SIXTH EDITION

Lives Across Cultures

CROSS-CULTURAL HUMAN DEVELOPMENT

Pearson

Harry W. Gardiner

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 Pearson

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Foreword

It is an honor, once again, to have been invited to write the foreword to this—the sixth—edition of *Lives Across Cultures*. As an ongoing project, these editions have occupied the thoughts and actions of its author, Harry W. Gardiner, for more than two decades and influenced thousands of students. Following in the footsteps of its five predecessors, both with and without coauthors who dropped by the wayside for various reasons, this edition is worthy of continued admiration and celebration. At the same time, and with the same drum roll of eager endorsement, it is also appropriate to use this occasion to celebrate Harry's life and career. Personally, I want to thank him for his kindness in inviting me to write a few words about this revision. Before you read these wonderful pages, I offer a little historical context to bolster these accolades.

The psychological study of culture (and the cultural study of psychology) has a very long past but a short history. One could delve into the dusty tomes of long ago and find many instances of scholarly interest in the influence of culture on a wide range of topics that address how humans, regardless of culture, develop and cope with all that they face in the cradle-to-grave saga of their lives. All aspects of academic and applied psychology have been investigated to some extent against the background of a plethora of cultures, with some going back more than 2,000 years. The breadth and depth of such research and study is especially true in the realm of developmental and social psychology. Moreover, the precursors of such efforts importantly laid the foundation for what many have called the "modern movement" in culture-oriented psychology.

The mid-1960s marked the beginning of an explosion of interest by rapidly increasing numbers of psychologists in culture and its proxies, including diversity and ethnicity. During about a ten-year period, important books were written, special small conferences were organized, journals were inaugurated, and departments of psychology in some colleges and universities began offering courses that focused on culture. From the perspective of cross-cultural psychology, the union bringing together the *Journal of Cross-Cultural Psychology* and the International Association for Cross-Cultural Psychology (IACCP) was pivotal. The former began publication in 1970, and the inaugural meeting of the IACCP took place in 1972. This marked the first time that a psychology journal and an international psychological association, both with an exclusive focus on culture, joined hands. At that meeting, which was held at the University of Hong Kong, 105 psychologists from eighteen countries met each other, most for the first time. Although very few women registered for that first conference, a shortage of women in the field is no longer an issue. Reflecting vast demographic changes in American psychology, as well as in international psychology as a discipline, the majority of IACCP members are women, and many of them are currently in leadership positions. Nevertheless, it was thrilling for those of us who attended to meet many people we knew about but had never seen. Forty-seven (45%) of the attendees were from the United States. I was one of them, and so was Harry. Both of us were junior faculty members with aspirations to make culture the centerpiece of our careers. The four-day program had an aura of uniqueness and excitement. We seemed to sense that this inaugural meeting was the start of something special. That seminal event helped catapult Harry into a career that was influential and inspirational, especially in the cultural dimensions of developmental psychology. Several years later, the multidisciplinary Society for Cross-Cultural Research was formed, and Harry served as its president for two years.

I assume that most people who read this book are doing so because it is part of an undergraduate course in developmental psychology. I further assume that most will find it to be one of the more informed and easy-to-read academic texts that they will have the pleasure of reading. Written in an informal, conversational style, it provides a broad and thoughtfully updated account of "growing up" from the perspective of psychological science. In the early chapters, Harry gives an overview of the ways in which psychologists approach the psychological study of culture. Believing that it is important to know about the atmosphere that surrounded Harry, me, and our aging cohorts during that period of early growth, I want to encourage readers to learn more about influential precursors in the development of what has become a much more culturally infused psychology. To do this, I recommend reading more complete details in "Chronological Benchmarks in Cross-Cultural Psychology. Foreword to the Encyclopedia of Cross-Cultural Psychology," which is easily accessible in Unit 1 of the *Online Readings in Psychology and Culture* (available at http://scholarworks.gvsu.edu/orpc/contents.html).

As indicated previously, prior to the mid-1960s, psychologists gave relatively little attention to culture. Introductory psychology texts in the United States barely mentioned culture, the tacit assumption being that the content of these texts was valid around the world. (See "The Introductory Psychology Text and Cross-Cultural

Psychology: Beyond Ekman, Whorf, and Biased I.Q. Tests," published in Unit 11 of the aforementioned *Online Readings in Psychology and Culture*; available at http://scholarworks.gvsu.edu/orpc/contents.html). There were *no* texts or psychology journals expressly dedicated to research and scholarship in psychology and culture, and organizations totally focusing on culture did not exist. The few scholars at U.S. colleges and universities, and a smattering of others elsewhere around the world who wanted to expand psychology's horizons, were often viewed as "lone wolves" in their departments. Some were chided for being part of a "lunatic fringe" of psychologists who had the audacity to challenge, as was often the case, the veracity and generalizability of what was considered universally valid research in "mainstream" psychology. Harry was one of these pioneers.

We have seen great strides in attention given to culture and ethnicity as critically important factors in the shaping of lives. In fact, the attention given to culture by increasing numbers of psychologists has been one of the most striking developments in psychology and allied disciplines in the past 50 years. The sparse coverage of culture half a century ago has been replaced by a phenomenal spread of interest. For instance, although it used to be a bit of a struggle to find culture-oriented articles in more than a small handful of journals, one can now easily find such articles in dozens of journals and books. Much of this enriched coverage has been enhanced by the Internet. When Harry began his career, correspondence with like-minded psychologists was slow and usually carried out by either "snail mail" or air mail for most foreign connections. It usually took at least a week to exchange letters or share data. There was no Internet, so e-mail belonged in the realm of science fiction. There were no iPhones or iPads; no Twitter, Facebook, Instagram, Snapchat, Skype, or You Tube; or anything else that has strikingly increased the speed of scholarly interaction. Back then, most letters were typed on real clickity-clacking typewriters with inked ribbons and what was

called "onion skin paper" to make carbon copies. Word processing programs simply did not exist. Now, the exchange and sharing of massive amounts of material takes place in seconds, even if the exchange is between one researcher doing work in Siberia and another living in a rural village in India.

Enough of a brief walk down memory lane. I mainly want to emphasize that Harry and a growing number of colleagues around the world have gone to lengthy efforts and shown great tenacity and dedication to increasing the attention given to culture and ethnicity in the field of psychology. Harry is admirably informed about the ways in which culture and ethnicity help paint a more complex and informed portrait of human development. We can all be thankful that Harry has completed this sixth edition of *Lives Across Cultures*. Nothing would satisfy the gentle and self-effacing Harry more than knowing he has helped a new wave of students appreciate the many rich and unique ways that culture shapes every fiber of our being.

Thanks, Harry, for all you have done in your half century of consistent academic excellence.

Walter J. Lonner
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October 2016

Walter J. Lonner has been involved in cross-cultural psychological research for nearly forty years. He is Founding and Special Issues Editor of the *Journal of Cross-Cultural Psychology*, the flagship publication in this area of international scholarship. A charter member, past president, and Honorary Fellow of the International Association for Cross-Cultural Psychology, Lonner has been involved in various capacities with about forty books on cross-cultural psychological research and applications.

Preface

Welcome to the sixth edition of *Lives Across Cultures*! When this book was "born" in 1998, it had three "parents"—Harry Gardiner, Jay Mutter, and Corinne Kosmitzki. Jay left in 2002, when the book was four years old and the second edition appeared. Corinne and I continued "raising" (or revising) the text through its early childhood (third edition) in 2005, when it turned seven years old; its later childhood (fourth edition) in 2008, when it turned ten years old; and into its early adolescence (fifth edition) in 2011, when it became thirteen years old. With this sixth edition, *Lives Across Cultures* celebrates its eighteenth birthday. Corinne has decided to move on, so I am now the book's "single parent," ready to bring it into adulthood. There have been many changes as the text has matured, and it has been very interesting to travel with it through these stages of development. If readers continue their interest in it, then there are certain to be more editions in the years ahead.

When the first edition appeared in 1998, the goal was to share with readers the discoveries of the exciting and ever-expanding world of cross-cultural human development. As with each of the previous editions, the sixth edition links basic principles to practical everyday events to help readers cultivate a global and multicultural perspective on behavior and gain an improved understanding of and appreciation for development as it takes place in diverse cultural settings around the world. This approach is even more important in today's world than it was when introduced in the groundbreaking first edition.

As a teacher and cross-cultural researcher with extensive experience in small college and large university settings in the United States and abroad, the author, in common with previous editions, focuses on connections between personal experiences and the more formal theories and research that make up this discipline. He attempts to present it all in way that is easy to understand, engaging, and informative to readers. The author still believes readers learn best by example—both the ones presented here and those they create from their own experiences.

Organization of the Text

The presentation of cross-cultural material in this text continues to differ in numerous significant ways from other books. Most notable is the effort to integrate and synthesize viewpoints and perspectives from various disciplines, including psychology, anthropology, sociology, and the health sciences.

Development is viewed from a *cross-cultural perspective*, designed to expand awareness and sensitivity to global similarities and differences in behavior, while helping reduce any ethnocentric thinking (judgment of other cultures or people by one's own values and standards), whether conscious or not. Readers are presented with numerous opportunities to experience variations in behavior not normally found in their own societies. Most important, this approach encourages readers to look more closely at the interconnections among culture, development, and behavior in their *own* lives and in others.

As the table of contents indicates, selected topics (e.g., socialization, language, personality, gender, family, social behavior) for which a substantial amount of cross-cultural research exists are discussed chronologically, demonstrating how behavioral processes unfold and change as individuals in multiple cultures pass from infancy and childhood through adolescence and into adulthood and old age.

New to this Edition

The sixth edition retains the basic emphases of previous editions, particularly those of the fifth edition, whereby each chapter is placed within an ecological context. The chapters also include opening vignettes, which are discussed within each chapter, for better understanding of concepts and content. In addition, at several points throughout each chapter, readers are asked several questions that allow them to pause and reflect on important issues and on how the information they are reading applies to their own lives and to others with whom they are in contact. These questions appear in italics for greater attention.

As expected, this edition has been updated with the the latest in research findings and references. The chapters contain new photographs and boxed text, including new Points to Ponder material, to encourage readers to more closely observe their own and others' behavior, and critically evaluate it against the concepts presented throughout the book. Each chapter also contains new Study Questions.

- Chapter 1 includes expanded clarification of the distinction between emic-etic and individualism-collectivism, as well as additional information on the

Human Genome Project, including a website readers can access for further study.

- In Chapter 2, major theories are given expanded coverage, along with discussions of the strengths and limitations of each. This chapter also contains real-life examples of new applications of Bronfenbrenner's approach and applications of the developmental niche model to policy planning and early childhood development programs.

- New information on socialization, sleep, malnutrition, breastfeeding, and female genital mutilation, as well as an expanded discussion of China's "one child" policy are presented in Chapter 3.

- Chapter 4 includes new material on cultural images of aging, gay/lesbian relationships, and mothering and fathering, and an expanded discussion of the changing context of families and grandparents. Sections on mate selection, marriage and long-term relationships, and the transition to parenthood receive additional attention.

- Chapter 5 presents new research on cross-cultural comparisons of second language learning, as well as results from studies of dyslexia that provide insights into the relationships between cognition and language. This chapter also contains new material on reasoning and decision making in adulthood, including controversies surrounding cognitive aging.

- Chapter 6 has new material on environmental and genetic influences on temperament and personality development, cultural influences on identity formation, and changes in personality during later adulthood, as well as expanded coverage of the "aging" self.

- Chapter 7 focuses greater attention on early social relationships within the ecological context; the expanding roles of individualism and collectivism; and the critical issues of bullying, peer relationships, and play.

- Chapter 8 is devoted to culture and issues of gender and sexuality, with an expanded discussion of changing gender culture around the world, with attention paid to current issues such as transgenderism and gender neutral parenting.

- Chapter 9 focuses on ecological influences on health issues, illness behavior across cultures, obesity, eating disorders, acculturation, Alzheimer's, and coping strategies and behaviors.

- The final chapter, Chapter 10, was updated to reflect some of the future trends in cross-cultural developmental research and applications, and discusses how

to meet the needs of individuals in an era of increasing globalization.

- The References section provides the latest citations, including a large number of works published since the last edition in 2010.

Special Features

Most of the special features appearing in recent editions have been retained, although some have been revised. These include numerous interesting and readable pedagogical aids to assist readers in learning, remembering, and making practical use of the material covered.

Opening Vignettes

Most chapters open with vignettes about two individuals from different areas of the world who illustrate several of the behaviors described in the chapter. Because a major goal of the text is to familiarize readers with as many cultures as possible, stories of individuals living in more than fifteen different cultures around the world are depicted. The development of these individuals is integrated into the chapter in which they appear, and their lives are discussed in terms of the behaviors being presented.

Recurring Themes

Throughout each chapter, the principal themes (e.g., ecological and contextual approaches, developmental niche, developmental and cross-cultural perspectives) are regularly interwoven into the narrative to provide a comprehensive and cohesive understanding of development.

Key Ideas

Efforts were taken to make concepts easy to understand by placing them in bold type the first time they appear, immediately defining them, and providing examples to illustrate their cultural relevance. For a quick review (or preview), each chapter ends with a concise summary of important points.

Points to Ponder

Within each chapter, readers are asked to consider several questions relevant to themselves and others, the answers to which will help them better understand the ways in which culture influences behavior. Readers are asked to observe, analyze, and apply this information to various situations and to think critically about the meaning of these situations so they will better remember major points. Among topics discussed are understanding one's own

developmental niche, observing public parenting, finding one's identity, and learning language.

Further Readings

An annotated list of recommendations for further reading is provided at the end of the text. The books and articles suggested were selected for their ability to expand on topics covered in each chapter, as well as for their interesting and often amusing writing styles. Multiple URL addresses are included so readers can easily access additional information.

Developmental Analysis

Carried over from the last edition is a series of Developmental Analysis boxes appearing in Chapters 3 to 9. Written in the first person, they tell the life story of Matilda "Maddi" Skelton, who engagingly applies important concepts to her own development over the lifespan. This pedagogical feature again helps clarify the material and provide continuity across chapters. It also encourages readers to write their own developmental analysis for a better understanding of how each one of them became the person he or she is today.

Note to Instructors

Lives Across Cultures can be used as a core text in a course focusing on cultural similarities and differences in human development, whether it is in psychology, anthropology, or sociology. It can also be used as a supplement to basic courses such as General Psychology, Child and Adolescent Development, Lifespan Development, Cross-Cultural Psychology, Social Psychology, Cultural Anthropology, Sociology of the Family, and similar courses in which the instructor might want to provide a cultural focus not represented in standard textbooks.

Note to Readers

You, the reader, will live in the world of tomorrow, where understanding and interacting with people of diverse cultural backgrounds will be a common everyday event and a prerequisite for success in the family, school, workplace, and society. It is for you that this book has been written. It is hoped that it will help you develop an appreciation for and sensitivity to the cultural similarities and differences that characterize those of us who live on Earth today, including your parents and grandparents, and those who will call it home in future generations, including your children and grandchildren. It is also hoped that you will find this book both enjoyable and informative.

Available Instructor Resources

The following resources are available for instructors and can be downloaded at http://www.pearsonhighered.com/irc. Login is required.

- **Instructor's Manual:** The instructor's manual is a wonderful tool for classroom preparation and management. Each chapter includes chapter objectives, suggested lecture topics, student activities, audiovisual materials, and things to do and think about. There is also a helpful list of journals, Internet resources, and professional organizations.
- **Test Bank:** The test bank portion contains a set of multiple-choice and short answer essay questions for each chapter to help students prepare for exams.

Acknowledgments

The completion of a book like this cannot be accomplished without the generous assistance of a great many people. A genuine debt of gratitude is owed to the many reviewers of this new edition who offered valuable and significant suggestions and revisions for its improvement, many of which have found their way into this text.

Thanks also go to the editorial, production, and marketing staff at Pearson Education who contributed their time and talent to making this new edition possible.

Finally, a heartfelt thanks to my family, who has made this journey possible and supported my efforts over nearly two decades, a journey individuals and their ancestors have taken in various ways throughout history. For example, here is a picture of the hands of one-month-old Charlie Lamont, Harry and Ormsin Gardiner's grandson, born September 10, 2009, representing the "Alpha," or beginning, of life.

Charlie Lamont's hands
© Harry W. Gardiner

Next is a picture of the hands of 102-year-old Khun Mae Kasorn, the mother of Harry's Thai wife, representing the "Omega," or end, of a long and productive life. Khun Mae passed away on April 23, 2005.

Khun Mae Kasorn's hands

© Harry W. Gardiner

Separated by more than a century in age and by very different cultures thousands of miles apart, Charlie and his great grandmother symbolize but two unique examples of the ongoing development of the millions of "lives across cultures" to whom this book is dedicated.

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About the Author

Harry Gardiner writing his first book

© Harry W. Gardiner

I am Professor Emeritus at the University of Wisconsin–La Crosse, where I designed and taught courses in cross-cultural human development for more than twenty-five years. It was the inability to find a textbook for a course in cross-cultural human development that first led to the writing of this book. My undergraduate degree is from American International College, Springfield, Massachusetts, where I began my "international" quest so many years ago. My M.A. is from the University of Hawaii, where the real seeds of my interest in cross-cultural psychology were first planted. I completed my Ph.D. at Manchester University in England, where my personal journey into culture was forever changed when I met a young lady from Thailand, Ormsin Sornmoonpin, who was studying to be an electrical engineer.

I followed (or more accurately chased) her to Asia, where we were married in both Buddhist and Christian wedding ceremonies. I taught in the graduate program at Chulalongkorn University in Bangkok, Thailand, for two years before we moved to the United States. I "grew up" in an Asian American family, consisting of our two sons (Alan and Aldric) and two daughters (Alisa and Alexina), and now six grandchildren (Macinnes, Malinee, Sirina, Charlie, Eugene, and Eliza).

I was a charter member of the International Association for Cross-Cultural Psychology and have served as president of the Society for Cross-Cultural Research. I am currently a Consulting Editor for the *Journal of Cross-Cultural Psychology.* In addition to publishing articles in various journals and participating in national and international meetings, I have coauthored numerous chapters on cross-cultural topics for other books. I have engaged in training, teaching, and research in Europe, Asia, and the United States. In my "spare time," I enjoy writing for *Cobblestone*, a history magazine for young children, and have contributed interviews with Supreme Court Justice Sandra Day O'Connor; Muppet creator Jim Henson; Muriel Earhart

Morrissey, Amelia Earhart's sister; and Thomas Rockwell, son of Norman Rockwell, among others. Another great joy is watching the development of our six grandchildren as they navigate a much more culturally diversified world than I, or their parents, experienced at their ages.

Harry and Ormsin's grandchildren: Charlie, Sirina, Malinee, Eugene, Mac, and Eliza

© Harry W. Gardiner

Harry's children, Alisa, Alan, Alexina, and Aldric

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Harry and Ormsin Gardiner at Machu Picchu, Peru

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Chapter 1
Introduction to Cross-Cultural Human Development

Books frequently begin by introducing their readers to the history of the field. This is certainly essential and, unfortunately, can sometimes be boring, but it will come later in this book (you can always skip it if you don't find it very interesting, *but* I highly recommended that you read it). Right now, I want to begin this text as I begin most of my classes—by relating a few of my own cross-cultural experiences in the hope you may find them not only interesting but also perhaps relevant in important ways to your own lives.

In the section About the Author, I mention that my wife, Ormsin, is from Thailand, and we have raised our four children in an Asian American family. My wife is the Asian, I am the American, and our children are the Asian Americans. I am the minority—the one with the blond hair and blue eyes. I don't like to admit it, but I'm also the shortest, making me a double minority! As you might imagine, raising children in a cross-cultural and bilingual home has resulted in many interesting and enlightening developmental experiences, some of which may help you better understand the processes involved in cross-cultural human development.

One experience concerns our eldest daughter, Alisa, and the way in which she became bilingual. Our cross-cultural family setting, similar to many others, provided a unique opportunity for this to occur. We were advised that the best approach to helping her become bilingual was to let her hear and speak both languages—Thai and English—without emphasizing that they *were* two languages. (Perhaps many of you have had similar experiences.) So, when she was an infant and young child, her mother spoke to her in Thai and I spoke to her in English. Then, one evening, when my daughter was about three years old, one of my Chinese students came to babysit. Alisa opened the front door, saw an Asian face, and began speaking Thai. The young lady patiently listened to her and then said, "I'm Chinese and I understand English, but I'll bet you were speaking to me in Thai, weren't you?" I watched as she thought about this and then turned to me and said, "I speak two languages, don't I? Daddy, I speak two languages!" I told her that indeed she did and asked, "What did you think was happening all this time?" Alisa's reply, based on the experience of her unique developmental niche in a bilingual home, was, "I thought it was all one big language and Mommy understood some words and you understood others and . . . I understood them all!"

Throughout the chapters that follow, references are made to how important it is to understand culture, even one's own, and realize that not everyone has the same understanding of topics and events. Sometimes, when traveling, studying, or working in another culture, our experiences are frustrating, scary, or humorous. I had an opportunity to live in England for three years while completing my doctoral studies at the University of Manchester. During that time, there was one food craving I found nearly impossible to fulfill—*popcorn!* My roommate and I searched everywhere for it. The only place anything resembling it was available was at the cinema. The only problem—it was sticky, caramel-covered "goop," not the white, fluffy kernels sprinkled with salt and hot butter (and, in my case, garlic) with which we were familiar. Eventually, using the skills of Sherlock Holmes and Doctor Watson, we discovered small (tiny, actually) thirty-kernel bags of popping corn at the airport and bought the entire stock! A few days later, we visited a British family that had befriended us two "Yanks from across the pond" and took some with us. When we asked the husband if we could make some popcorn, he replied (much to our surprise), "No, that's impossible." When we asked why, he said, "Popcorn grows on bushes. You pick it and put caramel on it." We told him he might be confusing this with cotton, which grows on bushes but is not eaten! Nevertheless, he supplied us with a pot, and we put in some oil and threw in some kernels. When it began to make noise, we tried to explain that this was the corn popping. When it was done, we showed him. He took one look and immediately disappeared out the back door! A few minutes later, he returned with his neighbors, looked at us, and said, "Do it again!" For many years, I often thought I should open a stand on a street corner in London and surprise, amaze, and educate the British public with the wonders of popcorn! Now, if I could only get it to grow on bushes! The moral of this

story: We all grow up in cultures where we understand what happens around us because the experiences are a shared familiar part of our environment and our daily lives. These experiences are not always easily understood by those living in different ecological settings, even within the same culture.

Harry Gardiner and his British friends making popcorn 30 years later.

(© Harry Gardiner)

More than three decades ago, the anthropologist Theodore Schwartz (1981), writing about the acquisition of culture, accurately declared that "anthropologists had ignored children in culture while developmental psychologists had ignored culture in children" (p. 4). Just two years later, John W. Berry (1983), a Canadian psychologist and pioneering researcher in cross-cultural psychology, noted that the discipline was "so culture-bound and culture-blind . . . [that] . . . it should not be employed as it is" (p. 449). Shortly thereafter, Gustav Jahoda (1986), a well-known European psychologist and early contributor to the developing discipline, was able to express a more optimistic view and point out that cross-cultural studies of human development had been steadily increasing in number. Yet, at the same time, he also criticized the field for being "too parochial in its orientation" (p. 418).

These were once considered serious criticisms of the newly emerging field. Fortunately, in, the years since, great strides have been made in our approaches to, and understanding of, cross-cultural human development. Throughout this book, the progress, excitement, and promise of this increasingly important and influencing area of study is described and discussed in detail.

In this first chapter, the foundation for the rest of the book is laid out by introducing some historical perspectives and expanding on some of the major concepts, themes, and issues briefly presented in the Preface. Let us begin by exploring the origins of cross-cultural human development.

1.1: What Is Cross-Cultural Human Development?

The field of cross-cultural psychology is remarkably diverse, and those who contribute to it bring with them a variety of viewpoints, including different definitions of the field itself. In Volume 1 of the revised *Handbook of Cross-Cultural Psychology*, Berry, Poortinga, and Pandey (1997) define **cross-cultural psychology** as *"the systematic study of relationships between the cultural context of human development and the behaviors that become established in the repertoire of individuals growing up in a particular culture"* (p. x). This definition clearly states that this is a *scientific* endeavor that shares with more familiar disciplines the use of theories, scientific methodologies, statistical procedures, and data analysis.

The term *human development* has also been defined in multiple ways. For the purpose of this text, **human development** is viewed as *changes in physical, psychological, and social behavior as experienced by individuals across the lifespan from conception to death.* Although this definition encompasses a wide range of experiences, the intention of this text is not to provide exhaustive and comprehensive coverage of all aspects of human development (Aren't you glad to hear that?). Instead, its goal is more limited, focusing on a number of representative topics that provide insight and understanding into how individuals develop and live their lives in different cultural settings. In doing this, examples from literally scores of societies throughout the world are presented. Considering the important dimensions just mentioned, and not finding the term **cross-cultural human development** adequately defined elsewhere, I recommend it be viewed as *cultural similarities and differences in developmental processes and their outcomes as expressed by behavior in individuals and groups.*

Because the term **culture** was just mentioned, it should be pointed out that most researchers agree that this is one of the most difficult and elusive social sciences terms to define. Almost everyone who studies culture has a different way of looking at it, reflecting, in part, different theories for understanding the concept and describing various forms of human behavior. E. B. Tylor (1871) was the first anthropologist to use the term in his two-volume work titled *Primitive Culture*. He defined culture as *"that complex whole which includes knowledge, belief, art, morals, laws, customs and any other capabilities and habits acquired by man as a member of society"* (p. 1). More than fifty years ago, two other anthropologists, Kroeber and Kluckhohn (1952) compiled a list of 164 definitions of the term!

In 2002, the United Nations Educational, Scientific and Cultural Organization (UNESCO) stated that culture is the *"set of distinctive spiritual, material, intellectual and emotional features of society or a social group, and that it encompasses, in addition to art and literature, lifestyles, ways of living together, value systems, traditions and beliefs"* (p. 1).

Azuma (2005) even proposed a new conceptualization of culture "beyond nationality, geography, class, and even ethnicity," which he tentatively calls "functional culture" (p. xii). It is his contention that "traditional culture" of past generations, uncontaminated and with distinct and static systems "envisioned by cultural anthropologists in the early 1900s[,] no longer exists" (p. xii). Rather, in the contemporary world, individuals come into contact with a variety of cultures as a result of the media, travel, reading, migration, and other activities, including, it might be added, such popular Internet social networks as Snapchat, Google+, Instagram, Pinterest, and YouTube.

Points to Ponder

Is Social Networking the New "Cultural Frontier"?

Today's widespread popularity of social networking helps create "an environment of connectedness," not always based in reality, among literally millions of individuals located around the world (often among individuals or in small groups). According to Brian Honigman (2012, November 29), who reported on social media statistics in *The Huffington Post*, Facebook has 850 million monthly users, with 43% being male and 57% female; the average user has 130 friends; and 21% of all users are from Asia. In 2012, there was a 41% growth in users from Brazil, India, Russia, South Korea, and Japan. On Twitter, 175 million tweets were sent each day during 2012, and the top three countries using Twitter are the United States with 107 million users, Brazil with 33 million, and Japan with nearly 30 million.

By 2015, of the 7.2 billion people on the planet, nearly 2.1 billion had social media accounts and 3.65 billion mobile users had access to the Internet using smartphones and tablets. Social networks in non–English-speaking countries, such as China and Russia, are growing at an even faster rate. The 1.4 billion Facebook users represented 47% of all Internet users. At last count, Twitter had 284 million users, 88% of whom accessed the application via mobile devices.

Social media has both advantages and disadvantages. On the positive side, individuals can connect with relatives, former friends, new friends, nurture relationships in a nonthreatening environment, and find and share information in real time. They can even find biological parents who gave them up for adoption. On the negative side, social media reduces or eliminates face-to-face socialization; diminishes the development of one's social skills, particularly among adolescents; and exposes individuals to harassment and/or bullying. It can also be huge waste of time. Whether social networks will be harmful to individuals, societies, or cultures is still unknown and will require more research. *What do you think? Which social media do you use? Which application is most important to you? How much time do you use each one? What do you see as the advantages and disadvantages for you personally?*

Returning to Azuma's (2005) comments on culture, "cultures interact with and influence each other," and traditions, which are part of functional culture, are "more fluid or fragmented" than they once were. In fact, cultures today import many of their features from other cultures and societies—features, which Azuma points out, "were quite foreign to people even a half century ago, and change and substitution of elements are constant" (p. xii). However, he goes on to emphasize that global culture does not become homogeneous because the way in which these features are distributed within cultures will differ as a result of "traditional emphasis, condition of industry and labor, natural resources, climate, or just by chance" (p. xii); and this will determine cultural specificity. He stresses that "such culture forms a developmental niche not as a loose collection of fragments but as a configuration that is structured yet inevitably fluid . . . [and] . . . Human development must be studied as embedded in a dynamically functioning group culture . . . [in which] . . . [m]ore lively understanding results from carefully analyzing how specific behaviors interact with cultural conditions that are always bound by time and place" (p. xii). As you will see later in this chapter and throughout the rest of this book, Azuma's contemporary view of culture fits very well with this text's definition and theoretical approach to understanding cross-cultural human development.

In the absence of an as yet widely agreed-on definition of **culture**, when the term is used in this text it will be referring to *the cluster of learned and shared beliefs, values (achievement, individualism, collectivism, etc.), practices (rituals and ceremonies), behaviors (roles, customs, traditions, etc.), symbols (institutions, language, ideas, objects, artifacts, etc.), and attitudes (moral, political, religious, etc.) that are characteristic of a particular group of people and that are communicated from one generation to another.*

A caveat regarding this definition may be in order before proceeding. Because there is no consensus regarding "the" definition of culture (and it is unlikely there ever will be), the definition presented here is a compilation of several previously published definitions combined with some original thoughts by the current author of what best constitutes this concept. As Shwalb (personal communication, 2005) has accurately pointed out, in most comparative studies, culture is "unfortunately equated with nationality, which is convenient for readers to understand . . . but not satisfying." He goes on to say that he would like to see culture "better distinguished conceptually from nationality, ethnicity, race, and religion." Many other social scientists, including the present author, would agree. However, as the reader might imagine, this effort, similar to defining culture, is a most difficult and complex task better left for another time.

As the field of cross-cultural psychology has evolved, concerns in the area of development have undergone a

number of significant shifts. One hundred years ago, five major areas were of interest: emotional development, the biological basis of behavior, cognitive development, conscious and unconscious processes, and the role of self in development. During the 1950s and 1960s, the focus shifted to learning theory, the rise of experimental child psychology, interest in operant analysis of children's behavior, investigations of infant sensory and perceptual development, and the objective measurement of cognitive understanding among preverbal infants. In recent years, there has been revitalized interest in the emotional development and cognitive abilities of children, biological bases of behavior, and social relationships. More recently, advances in genetics, embryology, and developmental biology are transforming contemporary developmental and evolutionary theories that challenge once popular gene-centered explanations of human behavior. These points are illustrated numerous times throughout this book.

1.2: Cross-Cultural Human Development and the Other Social Sciences

In commenting on the central role that culture plays in our efforts to better understand behavior, Segall, Lonner, and Berry (1998) posed an interesting and critical question: "Can it still be necessary, as we approach the millennium (as measured on the Western, Christian calendar), to advocate that all social scientists, psychologists especially, take culture seriously into account when attempting to understand human behavior?" (p. 1101). At that time, the answer was (a qualified) "yes!" Fortunately, in the middle of the second decade of the twenty-first century, the situation has dramatically improved and only continues to get better with each passing year.

When discussing cross-cultural psychology and its subdiscipline of cross-cultural human development, it is obvious they share a long historical connection with general psychology. Although, as the well-known psychologist-anthropologist Otto Klineberg (1980) has pointed out, "There is no specific date that can be identified with the onset of interest in cross-cultural comparisons" (p. 34). Jahoda and Krewer (1997) have suggested that it might have been as early as the seventeenth century when the "dominant perspective of enlightenment philosophy was highly compatible with cross-cultural psychology's model of man" (p. 11). Since the 1960s, much of our psychological research—particularly that emphasizing the cross-cultural approach—has focused on the areas of abnormal, cognitive, social, and developmental psychology (Jahoda, 2009).

In terms of the other social sciences, the closest links are to anthropology and sociology with shared interests in specific approaches, methodological procedures, and research interests, including the socialization process and family influences on development. At the same time, this relationship has not always been a smooth one. For example, very few comparative studies of infant development in the past ever attempted to look at this topic within the characteristics of one's larger culture. At the same time, if researchers hoped to improve their studies in the future they would need to both gain greater ethnographic information about cultures as well as establish baselines of quantitative information for comparative purposes. As you will discover in reading this text, this is precisely the path that much of present-day, cross-cultural human development research has taken (Gardiner, 2001b; Matsumoto & van de Vijver, 2011).

In a lively and entertaining book titled *Psychology and Anthropology: A Psychological Perspective,* Gustav Jahoda (1982), a psychologist with a true appreciation and understanding of both psychology and anthropology, notes that "[a]nthropologists have always been concerned with psychology, even if unwittingly. . . . However, this interest has, in many respects, remained narrowly culture-bound, largely ignoring the wider perspectives provided by anthropology" (back cover).

It is hoped that future cross-cultural psychologists, in particular those interested in human development, will be able to forge a bond with other social scientists, notably anthropologists, and work as partners in laying a firm foundation for an empirically based understanding of human behavior that places a greater focus on developmental processes within cultural contexts. A welcome step in this direction has been made with several volumes that focus on emerging concepts and methods for measuring environment (or context) across the lifespan (Friedman & Wachs, 1999; Sternberg & Grigorenko, 2004) and childhood and family life (Abela & Walker, 2014; Georgas, Berry, van de Vijver, Kagitcibasi, & Pooringa, 2006; Weisner, 2002). Another important contribution is Pillemer and White's (2005) book, *Developmental Psychology and Social Change,* which discusses the historical evolution of developmental psychology, its goals, and its challenges. Specifically, the chapter by Charles Super on the globalization of developmental psychology is of particular value. Of even more recent interest is the presentation of a model describing how globalization affects adolescents' individual development and examining its effects on adolescents' family, peer context, school, and leisure activities (Tomasik & Silbereisen, 2011). Efforts such as these and others will greatly enrich our understanding of development and the vital role that culture plays in it.

1.3: Some Important Themes

This book differs in significant ways from most other volumes that focus on cross-cultural aspects of human behavior, most notably in its efforts to integrate a variety of important themes. Let us look at these in some detail and discover how they will weave their way through subsequent chapters.

1.3.1: A Cross-Cultural Perspective

Over the past two decades, social scientists have become increasingly aware of the contributions that cross-cultural research findings can make to our understanding of human development. Any attempt to include all or even a sizable number of these findings in a book of this length would be impossible. Therefore, I have decided to be selective and discuss representative areas of interest using a chronological-within-topics approach. For readers desiring a more comprehensive view of cross-cultural human development or those wanting to explore particular topics in greater depth, we refer you to the Further Readings and References sections at the end of this book. If you are eager to get started, you might consider looking at such classics as *Two Worlds of Childhood: U.S. and U.S.S.R.* by Urie Bronfenbrenner (1970) and a series of volumes on *Six Cultures* by Whiting (1963), Whiting and Whiting (1975), and Whiting and Edwards (1988). Edwards, Weisner, and others discuss the importance of these studies and the contributions of John and Beatrice Whiting in a special 2010 edition of the *Journal of Cross-Cultural Psychology*. The revised three-volume *Handbook of Cross-Cultural Psychology*, edited by John Berry and others (1997), contains several chapters relevant to the study of cross-cultural development and the role of cross-cultural theory and methodology. In addition, the eight volumes of the *Encyclopedia of Psychology* provide a definitive guide to the major areas of psychological theory, research, and practice (Kazdin, 2000), as does *The Corsini Encyclopedia of Psychology*, a four-volume update of the classic reference work (Weiner & Craighead, 2010). Also, the *Handbook of Culture and Psychology* presents a review of major areas and issues in cross-cultural psychology, including development (Matsumoto, 2001).Two additional recent volumes are the third edition of *Cross-Cultural Psychology: Research and Applications* (Berry, Poortinga, Breugelmans, Chasiotis, & Sam, 2011) and *Fundamental Questions in Cross-Cultural Psychology* (van de Vijver, Chasiotis, & Breugelmans, 2011). Finally, the informative three-volume set titled *The Encyclopedia of Cross-Cultural Psychology* contains brief overviews of hundreds of major concepts and biographical profiles of important contributors to cross-cultural psychology (Keith, 2013).

1.3.2: Goals for the Field

As to the nature and purpose of the cross-cultural method, Berry, Poortinga, Segall, and Dasen (2002), in a comprehensive overview of cross-cultural psychology, set forth three goals for the field. The first goal involves *testing or extending the generalizability of existing theories and findings.* In earlier writings, Berry and Dasen (1974) referred to this as the "transport and test goal" in which hypotheses and findings from one culture are transported to another so their validity can be tested in other cultural settings. For example, *are parental speech patterns in English-speaking families similar or dissimilar to those in Spanish-speaking families? Are the stages of cognitive development proposed by Jean Piaget specific to certain types of cultures, or are they universal?* The second goal focuses on *exploring other cultures to discover variations in behavior that may not be part of one's own cultural experience.*

In other words, if findings cannot be generalized, what are the reasons for this, and are the behaviors unique to these other cultures? A good example is a study by Jablensky and colleagues (1992), which demonstrates that although a number of symptoms characteristic of schizophrenia (a serious psychological disorder) exist in ten very different cultures, there is no single factor to explain differences in the formation or outcome of the disorder. At the same time, other psychological conditions appear to be "culture bound" and occur only among certain groups of people. One example is *pibloktoq*, found only among specific groups of Eskimos, in which individuals, with little or no warning, perform irrational acts—ripping off clothes, shouting obscenities, throwing objects, and running wildly into snowdrifts—lasting from a few minutes to as long as an hour (Kirmayer & Minas, 2000).

The third goal, which follows from the first two, is aimed at *integrating findings in such a way as to generate a more universal psychology applicable to a wider range of cultural settings and societies*. Examples of this include efforts by many cross-cultural researchers to refine and expand the usefulness of several theories, including the various ecological approaches cited in this text.

A fourth goal can be easily added to this list—*applying research findings across professional disciplines*. Some examples include preparing students to study, work, and travel abroad; improving minority children's academic and social success in school; assisting counselors, psychotherapists, social workers, and other professionals in helping immigrants better understand and adapt both psychologically and socially to a new culture. Additional examples consist of helping managers and employees in public, private, and government organizations meet the challenges of cultural diversity in the workplace, at home, and abroad, ultimately contributing to greater success in business practices and negotiations, and drawing attention to the basic human rights of people in all cultures.

At this point, you might be wondering, *"How can a cross-cultural perspective contribute to our understanding of human development?"* In answer to this question, I would point to several important benefits. First, looking at behavior from this perspective compels researchers to reflect seriously on the ways in which their cultural beliefs and values affect the development of their theories and research designs. Increased awareness of cross-cultural findings provides an opportunity to extend or restrict the implications of research conducted in a single cultural group, most notably the United States and similar Western societies. Nothing helps reduce ethnocentrism as quickly as looking at behavior as it occurs in other cultures. **Ethnocentrism** is defined as *the tendency to judge other people and cultures by the standards of one's own culture and to believe that the behavior, customs, norms, values, and other characteristics of one's own group are natural, valid, and correct while those of others are unnatural, invalid, and incorrect. If you have traveled to another culture, then it is likely you have experienced ethnocentrism first hand. Can you think of some examples? What were your reactions to these differences?*

Second, the number of independent and dependent variables to be investigated can be greatly increased in a cross-cultural design. Examples of studies in which this has been done include investigations of gender differences (Morinaga, Frieze, & Ferligoj, 1993), effects of parent–child relationships in diverse cultures (Gielen & Roopnarine, 2004), and individualism-collectivism and the attitudes toward school bullying of Japanese and Australian students (Nesdale & Naito, 2005). We generally think of an **independent variable (IV)** as *the condition introduced into or systematically manipulated in an experiment by the researcher*, and a **dependent variable (DV)** as *the subject's response or the behavior being measured in an experiment.* For example, you believe that watching violence in television cartoons makes young children more aggressive (your hypothesis). You show one group of children (matched for age, gender, socioeconomic background, etc.) violent cartoons and a similar group cartoons with no violence. You then measure the level of aggression shown by these children when in play situations. Your IV is the amount of cartoon violence to which children are exposed, and your DV is children's resulting levels of aggression when playing with others. *Try to think of a hypothesis of your own and identify the IV and the DV.*

Third, cross-cultural studies help us separate **emics**, or *culture-specific concepts*, from **etics**, or *universal or culture-general concepts.* McDonald's is a good example of an emic approach to cultural consumer behavior. The fast food restaurant successfully sells market-specific items in very different cultures, such as a Maharaja Mac (chicken burger) in India, McPalta (burger with avocado sauce) in Chile, and McBingsoo (shaved ice) in Korea. The etic approach is well illustrated by the coffee chain Starbucks, which provides a similar store structure in widely different cultures—strong coffee, soft lighting, and comfortable seating. *Can you think of some other examples?*

The **emic** (insider) **approach** focuses on a single culture, using criteria that are thought to be relative to it, and studies behavior from *within* the system itself, making no cross-cultural inferences with regard to the universality of any observations. An example is an anthropological field study in which a researcher lives with a group of people and tries to understand the culture through their eyes and experiences, avoiding the ethnocentrism of his or her own cultural background. The **etic** (outsider) **approach**, in contrast, looks at several cultures, comparing and contrasting them using criteria thought to be absolute or universal, and studies behavior from *outside* the system. An example that (happily) we don't see as often as we once did in cross-cultural psychology involves an investigator conducting what has been called "safari research." An illustration is a professor (not very familiar with the field) who goes on vacation to several countries, taking along a favorite questionnaire concerning _____ (you fill in the blank). He or she visits several universities, collects data from available students (who may or may not understand many of the colloquial English-language terms), returns home, and publishes the findings as "universal" attitudes of those living in cultures X, Y, and Z.

Separating emics from etics is better accomplished by testing theories or principles developed in one cultural context in another. The work of Freud, Piaget, and Kohlberg are examples. In some cases, findings lend support to the universality of behaviors in vastly different cultural settings (e.g., stages in language development and the sequence and timing of such behaviors as smiling, walking, stranger and separation anxiety, and pubertal development). However, results have sometimes suggested a need for modification of certain culture-bound concepts (e.g., intelligence, medical diagnosis, and, sometimes, gender behavior). For a comprehensive review of some of the significant findings of indigenous (or native) psychologists, see Kim, Yang, and Hwang (2006). Lori Lambert's (2014) book on indigenous research methodologies in the behavioral sciences will be useful to those planning work on native groups and tribes throughout the world.

One of the most frequently used approaches to describing, explaining, and understanding similarities and differences in multiple cultural contexts has been presented by Triandis (1989; 1995). This is the dimension of **individualism-collectivism**. A culture characterized as **individualist** is made up of *people who are responsible to themselves and their family and whose individual achievement is paramount*. Frequently mentioned examples of such cultures are the United States and most European societies. A **collectivist** culture, in contrast, is thought to consist of *people who consider the group to be most important, with an emphasis on traditions, cooperation, and a sharing of common goals and values.* Cultures so characterized include most of

Asia, Africa, and South America. However, in recent years, use of these characteristics has often been too limiting, and it has been recognized that components of each are found in most cultures and even within specific individuals (Green, Deschamps, & Paez, 2005; Triandis, 1995). Fischer and his colleagues (2009) have reported promising results on the development and validation of a research instrument for measuring the descriptive norms related to individualism-collectivism.

By focusing throughout this book on cross-cultural material, readers will be continually presented with opportunities to expand their awareness and sensitivity to global similarities and differences in human development and to reduce ethnocentric thinking. The cross-cultural perspective complements and extends the work of earlier researchers who successfully presented the more traditional, but often culture-specific, approach to understanding lifespan development by offering a broader worldview. By allowing readers to experience variations in behavior not normally found in their own societies (e.g., accelerated formal operational thought among some Asian populations, decreased susceptibility to visual illusions among certain African groups, and highly developed mathematical skills among Dutch children), this perspective contributes to our understanding of human adaptation. Perhaps, most important, it encourages a closer look at the interconnections among culture, development, and behavior—a major theme in contemporary developmental psychology.

Although this is certainly not the first effort to stress the importance of looking at cross-cultural data, it is given greater emphasis here because, as Segall (1979) so aptly stated, "It is to . . . theories of ecological, cultural, and socialization forces that we must turn for the most promising insights into why different peoples develop different . . . skills or develop the same skills at different rates" (p. 129).

The mention of socialization practices and the variety of ways in which we are influenced by ecological factors leads us to another major theme.

1.3.3: An Ecological Model

The importance of viewing behavior within its social setting was first recognized not by psychologists but by sociologists, who stressed the importance of the individual's subjective view. Among the early proponents of this view were C. H. Cooley (1902), W. I. Thomas and F. Znaniecki (1927), and G. H. Mead (1934). When psychologists became interested in the topic, they tended to ignore the social context in favor of cognitive processes. Such analysis was extended beyond the individual to the study of the environment with the introduction of the concepts of "psychological field" and "life space" by Kurt Lewin (1935). Explicit recognition of the need to study an individual's subjective view of social reality came with the pioneering work of MacLeod (1947) and has been extended by many others, including Triandis (2008).

One of the most important contributions to these evolving ideas, and one on which much of the presentation in this book is based, is the ecological model presented in the work of Urie Bronfenbrenner (1975, 1977, 1979, 1986, 1989, 1993, and 2005). In its original form, this model divided a child's environment into four nested and interrelated systems or contexts (one more was added later) and allowed us to see and understand (within a broad framework) how patterns of interaction within the family and the wider society are influenced by—and, in turn, influence—the connection between development and culture. Each system involves relationships defined by expected behaviors and roles. For example, a child behaves very differently at home, in school, or with playmates. *Take a moment and reflect on your own behavior as a child in these settings. Can you remember how your behavior differed in each setting?*

When relationships between systems are in harmony, development proceeds smoothly. Consider the relationship between home and school as an example. If expectations are much the same in both settings (e.g., try to do your best work, be careful and neat), then individuals are more likely to succeed and do well than if expectations differ significantly from one setting or environment to another. Bronfenbrenner's family-centered approach has allowed others to adapt and apply his model to
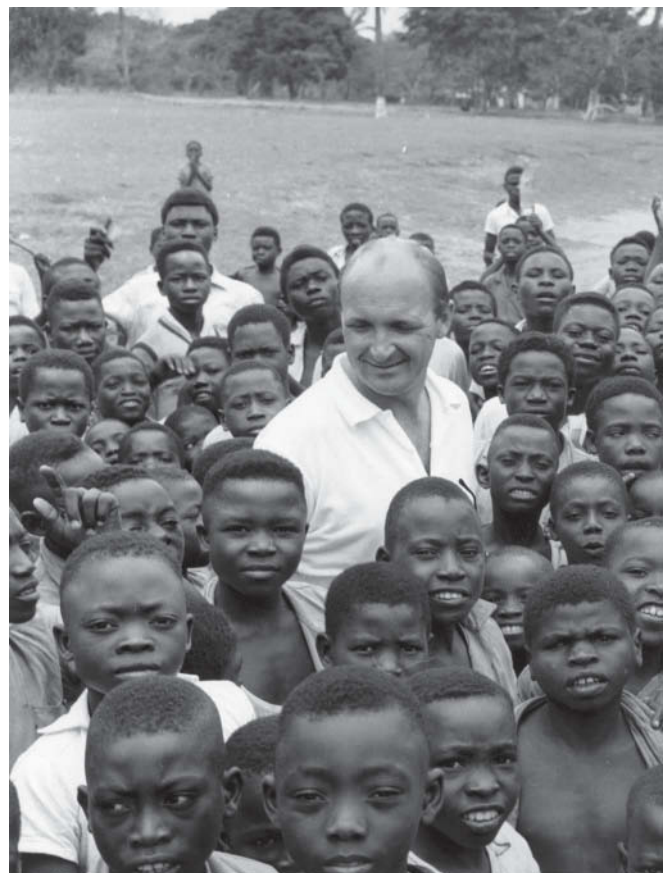
Can you find the Western anthropologist in this picture?
(Colaimages/Alamy Stock Photo)

contemporary issues and to develop applied programs involving parent education, counseling, disabilities, day care, and early childhood programs. This approach is presented and discussed in detail in Chapter 2.

Noted anthropologist, Dr. Dawn Chatty, discussing local problems with Harsous tribal member in Sahmah, Oman, in the Arabian Peninsula.

(Alberto Arzoz/Axiom/Design Pics Inc/Alamy Stock Photo)

1.3.4: The Developmental Niche

If Bronfenbrenner is correct in his view that culture and environment make significant contributions to one's development, then we might ask, *"How does this happen and how can we better understand the processes taking place?"*

One possible answer is provided by the cross-cultural developmental work of Harkness (2005), Parmar, Harkness, and Super (2004), and Super and Harkness (1986, 1994a, 1999, 2002, 2011). Based on an extensive series of studies among Kipsigis-speaking communities in Western Kenya, Super and Harkness, a psychologist–anthropologist, wife–husband research team, first presented a way of bringing together and integrating findings from the two disciplines. Called the **developmental niche**, it provides *a framework for understanding how various aspects of a culture guide the developmental process by focusing on the child as the unit of analysis within his or her sociocultural setting or context.* It is compatible, in many respects, with the ideas put forth by Bronfenbrenner and, in combination with it, comprises another major theme of this book. It, too, is presented and discussed in detail in Chapter 2.

1.3.5: A Developmental Orientation

It is well recognized that most of our behavior does not take place at isolated periods in our lives but rather evolves and continually develops throughout the lifespan. Although the growing body of cross-cultural research literature is significant, it frequently resembles "a confused mosaic of contradictory findings" (Gardiner, 1994). This may explain, in part, why none of the books that currently examine cross-cultural topics systematically present a developmental perspective as done here. Not all of the behaviors covered in this book will fit neatly into this orientation or be easily explained by some of the other themes or approaches. However, many do and, where appropriate, I will demonstrate how these behaviors evolve and change as individuals develop across the lifespan and across cultures.

To illustrate the importance of looking at behavior from a developmental orientation, let us briefly consider the development of memory and attention, or the increased ability to organize information. As children, we begin to think, attend, and store away memories. As adolescents and adults, we develop the ability to make inferences, understand reversibility, and make use of abstract thought. Information that may have been remembered in childhood as a list can now be recalled in adulthood as a total pattern. *What is your earliest memory? How old do you think you were? Why do you think this memory is so important?*

This brings us to another theme that will occur throughout this book—the chronological-within-topics approach.

1.3.6: A Chronological-Within-Topics Approach

In a book of this size, , it is impossible to do all things—that is, provide a comprehensive view of development in all the necessary detail and also focus on all the important cross-cultural findings. Recognizing this, the focus will be on selected topics for which a large and continually expanding literature of cross-cultural research exists, and these topics will be discussed chronologically—from the early beginnings of development through the last years of life.

Using this chronological-within-topics approach, I hope to effectively demonstrate how behavioral processes evolve and change as individuals pass from infancy and childhood through adolescence and into adulthood. As a result, it should become clear that our behavior is dynamic and involves change, which is at times orderly and predictable and at other times chaotic and unreliable; that both individual and cultural similarities and differences exist; and that specific cultural influences become important at different times and in different cultures. This approach includes basic concepts, principles, and theories that describe physical, psychological, cognitive, social, and personality changes that occur across the lifespan in a variety of cultural contexts.

1.3.7: Another Piece of the Developmental Puzzle: The Human Genome

In recent years, findings from the neurosciences have begun to significantly influence the study of human

development. It is becoming increasingly necessary to take into account the role of genes and biological principles and their interaction with one's environment and psychological experiences. As Segalowitz and Schmidt (2003) point out, "While we see both cognitive and affective development—the mainstay of developmental psychology—as having interesting parameters being set by neurological factors, new discoveries in developmental neuroscience also highlight the plasticity and adaptability of the system. Patterns of development are both biologically rooted in our brains and heavily influenced by experience. And the biological influences are manifested through experience" (p. 65).

In addition, with the completion of the Human Genome Project (1990–2003), we have seen an explosion in the study of genetics and the discovery of a large number of specific genes that may be responsible for a variety of physical illnesses and psychological conditions, including cancer, diabetes, heart disease, multiple sclerosis, asthma, and depression. There are even those who believe this knowledge could lead to the ability to double the lifespan through a multitude of new treatments and therapies. For example, a group of Danish researchers have predicted that more than half of all babies born since the year 2000 in France, Italy, Germany, the United Kingdom, the United States, Japan, Canada, and other countries with long life expectancies will celebrate their hundredth birthdays (Christensen, Doblhammer, Rau, & Vaupel, 2009).

The Genome Project's goals of identifying the approximately 20,000 to 25,000 genes in human DNA, determining the sequences of the 3 billion chemical base pairs that make up human DNA, storing this information in databases, improving tools for data analysis, and transferring related technologies to the private sector have been accomplished. However, analysis of the data; its application to specific situations; and implications for the legal, ethical, and social issues arising from this project will last long into the future. For example, Justin Zook and his colleagues (2014) at the National Institute of Standards and Technology and a team from Harvard University and the Virginia Bioinformatics Institute of Virginia Tech have recently developed new methods for integrating data that produce a highly reliable set of genotypes that will serve as a benchmark for the sequencing of the human genome. Their methods make it possible to use an individual's genetic profile to assist in guiding medical decisions in the prevention, diagnosis, and treatment of a range of diseases. Their findings are available on the Genome Comparison and Analytics Testing (GCAT) website (www.bioplanet.com/gcat). These are exciting advances that, in many ways, will change the way individuals and their descendants across cultures will live their lives in the generations yet to come. The

Human Genome Organization holds a series of annual conferences around the world to present and discuss its latest research. The most recent meeting was in March 2015 with the theme "Transforming Human Genomics for a Sustainable Tomorrow."

Advances in genetic engineering and biotechnology raise serious questions in terms of culture and human development. For example, *what if you had a child who was born with a growth hormone deficiency? Would you (if you could afford it) pay large sums of money, perhaps as much as $1,500 to $2,500 or more, for a series of injections to increase the height of your child at critical stages of his or her development? Would you allow genetic engineering to increase the number of neurons in the brain during fetal development to have a potentially "smarter" baby?*

Carey (2003) points out that in the past, the greatest effect of culture on humans has been to alter the frequency of alleles (paired genes, alike or different, that affect a trait) and/or genotypes (the genetic makeup of an individual containing both expressed and unexpressed characteristics). Further advances in genetic engineering could allow scientists to create *new* alleles ". . . thus, changing mutations from a random phenomenon into a deliberate, scientifically guided enterprise" (p. 216). The result would be individuals with entirely new and unique genotypes that are not now part of the human genome. We can only imagine (and even that is difficult) what the effect might be on human development and culture. For example, it might soon be possible to create new alleles that could be used to help cure a genetic disease by neutralizing infected alleles.

Physical and cultural changes in human development have always been intertwined. For example, we can observe the many ways in which a culture's attitudes and beliefs about birth control, abortion, and related topics influence its members' social and religious attitudes, as well as its concern with the physical factors of reproductive fitness. A culture's attitudes toward marriage—who and who will not make appropriate partners—affect the ways in which dating and mating are structured. Advances in international travel (and Internet communication) have increased contact among cultures, sometimes resulting in an increased number of cross-cultural relationships, intermarriages, and bicultural children, with a subsequent reduction in "the reproductive isolation of human populations" (Carey, 2003, p. 215).

Only the future will determine how far the genetic revolution will take us. Although genes and their influences is not be one of the major topics on which I have much to say, I recognize the importance of this newly expanding research and urge the reader to learn more about it, as will I, when stories related to it appear in various media and professional journals.