis on consideration of the harm caused by, and solutions to, cultural bias in testing and use of test scores (Sternberg, 2021a, b)
- Updated definitions of intellectual disability and its variants, and giftedness and its variants, and how these are identified in children (Elliott & Resing, 2020; National Association for Gifted Children, 2020; Schalock, Luckasson, & Tassé, 2021)
- Latest policy and practice information regarding the challenges faced in low-income communities and families, and how these can be addressed in ways that promote more

opportunities for supporting development of intelligence in children and youth (Ramey, 2019; Schiariti, Simeonsson, & Hall, 2021)

- Updated content on creativity, its measurement, and how to support it in educational settings (Kaufman & Sternberg, 2021; Reis & Renzulli, 2020; Roberts & others, 2021)
- New *Connecting with Careers* profile on Geoffrey Moon, an educator who specializes in gifted education programming

Chapter 10: Language Development

- Updated and expanded definitions of language and language learning that includes hearing and deaf individuals (Bruhn de Garavito & Schwieter, 2021; Levine, Hirsh-Pasek, & Golinkoff, 2021)
- Latest theory and research regarding the “rule systems” and other features that are common to all languages (Quam & Creel, 2021; Westbury, 2021)
- New research on phonology, morphology, syntax, semantics, and pragmatics (Bruhn de Garavito, 2021a, b, c; Ferreira & others, 2021; Pearl, 2021; Taboada, 2021)
- Updated theory and research regarding the progression of language learning in infancy, including babbling, gestures, and first words (Goldin-Meadow, 2020; Kuhl, 2021; Levine, Hirsh-Pasek, & Golinkoff, 2021; Meyer & Hunnius, 2021)
- Expanded coverage of “statistical learning” in language development (Aslin, 2020; Lany & Shoaib, 2020)
- New research on vocabulary, syntax, and pragmatics development across early childhood (Bruhn de Garavito, 2021c; Schweiter, 2021; Vukelich & others, 2020; Taboada, 2021)
- Expanded discussion of the role of culture and cultural context in pragmatics and language learning and comprehension (Nadasdi, 2021; Rowe & Weisleder, 2020)
- Updated coverage of the research and theory regarding young infants’ developmental progression from perceiving all possible speech sounds, toward a preferential improvement in perceiving speech sounds in their own first language (Kuhl, 2021)
- New evidence regarding “fast mapping” in word learning (Remon & others, 2020; Weatherhead & others, 2021)
- Expanded discussion of the latest theory and research for interpreting family socioeconomic differences in language learning environments and children’s language learning outcomes (Donnelly & Kidd, 2020; Florit & others, 2021; Masek & others, 2021)
- Expanded theory and research on the problem of “deficit” interpretations of family socioeconomic status and children’s language environments, and alternative approaches that can address this bias (Florit & others, 2021; Masek & others, 2021)
- Latest theory and evidence regarding the consistency of expanded word learning around the globe within most languages, even with highly language-specific speech sounds, word meanings, and pragmatics (Bruhn de Garavito & Schwieter, 2021; Schwieter, 2021)

- Updated research regarding culture-specific learning of phonology, syntactic rules, pragmatics, and higher-level understanding of language (“metalinguistic awareness”) across middle childhood (McBride, Pan, & Mohsani, 2021; Nadasdi, 2021)
- New evidence regarding the precursors of literacy development in early childhood (Morrow, 2020; Pakarinen & others, 2021; Yang & others, 2021) and the developmental progression of language in middle childhood (Nadasdi, 2021; Zipke, 2021)
- New research and the latest thinking about literacy and reading skill development, including the debate about phonological versus whole-language reading instruction methods (Dewitz & others, 2020; Gunning, 2020; Tompkins & Rodgers, 2020)
- New statistics from the National Assessment of Educational Progress (NAEP; U.S. Department of Education, 2020) regarding student reading achievement and confidence in reading-related tasks
- New theory and research regarding the development of writing skills, and approaches to writing instruction in school settings (Graham & Rui, 2021; Kim & others, 2021)
- New theory, research, and practice regarding bilingual language learning and instructional practice (Diaz-Rico, 2020; Grundy, 2020; Herrell & Jordan, 2020; Pace & others, 2021)
- New empirical evidence and theory regarding the evolution of language and its biological foundations in brain regions and networks (Cassidy, 2021; Venezia, Richards, & Hickok, 2021)
- New research on second language learning in childhood, including the mixed results regarding cognitive benefits arising from bilingual language development (Grundy, 2020; Pace & others, 2021) and use of the dual-language learning approach in schools (Harrell & Jordan, 2020; Tao & others, 2021)
- New information noting that over 60 countries (not including the United States) have legal status and national education standards for bilingual and sometimes trilingual language use and instruction (Jezak, 2021)
- Updated research indicating the critical role of the environment, including joint attention and gesturing, child-directed speech, and shared book reading in early language development (Dowdall & others, 2020; Nencheva & others, 2021; Piazza & others, 2021)
- New *Connecting with Careers* feature on Verlee Garcia, a speech pathologist who has extensive experience working with children from indigenous groups
- New findings from the most recent comprehensive review and meta-analysis of global impacts of the COVID-19 pandemic on children’s emotional functioning and problems, comprising information from 10 countries spanning Asia and South America (Kumar Panda & others, 2021)
- New research on the role of emotions early in infancy for communicating with caregivers and the role of caregiver and infant emotion in coregulation of feeling states (Mitsven & others, 2021; Ogren & Johnson, 2021; Walle & Lopez, 2020), along with the latest research on development of self-regulation of emotions across infancy and early childhood (Dollar & Calkins, 2020; Phillips & others, 2021)
- Updated statistics on the prevalence and developmental changes in the amount of crying that infants display (Cabana & others, 2021)
- New research on infants’ stranger anxiety and separation protest (Brand, Escobar, & Patrick, 2020; Granqvist & Duschinsky, 2021)
- Updated and expanded research and debate about whether to let infants “cry it out” especially during the night (Bilgin & Wolke, 2020; Giesbrecht & others, 2020)
- New studies regarding preschoolers’ developing capacity to express and understand increasingly complex emotional states (Hare & others, 2021; Lewis, 2020)
- Updated coverage of theory and research on cultural values and practices that emphasize different aspects of emotion expression and regulation as part of child temperament (Jenzer & others, 2019; Matsumoto & Juang, 2020), including the results of the largest and most recent study to date of 14 countries spanning Asia, South and North America, and Europe (Desmarais & others, 2021)
- New research and discussion regarding emotion coaching and emotion-dismissing parenting practices and how these relate to preschoolers’ emerging self-regulation of emotion (Lobo & others, 2021), as well as updated evidence for links between children’s and adolescent’s emotion regulation and peer relationships (Herd & Kim-Spoon, 2021; Lindsey, 2021)
- Updated information on the development of the capacity to cope with stressors, and children’s emotional responses to traumatic experiences and disasters (Fisher & others, 2021; Kumar Panda & others, 2021; Masten & others, 2021)
- Substantial updates to the key scholarship on the definitions of temperament and its links with emotion (Aktar & Perez-Edgar, 2021; Bates, McQuillan, & Hoyniak, 2019; Pozzi & others, 2021), including links to physiological bases (Kagan, 2019; Rothbart, Posner, & Sheese, 2021)

Chapter 11: Emotional Development

- Updating of key sources regarding the latest theory and research on the biological, cognitive, and experience-based factors that contribute to emotional expression and emotional development (Aktar & Perez-Edgar, 2021; Cassidy, 2021; Richards & Conte, 2021)
- New research on the influence of social and cultural contexts on emotional development, including the impact of parenting (Dagan & Sagi-Schwartz, 2021; Rattaz & others, 2022; Suarez-Alvarez & others, 2020)
- New evidence and thinking about how genetic and environmental influences work together to account for individual differences in child temperament and emotional traits (Kanen & others, 2021; Shiner, 2021), including cultural factors and differences (Desmarais & others, 2021; Jenzer & others, 2019)
- New results from several of the longest-duration longitudinal studies on the links between temperament in early childhood and behavioral, emotional, and academic outcomes in adolescence and adulthood (DiLalla & DiLalla, 2018; Tang & others, 2021)

- New research on social interest and orientation and face-to-face interaction and their role in infants' and young children's emotional and social development (Bornstein & Esposito, 2021; Jessen, Obleser, & Tune, 2021), including social referencing (Fawcett & Kreutz, 2021)
- New theoretical and empirical work on the development of attachment, individual differences in attachment security, and links with healthy or unhealthy developmental outcomes (Dagan & Sagi-Schwartz, 2021; Girme & others, 2021; Posada & others, 2021; Thompson, 2021)
- Updated theory and evidence on the neurobiological and gene-environment interaction and epigenetic processes involved in attachment and the caregiver-child attachment relationship (Craig & others, 2021; Feldman, 2019; Storey, Alloway, & Walsh, 2020), including updated Figure 9 showing greater specificity of the brain regions implicated in attachment
- New research examining infant-father attachment and fathers' caregiving behaviors in gay and straight couples with children (Carone & Lingiardi, 2022; Cabrera & Roggman, 2017; Volling & Palkovitz, 2021)
- New statistics in Figure 10 showing the primary caregiving arrangements for children under 5 years old in the United States (National Center for Education Statistics, 2021)
- New information about certain countries' work and family-balance policies that strive to promote more equal caregiving among mothers and fathers of infants and young children (Greve & Hussain, 2021; Hakovirta & Eydal, 2020)

Chapter 12: The Self and Identity

- New research showing that even into adulthood, individuals often present their idealized rather than their real selves in social media, particularly if they are confused or anxious about their identity (Michikyan, 2020)
- New discussion of how adolescents' perceptions of their possible selves are tied to race and social class, reflecting experiences with discrimination that constrain opportunities for some adolescents more than others
- New qualitative study using in-depth interviews to understand academic identity of Black and White American 12- and 13-year-olds (Legette, 2018)
- New research suggesting that use of social media may strengthen the association between physical appearance and self-esteem as individuals try to gain "likes" by posting attractive pictures of themselves (Dumas & others, 2020)
- Updated Figure 4 on the development of self-esteem
- New research on global self-esteem and self-esteem in specific areas
- Addition of three major factors in identity narratives: motivational and affective themes (such as goals and emotions), autobiographical reasoning (such as reported changes in understanding about oneself or an experience), and structural aspects (such as temporal sequencing and the amount of detail provided) (McLean & others, 2020)
- New study of immigrant and non-immigrant adolescents in Greece, which found that national identity and friendship networks developed in tandem, with identity influencing friendship choices, and friends influencing identity development (Umaña-Taylor & others, 2020)
- New research finding that many aspects of sociocultural contexts may influence ethnic identity
- New introduction of the concept of bicultural identity or multicultural identities that encompass different cultural environments and can reflect individuals' experiences with immigration and globalization (Ferguson, Iturbide, & Raffaelli, 2020)
- New *Connecting with Careers* profile on Anna Boyer-Chadwick, an academic advisor whose university's advising and retention program is a nationally recognized model for Latino student success

Chapter 13: Gender

- Thorough updating of terminology to clearly distinguish binary sex (usually assigned at birth) terms of "female" and "male" from gender terms, and a broadening of inclusive representation of gender terms to include "cis," "girl/woman," "boy/man," and "transgender"
- New evidence regarding correlations between differing levels of sex hormones and gender identity and expression (Ostatnikova & others, 2021; Vosberg & others, 2021)
- New sources regarding social role theory and social cognitive theory, other social influence hypotheses, and cognitive gender schema theory in relation to development of gender identity and expression in childhood and adolescence (Coyle & others, 2021; Eagly, 2018; Erickson-Schroth & Davis, 2021; Gutierrez & others, 2020; Pang & Baumann, 2020)
- New theory and evidence regarding peer influences on gender development (Mehta & Wilson, 2020; Schroeder & Liben, 2021)
- New research indicating that even though young children tend to generate gender-conforming stereotypes when considering gender roles and occupations, there also is evidence that their schemas are open to change when they are presented with new information (King & others, 2021)
- Revised and updated definitions of gender stereotypes, masculinity, and femininity
- New study results showing that children's counterstereotyping of toys is associated with having less stereotyped gender role attitudes (Sims & others, 2022)
- New information about providing children and adolescents with opportunities and support for challenging traditional gender roles and biases with their peers and families, in order to address gender inequity (Best & Gibbon, 2019; Rogers & others, 2020)
- Updated and expanded theory and research regarding the mixed evidence for benefits of "single sex" education and its effects on development and academic achievement (Herr, Grant, & Price, 2020)

- Updated statistics for U.S. students regarding average gender differences on various measures of academic achievement and functioning (Brandlistuen & others, 2021; National Center for Education Statistics, 2021)
- New research regarding gender group similarities and differences in different types of aggression (Brandes & others, 2021; Casper, Card, & Barlow, 2020)
- New scholarship regarding gender similarities and differences in emotions, emotion regulation, and prosocial attitudes and behaviors (Armstrong-Carter & others, 2020; Gagne, Liew, Nwadinobi, 2021)
- New information about the very small overall average differences seen in human brain structures and functions when comparing females and males (Eliot & others, 2021; Grabowska, 2020)
- Updated *Caring Connections* feature on ways to guide children's gender development while also challenging gender bias and stereotypes
- New information regarding the cultural shift (observed also in research) toward more flexible and inclusive beliefs regarding gender identity and expression, especially with regard to challenging traditional binary gender identity and stereotypes
- Updated statistics and information regarding the prevalence and development of transgender identity, and the discrimination and bullying that transgender youth experience (Potter & others, 2021; Sherman & others, 2020)
- New *Connecting with Careers* feature on Terrance Weeden, a pediatrician who is also a vocal advocate for LGBTQ youth
- Updated information on service learning and how adolescents benefit when they help others and contribute to their communities (Fuligni, 2020)
- New study demonstrating that adolescent volunteers have higher self-esteem, more school engagement, and lower rates of depression than their peers who do not volunteer (Bang, Won, & Park, 2020)
- New research review suggesting the promise of incorporating volunteering as part of a clinical treatment approach for adolescent depression (Ballard & others, 2021)
- New research on how children's notions of fairness differ across cultural contexts
- New longitudinal study of 11 cultural groups in eight countries demonstrating that parental warmth during childhood predicted an increase in prosocial behavior during children's transition to adolescence (Pastorelli & others, 2021)
- New meta-analysis of 29 studies showing no differences in associations between mothers' and fathers' parenting and children's prosocial behaviors (van der Storm & others, 2021)
- New study of the development of forgiveness (Amir & others, 2021)
- New research on how parents socialize gratitude in their children (Hussong, Coffman, & Halberstadt, 2021)
- New study of over 5,000 individuals ranging in age from 10 to 30 years in 11 countries showing that improvements in aspects of psychosocial maturity involved in decision-making in emotionally charged situations continued beyond age 18 (Icenogle & others, 2019)
- New research showing that the developmental course from behavior problems in childhood to delinquency in adolescence can be disrupted by parental monitoring that reduces adolescents' opportunities to spend time with antisocial peers (Jagers & others, 2021)
- New research on deviant peer contagion demonstrating how peers can reinforce one another's antisocial behaviors by laughing or going along with plans to engage in delinquency (Kornienko, Ha, & Dishion, 2020)
- New study indicating that both parents' socialization practices and national contexts that vary in religiosity and secularism affect children's religious beliefs and practices (Voas & Storm, 2021)
- Updated global trends in religiosity
- New *Connecting with Careers* feature on Gabriel Dy-Liacco, a university professor and pastoral counselor

Chapter 14: Moral Development

- New opening scenario on the benevolence of a high school student who, after receiving a full-tuition college scholarship, contributed some of his college savings to launch a scholarship fund for fellow historically underrepresented students to maximize their academic potential
- New study showing that when children empathize with the feelings of others, they become more attuned to moral aspects of a situation that can trigger moral reasoning, but moral reasoning can be blocked when emotions are not invoked (Brockmyer, 2022)
- New research suggesting that reasoning is linked to particular regions of the brain that are also important for emotions, including the left amygdala, medial prefrontal cortex, bilateral temporoparietal junction, and posterior cingulate (Fede & Kiehl, 2020)
- New study of moral reasoning in 67 countries (Atari, Lai, & Dehghani, 2020)
- New experiment testing a range of situational factors that can influence moral behavior (Misch & Dunham, 2021)
- New research on how secure attachment at the age of 2 years predicts better self-regulation 10 years later, in part because children who are securely attached are better able to regulate negative emotions like anger and in part because children who are securely attached are more likely to internalize their parents' values (Boldt, Goffin, & Kochanska, 2020)

Chapter 15: Families

- New study indicating how parents' cognitive, emotional, and autonomy support in math activities was related to children's performance on a standardized mathematics exam (Huang & others, 2022)
- New research showing that parents who believe successes and failures reflect effort are more likely than parents who believe successes and failures reflect luck or inborn ability to socialize their children to work hard to improve their academic performance in the future (Ren & others, 2020)

- Added discussion on the specificity principle in developmental science, which emphasizes that specific cultural contexts, characteristics of individual people, and historical circumstances are all important in understanding developmental processes in specific domains (Bornstein, 2017)
- Integration of the COVID-19 pandemic into the section on historical changes
- Updated statistics on fertility patterns globally
- New research on new parents' satisfaction with their partner during the transition to parenthood (Smallen & others, 2021)
- Several new studies on parental monitoring of adolescents' activities, friends, and whereabouts
- New conceptualizations of how parents can gain knowledge about their children's lives
- New research with Latino families showing how having several generations living together or near one another and helping each other may be important in shaping the children's identity (Constante & others, 2020)
- Updated statistics in Figure 4 on the prevalence of corporal punishment in different countries
- New data on how parents' use of corporal punishment has declined over historical time and has been outlawed in dozens of countries
- New research demonstrating that coparenting effectively is important regardless of whether parents are living together or not (Cox & others, 2021)
- New longitudinal study following children from kindergarten through middle adulthood, which found that adults who had been physically abused in the first five years of life were more likely to have clinical levels of internalizing problems (like anxiety and depression) and externalizing problems (like antisocial behavior), were more likely to have been convicted of a crime, and had poorer physical health than adults who had not been abused (Lansford & others, 2021)
- New review of research on parental autonomy support among Black, White, Latino, and Asian American families concluding that understanding this aspect of parenting needs to be grounded in cultural concepts related to independence and expectations of parents (Benito-Gomez & others, 2020)
- New five-country study showing that adolescents who had less destructive conflict with their parents were less likely to experience an increase in emotional and behavioral problems in early adulthood during the COVID-19 pandemic, suggesting the protective role of low-conflict parent-adolescent relationships (Skinner & others, 2021)
- Updated numbers of American children living with half siblings and stepsiblings
- Updated demographics of same-sex couples with children in their households
- New analysis of 72 reviews of the literature concluding that parents' sexual orientation is not related to their children's sexual orientation (Schumm & Crawford, 2019)
- New research on how parental monitoring varies across cultures in ways that are related to cultural expectations

regarding adolescent autonomy and the amount of control parents should have over adolescents' decisions and activities (Soenens & Vansteenkiste, 2020)

- New content on how a global increase in the availability of smartphones and Internet access enables frequent contact among generations even across vast distances (Fingerman, Huo, & Birditt, 2020)
- New research on immigrant families and transnational families
- New research demonstrating that parenting in many under-represented ethnic families emphasizes issues associated with promoting children's ethnic pride, knowledge of their ethnic group, and awareness of discrimination (Umaña-Taylor & Rivas-Drake, 2021)
- New *Connecting with Careers* profile on Allison Tomlinson, an educator and marriage and family therapist who specializes in trauma and abusive situations

Chapter 16: Peers

- New experimental study of the development of expectations about sharing (Lenz & others, 2021)
- New discussion on how early attachments to caregivers provide a connection to children's peer relations not only by creating a secure base from which children can explore social relationships beyond the family but also by conveying a working model of relationships
- New study on how perspective-taking skills can reduce ethnic discrimination in elementary school (Alan & others, 2021)
- New longitudinal study demonstrating that poor self-regulation during preschool predicted more aggression toward peers during elementary school (Ringoot & others, 2022)
- Updated discussion distinguishing *sociometric popularity* from *perceived popularity*
- New review of 154 studies finding that characteristics of families and parenting such as child abuse and neglect and witnessing domestic violence increase the likelihood of children's bullying, whereas characteristics such as parental support and adaptive communication reduce the likelihood of children's bullying (Nocentini & others, 2019)
- New research showing that peers who witness bullying sometimes are passive bystanders but in other cases intervene to help the victim or join in with the bully (Salmivalli & others, 2021)
- New research linking recess to children's socioemotional, cognitive, and physical well-being (Massey & others, 2021)
- New study demonstrating that the specific functions served by friends may differ across cultural contexts
- New longitudinal research indicating that co-rumination (as reflected in excessively discussing problems and dwelling on negative emotions) predicts an increase in positive friendship quality but also an increase in depressive and anxiety symptoms (Rose, 2021)
- Updated information on how pubertal timing is important, as boys and girls who mature earlier than their same-age peers are more likely to gravitate to older peers who engage in substance use and other problem behaviors (Bucci & Staff, 2020)

- Addition of several new studies on how the COVID-19 pandemic was related to changes in peer relationships
- New research suggesting that online romantic relationships may benefit shy or anxious individuals who find it difficult to meet potential partners in person (Cameron & Mascarenas, 2020)
- New research on developmental correlates of early romantic relationships
- New *Connecting with Careers* profile on Yolanda Curry, a high school counselor

Chapter 17: Schools and Achievement

- Improved clarity and specification of the distinctions and intersections between socioeconomic status, race, and ethnicity, throughout the chapter
- New theory and research regarding child-centered constructivist and teacher-centered direct instruction teaching methods (Kauchak & Eggen, 2021; Sadker, Zittleman, & Koch, 2022)
- Updated information on the major child-centered educational approaches used in many countries during the preschool years, including the Reggio Emilia and Montessori approaches (Bredenkamp, 2020; Lillard, 2021; Manera, 2022; Morrison & others, 2022)
- New information on the current status of the *Every Student Succeeds Act (ESSA)* in the United States (providing each state with autonomy regarding school and teacher accountability testing), along with the latest national student academic proficiency statistics including results from the 2019 TIMSS (Burnette, 2021; Irwin & others, 2021)
- Substantial updating of the recommendations for effective instruction from the National Association for Education of Young Children (NAEYC, 2020)
- New section, *Schools and the Coronavirus Pandemic*, with the latest statistics and research regarding impacts of the pandemic on schools, teachers, and children (Eales & others, 2021; Jabbari & others, 2021; Modi & others, 2021; Timmons & others, 2021; Viner & others, 2021)
- Updated data (through 2018) on school dropout rates in the United States, including statistics for girls and boys, and various racial and ethnic groups (National Center for Education Statistics, 2020)
- New theory and evidence regarding inequities and disparities in education access and supports for various socioeconomic, racial, and ethnic groups in the United States (Banks, 2020; Gollnick & Chinn, 2021; Nastasi & Naser, 2021)
- Extensively updated statistics, terminology, and research regarding student learning disabilities and special education services (Astle & others, 2022; Cardenas & others, 2021; Remien & Marwaha, 2021)
- Updated definitions and research on hypothesized causes of autism spectrum disorder (ASD) and implications for schools (Centers for Disease Control and Prevention, 2020; National Center for Education Statistics, 2020)
- Substantial updates to sections in Figure 1 (*Core Considerations in Developmentally Appropriate Practice and Principles of Child Development and Learning that Inform Practice*) (from NAEYC, 2020), to ensure that young learners with a wide range of advantages and disadvantages, and skills and areas needing improvement, are provided with effective learning experiences in preschool and beyond
- Latest information about *Head Start* and *Early Head Start*, preschool-based programs to address income inequities for infants, toddlers, and preschoolers (Administration for Children and Families, 2022; Bierman & others, 2021; Slater & others, 2021)
- New *Connecting with Careers* feature on Rakaya Humphreys, Director of Head Start for the Northwest Tennessee Economic Development Council
- Updated statistics (through 2018) in Figure 4 regarding children in public schools in the United States who receive educational support for various disabilities (National Center for Education Statistics, 2020)
- New sources regarding self-determination and intrinsic motivation, and their role in academic persistence and achievement (Reeve & Cheon, 2021; Ryan & Deci, 2019)
- New theory and research evidence regarding the influences of attention and persistence, mindset, mastery motivation, planning, and monitoring on academic effort and achievement (Ahmed & others, 2021; Dweck, 2019; González-Betancor, López-Puig, & Cardenal, 2021; Schunk, 2020; Wentzel, 2021)
- New presentation of a recent online growth mindset intervention in the United States and a replication of this intervention in Norway (Bettinger & others, 2018; Yeager & colleagues, 2018)
- Updated international results (2018) and statistics (comparing the United States to many other countries) for the PISA reading, math, and science achievement tests in Figure 11 (OECD, 2019)
- New *Connecting Through Research* box featuring researcher Lawrence Jackson's study of over 1000 Black youth across the United States on the impact of parents' expectations for academic achievement on Black boys' own academic attitudes and math achievement outcomes

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