

Life-Span Human Development

Iowa State

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Preface

This book is about the development of human beings—from their days as fertilized eggs to their last days. It highlights regularities in development as well as differences among individuals in different social contexts, and it asks fundamental questions about why we humans develop as we do. The field of life-span human development is a dynamic one, and we attempt to keep up with the change in this, the sixth edition of *Life-Span Human Development*.

This new edition incorporates many exciting changes, yet it retains the core features valued by students and instructors over the years. In this edition, we remain firmly committed to three key features: (1) our unique integrated topical–chronological approach, (2) a presentation that is both research-based and relevant to the “real world,” and (3) emphasis on the all-important nature–nurture issue throughout the book. In addition, we update coverage of key topics and controversies in life-span human development, introduce a new appendix on careers in life-span human development, and add new pedagogical features and supplements to enhance the teaching–learning process.

A TOPICAL AND CHRONOLOGICAL APPROACH

The most distinctive feature of this book is its unique *integrated topical–chronological approach*. Almost all other life-span development textbooks adopt a chronological or “age–stage” approach, carving the life span into age ranges and describing the prominent characteristics of individuals within each age range. In contrast, we adopt a topical approach for the overall organization of the book blended with a chronological approach within chapters. Each chapter focuses on a domain of development, such as physical growth, cognition, or personality, and traces developmental trends and influences in that domain from infancy to old age. Each chapter calls attention to age groups through major sections on infancy, childhood, adolescence, and adulthood.

Why Topical?

Why have we fought the tide? Like many other instructors, we have typically favored topically organized textbooks when teaching child-, adolescent-, or adult-development courses. As

a result, it seemed natural to use that topical approach in introducing students to the whole life span. Besides, chronologically organized texts often have to repeat themselves as they remind readers of where development left off in an earlier age period (that was covered in a previous chapter).

More important, a topic-by-topic organization conveys the flow of development in each area—the systematic, and often dramatic, transformations that take place as well as the developmental continuities. The topical approach also helps us emphasize developmental *processes*—how nature and nurture interact over the life span to bring change.

Finally, a predominantly topical approach is more compatible with a *life-span perspective*, which views any period of life in relation to what comes before and what is yet to come. In chronologically organized textbooks, many topics are described only in connection with the age group to which they seem most relevant—for example, attachment in relation to infancy, or sexuality in relation to adolescence and adulthood. A topical organization makes readers ask intriguing questions that they might otherwise not ask, such as these about attachment relationships:

- What do infants’ attachments to their parents have in common with, and how do they differ from, attachments between childhood friends or between adult romantic partners?
- Do securely attached infants later have a greater capacity to form and sustain friendships or romantic partnerships than infants whose early social experiences are less favorable?
- What are the consequences at different points in the life span of lacking someone to be closely attached to?

Attachments are important throughout the life span, and a topical organization helps make that clear.

Why Chronological?

We adopted a topical approach because we consider it the best way to introduce the how and why of human development. We also appreciate the strengths of the chronological approach, particularly its ability to portray the whole person in each period of the life span. For this reason, we integrated the age–stage approach with the topical organization, aiming to have the best of both worlds.

Each topical chapter contains major sections on infancy, childhood, adolescence, and adulthood. The existence of these sections is proof that the chapters consider development in each of the domains covered across the *whole* life span. These age–stage sections call attention to the distinctive qualities of each phase of life and make it easier for students to find material on an age period of particular interest to them. We allow our degree of emphasis on each period of the life span to vary depending on the significance of the developments in each period.

We believe that our integrated topical–chronological approach allows us to convey the flow of life-span development in particular areas and the factors influencing it while highlighting the major physical, cognitive, and psychosocial developments within any particular developmental period.

Adaptability of the Integrated Topical–Chronological Approach

Even though links among chapters are noted throughout the book, instructors who are teaching short courses or who are otherwise pressed for time can omit a chapter without fear of rendering other chapters incomprehensible. For example:

- A cognitively oriented course might omit one or more of the socially oriented chapters (Chapters 11, 12, and 14–17).
- A socially oriented course might omit one or more of the cognitively oriented chapters (Chapters 6–10).

Moreover, this approach allows instructors enough flexibility to cover infancy, childhood, and adolescence in the first portion of the course, if they prefer, and to save the material on adulthood for the end.

RESEARCH-ORIENTED AND REAL COVERAGE

We have worked hard to create a text that is rigorous yet readable—research-oriented yet “real” to students. The sixth edition of *Life-Span Human Development* tackles complex theoretical controversies and presents the best of both classic and contemporary research from multiple disciplines in a way that is accessible and relevant to students’ life experiences and career development.

We believe that it is critical for students to understand how we know what we know about development—to appreciate the research process. With that in mind, we describe illustrative studies and present their data in graphs and tables, and we cite the authors and dates of publication for a large number of books and articles, all fully referenced in the bibliography at the end of the book. Some students may wonder why they are there. It is because we are committed to the value of systematic research, because we are bound to give credit where credit is

due, and because we want students and their professors to have the resources they need to pursue their interests in human development during and after the course.

We also appreciate that solid scholarship is of little good to students unless they want to read it, can understand it, and see its relevance. We maintain that even the most complex issues in human development can be made understandable through clear and organized writing. To make the material more “real,” we clarify developmental concepts through examples and analogies, connect topics in the text to topics in the news, and highlight the practical implications of research findings. We also incorporate material relevant to students’ current and future roles as parents, teachers, psychologists, health professionals, and other human service professionals. And we help students see that major theories of human development do not just guide researchers but can help anyone analyze issues that we all face—including such practical matters as raising children, working with troubled adolescents, or coping with Alzheimer’s disease in the family.

NATURE–NURTURE THEME

If students gain nothing else from their study of human development, we hope they gain a deeper understanding of the nature–nurture issue and of the many interacting forces affecting the developing person. We want students to understand that human development is an incredibly complex process that grows out of transactions between a changing person and a changing world and out of dynamic relationships among biological, psychological, and social influences. No contributor to development—a gene, a temperament, a parent, a culture—acts alone and is unaffected by other influences on development.

We introduce the nature–nurture issue in Chapter 1. Each subsequent chapter includes one or more illustration of the intertwined contributions of nature and nurture to development. Along the way, we describe some exciting studies involving molecular genetics that compare individuals with and without particular genes and with and without particular life experiences to bring home what it means to say that genes and environment interact to influence development. It becomes clear in Chapter 3, for example, that the odds of depression become high only when a person is at genetic risk for depression *and* experiences multiple stressful events. We grapple with nature–nurture as it pertains to everything from physical growth and the effects of prenatal alcohol exposure, to temperament and parenting behavior, to autism and aging. In this edition, we have expanded coverage of evolution, genes, hormones, and other biological forces in development; enriched descriptions of how ethnic group, social class, community, and the larger cultural context modify development; and, most importantly, illuminated the complex interrelationships between biological and environmental influences that are at the heart of the developmental process.

The following theme index shows the scope of coverage of the nature–nurture issue in this text:

NATURE–NURTURE THEME INDEX

Chapter 1	Introduction to the nature–nurture issue (5–6) Gender differences in physically aggressive behavior (6) Bronfenbrenner's bioecological model of development (6–10)	Chapter 8	Explaining memory development (223–224) The effect of knowledge base on memory performance (226) Development of expertise (233) Aging and memory (235–239)
Chapter 2	Gottlieb's epigenetic psychobiological systems perspective (49–52)	Chapter 9	Relation of infant intelligence to later intelligence (252) Stability of IQ scores (253) Contributors to creativity (256–257) Factors influencing IQ scores (265–270) Causes of mental retardation (271)
Chapter 3	Evolution and the color of Kettlewell's moths in England (60) Environmental influences on gene expression (66) Estimating genetic and environmental contributions to human differences (75–76) Contributions of nature and nurture to schizophrenia (79–80) Turkheimer's study showing different heritability of IQ in low and high socioeconomic status families (81) Caspi's molecular genetics study of depression as a function of genetic risk and stressful life events (82–83) Genetic influences on the environments individuals experience (84)	Chapter 10	Theories of language development in children (282–287) Factors influencing school effectiveness (294–296)
Chapter 4	Prenatal development and its influence on the developing person (97–98) Effects of prenatal alcohol exposure on development (100–101) Risk and resilience in development: Werner and Smith's longitudinal study in Kauai (119)	Chapter 11	Behavioral inhibition and its biological and environmental roots (314–315) The goodness-of-fit concept (315–316) Causes of stability and change in personality (331–332)
Chapter 5	Genetic and environmental factors influencing height (123–124) Development of the brain and its plasticity in response to experience (125–126) Lateralization of the brain and handedness (126–127) Emergence of motor skills (138–139) Age differences in physical and sexual maturation (144–145) Biological versus social influences on women's perceptions of their menstrual cycles (150–151) Successful aging—the Nun Study (154)	Chapter 12	Real gender differences versus gender stereotypes (345–346) Explaining gender role development (351–359) Sexual orientation development (365–366)
Chapter 6	Views on perception (158–159) Taste preferences (168–169) The role of early sensory experience in perceptual development (170–172) Cultural variation in perceptual competencies (172)	Chapter 13	Nature and nurture in the development of a theory of mind (376–378) Evolutionary and learning perspectives on moral development (384–386) Antisocial behavior and Dodge and Pettit's biopsychosocial model of aggression (396–398)
Chapter 7	Maturation and experience in the cognitive development of children (188–189) Culture and thought (210)	Chapter 14	Bowlby's theory of human attachment (406–408) Early emotional development (410) Caregiver, infant, and environmental contributors to secure attachment (414–417) Influences on dating (428)
		Chapter 15	Gender differences in parenting (441) The transactional model of family influence (446) Genetic influence on the long-term effects of child maltreatment (466)
		Chapter 16	The diathesis–stress model of psychopathology (472) Autism (475–476) Attention deficit hyperactivity disorder (ADHD) (481) Developmental disorders from a family systems perspective (484) Eating disorders (487) Alzheimer's disease (493)
		Chapter 17	Theories of aging (502–504)

ORGANIZATION OF THE TEXT

Core Concepts: Chapters 1 to 4

The book begins by orienting students to the life-span perspective on human development and to approaches to the scientific study of development (Chapter 1), as well as to the central issues and theoretical perspectives that have dominated the field (Chapter 2). It then explores developmental processes in some depth, examining genetic influences (Chapter 3) and early environmental influences (Chapter 4) on development. These chapters establish how both genes and environments contribute to typical changes and individual differences throughout the life span.

Development of Basic Human Capacities: Chapters 5 to 10

Chapters on the growth and aging of the body and nervous system (Chapter 5) and on the development of sensory and perceptual capacities (Chapter 6) launch our examination of the development of basic human capacities. Chapter 7 covers Jean Piaget's perspective on cognitive development and the quite different perspective offered by Lev Vygotsky; Chapter 8 views memory and problem solving from an information-processing perspective; Chapter 9 highlights the psychometric approach to cognition, exploring individual differences in intelligence and creativity; and Chapter 10 explores language development and the roles of language and cognition in educational achievement.

Development of Self in Society: Chapters 11 to 17

The next three chapters concern the development of the self: changes in self-conceptions and personality, including vocational identity (Chapter 11); in gender roles and sexuality (Chapter 12); and in social cognition and morality (Chapter 13). The self is set more squarely in a social context as we trace life-span changes in attachment relationships (Chapter 14) and in roles and relationships within the family (Chapter 15). Finally, we offer a life-span perspective on developmental problems and disorders (Chapter 16) and examine why people die and how they cope with death (Chapter 17).

Getting the Big Picture

To help students pull together the “big picture” of life-span human development at the end of the course, we remind students of some of the major themes of the book at the end of Chapter 17 and offer a chart inside the back cover that summarizes major developments in each of seven periods of the life span.

NEW TO THIS EDITION

In this edition, we have organized chapters into numbered chapter sections with their own Summing Up and Critical Thinking sections, include an appendix on Careers in Human Development, and introduce new material reflecting the latest in life-span development research.

Numbered Major Chapter Headings

To help students navigate and learn from the book, and also to help instructors more easily assign sections within chapters, we have numbered the major headings of each chapter and have carried this numbering into the Chapter Summary.

Section-Ending Critical Thinking Questions

At the end of each major section, bulleted Summing Up summaries help students pull together the main points, and new section-ending Critical Thinking questions invite students to reflect on the material or apply it to a problem.

Appendix on Careers in Human Development

New to this edition is an appendix laying out possibilities for translating an interest in life-span human development into a career in research, teaching, or professional practice. We clarify what types of careers are available with a bachelor's, master's, or doctoral degree; suggest steps students can take now to position themselves for success; and provide a list of resources to assist students in their career exploration and development.

Updates

As always, the book has been thoroughly updated from start to finish; it conveys the most recent discoveries and insights developmentalists have to offer. We take pride in having written a well-researched and well-referenced book that professors and students can use as a resource. We have added some exciting new topics and greatly revised, expanded, and updated coverage of other topics. A sampling:

Chapter 1. Understanding Life-Span Human Development

- Elaboration of the introductory presentation of the nature–nurture issue using Bronfenbrenner's bioecological model and a new example of the model's application
- Coverage of a newly identified period of the life span, “emerging adulthood”
- Updates on research ethics and the need for cultural sensitivity in research

Chapter 2. Theories of Human Development

- Use of the examples of school phobia in a 6-year-old and teenage pregnancy to help students think like theorists and appreciate differences in the ways different theorists explain the same developmental phenomena
- Revision of the Systems Theories section to focus more squarely on Gilbert Gottlieb's epigenetic psychobiological systems theory

Chapter 3. Genes, Environment, and Development

- The latest from the Human Genome Project and molecular genetics research
- Highlighting of the importance of gene expression—the turning on and off of genes over the course of development, partly in response to environmental influences
- New table clarifying the difference between mitosis and meiosis

Chapter 4. Prenatal Development and Birth

- The latest research on prenatal development and teratogens, including the effect of 9/11 on children born to women who were pregnant at the time
- Expanded coverage of the birthing experience and the father's experience of birth
- New section on breastfeeding

Chapter 5. Health and Physical Development

- A whole new emphasis on health and wellness to supplement the chapter's focus on physical and neural development, including a new section on health and wellness in each developmental period and greater attention to the importance of activity throughout the life span
- More on the dynamic systems perspective on the emergence of motor skills

Chapter 6. Perception

- New slant on the roles of nature and nurture in perception emphasizing the debate between constructivists and nativists
- More on the everyday implications of perceptual abilities and changes in them with age

Chapter 7. Cognition

- More discussion of criticisms of Piaget's theory
- Elaboration of Vygotsky's views on tool use among humans
- Expanded discussion of cognitive development in relation to children's beliefs in Santa Claus and changing tastes in humor

Chapter 8. Memory and Information Processing

- More on the neural basis of memory
- More on adolescents as information processors

- More on autobiographical memory in adulthood
- Use of the selection, optimization, compensation model to discuss coping with diminishing cognitive resources in old age

Chapter 9. Intelligence and Creativity

- New sections on creativity in each developmental period
- A new box on "Fostering Creativity"

Chapter 10. Language and Education

- Reorganized coverage of language development
- Discussion of what makes for an effective school in the context of the No Child Left Behind Act

Chapter 11. Self and Personality

- Introduction of five principles of personality set forth by McAdams and Pals to highlight the multifaceted nature of personality
- Inclusion of the increasingly influential approach to the study of temperament developed by Mary Rothbart and her colleagues and its relationship to the "Big Five" personality dimensions
- Research on life stories and the narrative identity approach to personality

Chapter 12. Gender Roles and Sexuality

- The latest findings on the nature and extent of gender differences
- Sharpened discussion of patterns of gender role behavior over the life span and the reasons why gender roles are sometimes strictly adhered to, sometimes viewed more flexibly
- Major revision and updating of the sections on sexual development and behavior, including new research on the social and cultural contexts of sexuality and new findings on downward trends in sexual activity and pregnancy among teens, accompanied by increased oral sex
- New figure and two new tables to enrich coverage

Chapter 13. Social Cognition and Moral Development

- Evolutionary perspective on social cognition and morality and lessons from research with chimpanzees
- Exploration of whether the brain has a special module that allows us to understand human behavior, including recent work on mirror neurons
- New table summarizing theories of moral development
- More on the role of emotion in moral development

Chapter 14. Attachment and Social Relationships

- New chapter opener about social relationships and the Virginia Tech massacre
- The latest from the National Institute of Child Health and Human Development study of the effects of day care on infants and young children
- New findings on the implications of infant attachment for adult romantic relationships
- New box on the dark side of peer relations in childhood and adolescence

Chapter 15. The Family

- Addition of the concept of coparenting to the discussion of the family system
- The latest thinking on social class differences in parenting
- New material on cultural differences in parenting and the effectiveness of different parenting styles in different cultural contexts

Chapter 16. Developmental Psychopathology

- Box on reasons behind the apparent epidemic of autism
- The emerging mirror neuron hypothesis about why autistic individuals have difficulty relating to other people
- The dangers of ruminating and co-ruminating about problems for adolescent girls
- New research on preventing eating disorders
- New data on the prevalence of psychological disorders in adulthood

Chapter 17. The Final Challenge: Death and Dying

- The latest on why we age and die and on the prospects for extending life
- New challenges to traditional assumptions about how people grieve
- A new box on what to say to the bereaved
- A closing reminder of the book's major themes

Appendix: Careers in Human Development

- A brand new appendix outlining different careers in human development, with a focus on research, teaching, and professional practice and the levels of education required for different jobs
- A robust list of additional student resources, including websites and supplemental books

CHAPTER ORGANIZATION

The chapters of this book use a consistent format and contain the following:

A *chapter outline* orients students to what lies ahead.

Introductory material stimulates interest, lays out the plan for the chapter, and introduces key concepts, theories, and issues relevant to the area of development to be explored.

Developmental sections (Chapters 5–17) describe key changes and continuities, as well as the mechanisms underlying them, during four developmental periods: infancy, childhood, adolescence, and adulthood.

“Explorations” boxed features allow more in-depth investigation of research on a topic (for example, reproductive technologies, sleep deprivation in adolescence, aging drivers, language acquisition among deaf children, cultural differences in moral thinking, the harmful side of peer relationships, culture and parenting, and euthanasia).

“Applications” boxed features examine how knowledge has been used to optimize development in a domain of development (for instance, to treat genetic defects, promote lifelong health, improve cognitive functioning across the life span, combat the effects of stereotypes of aging on the self-perceptions of older adults, treat aggressive youth, help social isolates, prevent family violence, treat children with psychological disorders, and lengthen life).

The bulleted *“Summing Up”* sections within each chapter and the *“Chapter Summary”* section at the end of each chapter give an overview of the chapter's main themes to facilitate student learning and review of the material.

“Critical Thinking” questions after each major chapter section challenge students to think about or apply the chapter material in new ways.

The *“Key Terms”* section lists the new terms introduced in the chapter in the order in which they were introduced and with the page number on which they were introduced. The terms are printed in boldface, defined when they are first presented in a chapter, and included in the glossary at the end of the book.

The *“Media Resources”* section describes selected websites that offer further information about chapter topics and are accessible from the book's website at academic.cengage.com/psychology/sigelman. Students are also directed to the other resources available at that site, including *Understanding the Data: Exercises on the Web* and the online diagnostic study tool CengageNOW.

SUPPLEMENTS

The sixth edition of *Life-Span Human Development* is accompanied by a better array of supplements prepared for both the instructor and the student to create the best learning environment inside and outside the classroom. All the supplements have been thoroughly revised and updated. Especially note-

worthy are the media and Internet-based supplements. We invite instructors and students to examine and take advantage of the teaching and learning tools available.

For the Instructor

Instructor's Manual with Test Bank. Revised by Bradley Caskey, University of Wisconsin, River Falls. This manual contains chapter-specific outlines; a list of print, video, and online resources; and student learning objectives. The manual has a special emphasis on active learning with suggested student activities and projects for each chapter. The test bank, in both print and computerized form, consists of 135 multiple-choice, 20 true or false, 20 fill-in-the-blank, and 10 essay questions for each chapter. Questions are marked with the correct answer, main text page reference, and difficulty and are keyed to the Learning Objectives. This edition also contains suggested answers to the main text's Critical Thinking questions. ISBN-10: 0-495-50893-4; ISBN-13: 978-0495-50893-9

PowerLecture with JoinIn™ and ExamView®. PowerLecture includes preassembled Microsoft® PowerPoint® lecture slides with graphics from the text by Suzanne Krinsky of Colorado State University. These lecture slides contain figures from the text and videos, allowing you to bring together text-specific lecture outlines and art from the text, along with video and animations from the web or your own materials—culminating in a powerful, personalized, media-enhanced presentation. In addition to a full Instructor's Manual and Test Bank, PowerLecture also includes:

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- ExamView® testing software with all the test items from the printed Test Bank in electronic format enables you to create customized tests of up to 250 items in print or online.

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ABC® Videos for Lifespan Development. The ABC videos feature short, high-interest clips about current studies and research in psychology. These videos are perfect for discussion starters or to enrich lectures. Some topics include:

- Infant Mental Health
- Fathers and Autism
- Foster Care
- Child and Adult Daycare
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Wadsworth Developmental Psychology Video Library. Bring developmental psychology concepts to life with videos from Wadsworth's Developmental Psychology Video Library, which includes thought-provoking offerings from Films for Humanities and other excellent educational video sources. This extensive collection illustrates important developmental psychology concepts covered in many life-span courses. Certain adoption conditions apply.

For the Student

Study Guide. Written by coauthor Elizabeth A. Rider of Elizabethtown College, the *Study Guide* is designed to promote active learning through a guided review of the important principles and concepts in the text. The study materials for each chapter include a comprehensive multiple-choice self-test and exercises that challenge students to think about and to apply what they have learned.

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Internet-Based Supplements

Book Companion Website at academic.cengage.com/psychology/sigelman. This website provides instructors and students with a wealth of free information and resources, including tutorial quizzes, web links, essay questions, critical thinking exercises, and *Understanding the Data* exercises.

CengageNOW. Not only is CengageNOW a valuable course management and time-saving tool for instructors, it also offers many features that provide students with efficient ways to study for success in the course. CengageNOW includes diagnostic pre-tests and post-tests, with resulting *Personalized Study Plans*. For every chapter, students' unique *Personalized Study Plans* enable them to focus on what they need to learn and select the activities that best match their learning styles. CengageNOW includes an integrated e-book, videos, simulations, and animations—all designed to help students gain a deeper understanding of important concepts. Prompts at the end of each chapter guide students online to CengageNOW.

CengageNOW includes pre-tests and post-tests written by Jori Reijonen. If the textbook does not include an access code card, students can go to www.ichapters.com to order an access code.

Printed Access Card: ISBN-10: 0-495-59691-4; ISBN-13: 978-0-495-59691-2

Instant Access Code: ISBN-10: 0-495-59692-2; ISBN-13: 978-0-495-59692-9

Audio Study Tools. Audio Study Tools provides audio reinforcement of key concepts that students can listen to from their personal computer or MP3 player. Created specifically for

Sigelman and Rider's *Life-Span Human Development, Sixth Edition*, Audio Study Tools provides approximately 10 minutes of audio content for each chapter, giving students a quick and convenient way to master key concepts. Audio content allows students to test their knowledge with quiz questions, listen to a brief overview reflecting the major themes of each chapter, and review key terminology. Order Audio Study Tools directly at www.ichapters.com.

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WebTutor™ Toolbox on WebCT and Blackboard. This online supplement helps students succeed by taking them into an environment rich with study and mastery tools, communication aids, and additional course content. For students, WebTutor Toolbox offers real-time access to a full array of study tools, including flashcards (with audio), practice quizzes, Internet exercises, asynchronous discussion, a whiteboard, and an integrated e-mail system. Instructors can use WebTutor Toolbox to offer virtual office hours, to post syllabi, to set up threaded discussions, to track student progress on quizzes, and more. You can customize the content of WebTutor Toolbox in any way you choose, including uploading images and other resources, adding web links, and creating course-specific practice materials.

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Reviewers

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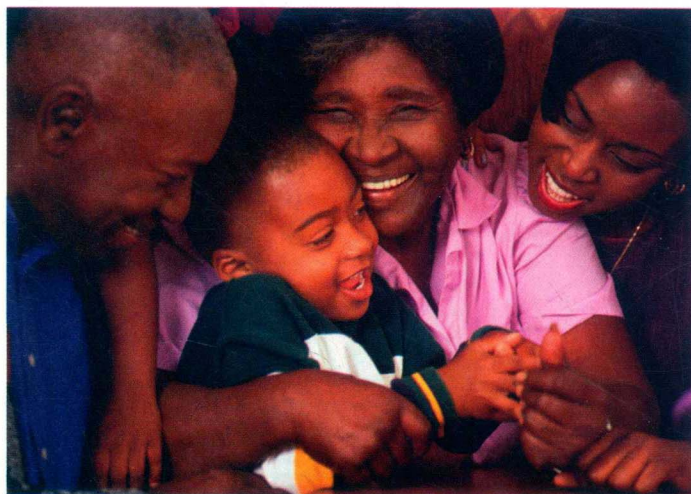
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