

H A N D B O O K O F

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ADOLESCENT  
PSYCHOLOGY

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S E C O N D E D I T I O N

EDITED BY

RICHARD M. LERNER  
LAURENCE STEINBERG



WILEY

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## Foreword

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Like snapshots of a growing family (and I use the metaphor “family” rather than “child” because fields of study band together multiple personalities), subsequent editions of a scholarly handbook can reveal phenomenal changes. Imagine family photographs taken 25 years apart. You might hardly recognize the group as the same family. In the case of adolescent study, the 25-year period between Handbook editions has caused transformations every bit as consequential as those we would see in a human family during a similar time span. From my reading of this splendid current Handbook, the changes have been entirely to the good.

As the editors correctly note, the term *adolescence* has been with us for centuries, but the systematic examination of it for scientific purposes really began with G. Stanley Hall in the early 1900s. Hall was a man of immense dedication to the healthy development of young people. He convinced America to create playgrounds for its youth; he helped build the new discipline of development psychology; and he trained many of its early leaders. Yet Hall’s own pioneering writings on adolescence bent that young branch in ways that would misdirect the field, and much of its public audience, for most of the ensuing century.

Hall’s influences were 19th-century *Bildungsromanen* whose authors wrote romantically of youthful *Sturm und Drang*, a brilliant young “psych-analyst” Sigmund Freud whom Hall introduced to America (and who had been reading those same German novels), and trendy evolutionary theories that confused the ontogenesis of individuals and species. The latter set of influences were so far-fetched and ultimately inflammatory that scientists soon came to ignore this entire line in Hall’s writings. But his vision of adolescence as a turbulent, trouble-ridden period that was at best a transition to something saner—if the youngster did not first self-destruct—foreshadowed what was to become the society’s dominant view of youths as walking problems. That vision was to be elaborated in numerous ways beyond any imaginings that Hall could have had. These ways led to ill-founded scientific studies as well as poor public policy advice.

The present Handbook is a world apart, for reasons both sensible and profound. For one thing, it is refreshing to read a collection of studies portraying adolescence as a full-colored, rich experience in itself, rather than only as a transition *toward* something or *away* from something. There are many highpoints in the collective portrayal of youth embodied in this Handbook, and I do not mean to slight any of them by mentioning others, but I was especially struck by the lush array of interests, capacities, and meaningful youthful activities that emerges from many of the chapters in this handbook. From the cognitive to the moral, from the academic to the civic, in relations with peers, parents, and society on its most global level, adolescents in this Handbook are shown

as active and able players in the world. They are not seen as unwitting pawns of their own uncontrollable desires or helpless victims of external forces beyond their control. The young people in this Handbook reason powerfully; make their own choices about their social and sexual relationships; adapt to their schools in a manner consistent with their own motives and concerns; navigate the complexity of influences that they encounter in their families, neighborhoods, mass media, and legal system; and end up forging their own judgments about who they are and what they believe in. Sometimes their judgments work for the better, sometimes for the worse. There are real risks and casualties associated with this age period, and the Handbook examines several of the most prominent ones. This we have long known. But there is also an infinite promise and positive excitement associated with youth. This, too, has long been known but perhaps was put out of mind too often in our initial century of adolescent research. The current Handbook merits our thanks for bringing the more positive, and accurate, characterization back to the fore.

A few years ago, the Society of Research in Adolescence indulged itself by arranging its biennial conference in sunny San Diego. An effect of the climate was that, at any time during the conference, large numbers of prominent adolescent researchers could be found seated around the hotel swimming pool. Perhaps as an excuse to hang out there myself—but also, I must admit, due to my sincere puzzlement about the matter—I took the opportunity to conduct an informal survey on the following question: What is adolescence?

Notably, none of the 20-or-so researchers whom I collared settled upon a demarcated age period (say, “twixt twelve and twenty”) as their final answer. (Here I should probably tweak the present editors for their designation of “the second decade of life” in their Preface, although I am sure that this was not meant to be their considered scientific definition of the term.) Instead, the answers noted benchmark experiences that bounded the period in a developmental sense. The designated benchmarks varied among researchers, but there were commonalities in the responses. Most common of the initiating benchmarks was puberty. The closing benchmark was harder to capture in a word or phrase: it was experiential in nature, and it often touched on the Eriksonian notion of psychosocial identity—my own translation would be something like “a stable personal commitment to an adult role.” Now I do not believe that this amalgam—the period between the advent of puberty and a stable commitment to an adult role—would hold up long as a scientific definition, at least without lots of further definitional work on both ends. Yet it is not a bad place to start, and I have found myself using it in public lectures whenever anyone puts to me the pesky question of “What is adolescence?”

I mention this here because puberty is exactly where the substantive set of chapters in this Handbook begins, and the acquisition of social roles in its most important sense—citizenship and civic engagement—is about where the book ends. In between, we have the whole glorious parade of exploration and growth, challenge and struggle, risk and progress. It is another indicator to me of this Handbook’s validity—and its value to anyone who wishes to gain a deeper understanding of this most memorable and formative period of life.

William Damon

## *Preface*

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According to most social scientists, a generation is about 25 years in length. By that measure, this second edition of the *Handbook of Adolescent Psychology* represents a generational shift, for it was fully 25 years ago that the first edition of this volume was published. A cursory glance at this edition's table of contents will show just how broadly the field has grown in that period of time, and a careful reading of the volume's chapters will reveal that the generational shift has been as deep as it has been broad.

When the first edition of the Handbook was published in 1980, the empirical study of adolescence, by our calculation, was barely 5 years old. Much of what was prepared for that Handbook was, of necessity, theoretical because there was very little empirical work on which contributors could draw. In addition, much of the theorizing was psychoanalytic in nature, because through the mid-1970s that had been the dominant worldview among those who thought about adolescence. Now, it is fair to say that the field has reached full maturity, or at least a level of maturity comparable to that found in the study of any other period of development. Indeed, as we note in the first chapter of the volume, in which we review and reflect on the development of the scientific study of adolescence, research on the second decade of life often serves as a model for research on other stages of development. As the contributions to this volume clearly illustrate, the science of adolescent psychology is sophisticated, interdisciplinary, and empirically rigorous. Interestingly enough, grand theories of adolescence, whether psychoanalytic or not, have waned considerably in their influence.

Other generational changes can also be discerned by comparing the second and first editions of the Handbook. First, the study of adolescent difficulty and disturbance has taken a backseat to the study of processes of normative development. Accordingly, although the current edition includes several chapters on the development of psychological problems in adolescence, they by no means dominate the volume's contents. Second, our knowledge about the ways in which processes of adolescent development are shaped by interacting and embedded systems of proximal and distal contextual forces has made the study of adolescence less purely psychological in nature and far more interdisciplinary. While psychology continues to be the primary discipline reflected in the contents (and, of course, the title) of this Handbook, it is not the only one. Contributors to the volume have drawn on a wide array of disciplines, including sociology, biology, education, neuroscience, and law. Third, the growth in applied developmental science over the past decade has led to a more explicit focus on the ways in which empirically based knowledge about adolescence can be used to promote positive youth development. Several contributions to this volume reflect this emphasis.

This edition of the *Handbook of Adolescent Psychology* is concerned with all aspects

of development during the second decade of life, with all the contexts in which this development takes place and with a wide array of social implications and applications of the scientific knowledge gained through empirical research. This edition is divided into three broad sections: foundations of adolescent development, the contexts of adolescent development, and special challenges and opportunities that arise at adolescence. These sections are preceded by a foreword (by William Damon) and followed by an afterword (by Beatrix and David Hamburg), which locate the Handbook's contribution within the history of the field of adolescent development.

The first section of the Handbook examines the foundations of the scientific study of individual development in adolescence. Following an introductory chapter that overviews the past history and future prospects of adolescent psychology as a scientific enterprise (Lerner and Steinberg), contributions in this section examine puberty and its impact on psychological development (Susman and Rogol), cognitive and brain development (Keating), the development of the self (Nurmi), academic motivation and achievement in school settings (Eccles), morality and prosocial development (Eisenberg and Morris), sexuality and sexual relationships (Savin-Williams and Diamond), gender and gender role development (Galambos), and processes of risk and resilience (Compas). Taken together, these chapters illustrate the ways in which biological, intellectual, emotional, and social development unfold and interact during the second decade of the life span.

The second section focuses on the immediate and broader contexts in which adolescent development takes place. The chapters in this section situate adolescent development across history, cultures, and regions of the world (Larson and Wilson); within the family, and especially in the context of the parent-child relationship (Collins and Laursen); within the interconnected and nested contexts of peer relationships, including friendships, romantic relationships, adversarial relationships, cliques, and crowds (Brown); in relationships with adult mentors at work and in the community (Hamilton and Hamilton); in the settings of work and leisure (Staff, Mortimer, and Uggen); in neighborhood contexts (Leventhal and Brooks-Gunn); within the contexts defined by mass media and technology (Roberts, Henriksen, and Foehr); and within the law (Scott and Woolard). Consistent with the ecological perspective on human development that has dominated research on adolescence for the past two decades, these contributions show how variations in proximal, community, and distal contexts profoundly shape and alter the developmental processes, trajectories, and outcomes associated with adolescence.

The final section of the Handbook examines a variety of challenges and opportunities that can threaten or facilitate healthy development in adolescence and explores the ways in which maladaptive as well as positive trajectories of youth development unfold. The first set of contributions in this section considers threats to the well-being of adolescents, including physical illness, examined from an international perspective (Blum and Nelson-Mmari); internalizing problems, including depression, anxiety, and disordered eating (Graber); externalizing problems, including conduct disorder, aggression, and delinquency (Farrington); substance use and abuse, including the use and abuse of tobacco, alcohol, and other drugs (Chassin, Hussong, Barrera, Molina, Trim, and Ritter); and developmental disabilities, including autism, cerebral palsy, epilepsy, mental retardation, and other neurological impairments (Hauser-Cram and Krauss). The second set of contributions in this concluding section examines three sorts of opportuni-

ties with the potential to promote health and well-being in adolescence: the promotion of volunteerism and civic engagement among youth (Flanagan); the application of developmental science to facilitate healthy adolescent development (Sherrod, Busch-Rossnagel, and Fisher); and the development of policies and programs explicitly designed to promote positive youth development (Benson, Mannes, Pittman, and Ferber).

There are numerous people to thank for their important contributions to the Handbook. First and foremost, we owe our greatest debt of gratitude to the colleagues who wrote the chapters, foreword, and afterword for the Handbook. Their scholarly excellence and leadership and their commitment to the field are the key assets for any contributions that this Handbook will make both to the scientific study of adolescence and to the application of knowledge that is requisite for enhancing the lives of diverse young people worldwide.

We appreciate as well the important support and guidance provided to us by the members of the editorial board for the Handbook. We thank Peter L. Benson, Dale A. Blyth, Jeanne Brooks-Gunn, B. Bradford Brown, W. Andrew Collins, William Damon, Jacquelynne Eccles, David Elkind, Nancy Galambos, Robert C. Granger, Beatrix Hamburg, Stuart Hauser, E. Mavis Hetherington, Reed Larson, Jacqueline V. Lerner, David Magnusson, Anne C. Petersen, Diane Scott-Jones, Lonnie R. Sherrod, Margaret Beale Spencer, and Wendy Wheeler for their invaluable contributions.

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We also want to express our gratitude to the several organizations that supported our scholarship during the time we worked on the Handbook. Tufts University and Temple University provided the support and resources necessary to undertake and complete a project like this. In addition, Richard M. Lerner thanks the National 4-H Council, the William T. Grant Foundation, and the Jacobs Foundation, and Laurence Steinberg thanks the John D. and Catherine T. MacArthur Foundation, for their generous support.

Finally, we want to dedicate this Handbook to our greatest sources of inspiration, both for our work on the Handbook and for our scholarship in the field of adolescence: our children, Blair, Jarrett, Justin, and Ben. Now all in their young adulthood, they have taught us our greatest lessons about the nature and potentials of adolescent development.

R.M.L.  
L.S.  
March 2003



# ***THE SCIENTIFIC STUDY OF ADOLESCENT DEVELOPMENT***

## ***Past, Present, and Future***

Richard M. Lerner and Laurence Steinberg

In the opening sentence of the preface to the first edition of his classic *A History of Experimental Psychology*, Edwin G. Boring (1929) reminded readers that “psychology has a long past, but only a short history” (p. ix), a remark he attributed to the pioneer of memory research, Hermann Ebbinghaus. A similar statement may be made about the study of adolescents and their development.

The first use of the term *adolescence* appeared in the 15th century. The term was a derivative of the Latin word *adolescere*, which means to grow up or to grow into maturity (Muuss, 1990). However, more than 1,500 years before this first explicit use of the term both Plato and Aristotle proposed sequential demarcations of the life span, and Aristotle in particular proposed stages of life that are not too dissimilar from sequences that might be included in contemporary models of youth development. He described three successive, 7-year periods (infancy, boyhood, and young manhood) prior to the person’s attainment of full, adult maturity. About 2,000 years elapsed between these initial philosophical discussions of adolescence and the emergence, within the 20th century, of the scientific study of the second decade of life.

The history of the scientific study of adolescence has had two overlapping phases and is, we believe, on the cusp of a third. The first phase, which lasted about 70 years, was characterized by three sorts of Cartesian splits (see Overton, 1998) that created false dichotomies that in turn limited the intellectual development of the field. With respect to the first of these polarizations, “grand” models of adolescence that purportedly pertained to all facets of behavior and development predominated (e.g., Erikson, 1959, 1968; Hall, 1904), but these theories were limited because they were either largely all nature (e.g., genetic or maturational; e.g., Freud, 1969; Hall, 1904) or all nurture (e.g., McCandless, 1961). Second, the major empirical studies of adolescence during this period were not primarily theory-driven, hypothesis-testing investigations but were atheoretical, descriptive studies; as such, theory and research were split into separate enterprises (McCandless, 1970). Third, there was a split between scholars whose work was focused on basic developmental processes and practitioners whose focus was on community-based efforts to facilitate the healthy development of adolescents.

The second phase in the scientific study of adolescence arose in the early- to mid-1970s as developmental scientists began to make use of research on adolescents in elu-

cidating developmental issues of interest across the entire life span (Petersen, 1988). At the beginning of the 1970s, the study of adolescence, like the comedian Rodney Dangerfield, “got no respect.” Gradually, however, research on adolescent development began to emerge as a dominant force in developmental science. By the end of the 1970s the study of adolescence had finally come of age.

To help place this turning point in the context of the actual lives of the scientists involved in these events, it may be useful to note that the professional careers of the editors of this Handbook began just as this transition was beginning to take place. Across our own professional lifetimes, then, the editors of this volume have witnessed a sea change in scholarly regard for the study of adolescent development. Among those scholars whose own careers have begun more recently, the magnitude of this transformation is probably hard to grasp. To those of us with gray hair, however, the change has been nothing short of astounding. At the beginning of our careers, adolescent development was a minor topic within developmental science, one that was of a level of importance to merit only the publication of an occasional research article within prime developmental journals or minimal representation on the program of major scientific meetings. Now, three decades later, the study of adolescent development is a distinct and major field within developmental science, one that plays a central role in informing, and, through vibrant collaborations with scholars having other scientific specialties, being informed by, other areas of focus.

The emergence of this second phase of the study of adolescence was predicated in part on theoretical interest in healing the Cartesian splits (Overton, 1998) characteristic of the first phase and, as such, in exploring and elaborating developmental models that reject reductionist biological or environmental accounts of development and instead focus on the fused levels of organization constituting the developmental system and its multilayered context (e.g., Sameroff, 1983; Thelen & Smith, 1998). These developmental systems models have provided a metatheory for adolescent developmental research and have been associated with more midlevel (as opposed to grand) theories—models that have been generated to account for person-environment relations within selected domains of development.

Instances of such midlevel developmental systems theories are the stage-environment fit model used to understand achievement in classroom settings (Eccles, Wigfield, & Byrnes, 2003), the goodness of fit model used to understand the relation of temperamental individuality in peer and family relations (Lerner, Anderson, Balsano, Dowling, & Bobek, 2003), and models linking the developmental assets of youth and communities in order to understand positive youth development (Benson, 1997; Damon, 1997). For instance, Damon (1997; Damon & Gregory, 2003) forwarded a new vision and vocabulary about adolescents that was based on their strengths and potential for positive development. Damon explained that such potential could be instantiated by building new youth-community relationships predicated on the creation of *youth charters*, agreements that codified community-specific visions and action agendas for promoting positive life experiences for adolescents.

Generally speaking, the study of adolescence in its second phase was characterized by an interest in developmental plasticity, in diversity, and in the application of science to real-world problems. This phase also was marked by the development and use of



more nuanced and powerful developmental methods aimed at providing sensitivity to the collection and analysis of longitudinal data pertinent to the multiple levels.

More than a quarter century ago, Bronfenbrenner (1974) explained the importance of a science of development that involved the full and bidirectional collaboration between the producers and consumers of scientific knowledge. In turn, D. A. Hamburg (1992; D. A. Hamburg & Takanishi, 1996) proposed that the quality of life of adolescents, and their future contributions to civil society, could be enhanced through collaboration among scholars, policy makers, and key social institutions, for instance, community-based youth-serving organizations (e.g., 4-H, Boys and Girls Clubs, scouting), schools, and the media. In our view, D. A. Hamburg's (1992; D. A. Hamburg & Takanishi, 1996) vision has been actualized. We are now at the cusp of the emergence of a third phase in the history of the scientific study of adolescence, one that we hope will be marked by the publication of this Handbook. This phase involves the emergence of the field of adolescent development as an exemplar of the sort of developmental science that can be used by policy makers and practitioners in order to advance civil society and promote positive development (Lerner, Fisher, & Weinberg, 2000). The contributors to this volume provide much evidence that the field of adolescence may be entering a phase of its development wherein such a scientist–policy maker–practitioner collaboration may be a central, organizing frame.

## THE FIRST PHASE OF THE SCIENTIFIC STUDY OF ADOLESCENCE

In 1904 G. Stanley Hall, with the publication of his two-volume work *Adolescence*, initiated the scientific study of adolescence. He launched the field as one steeped in a split and nativist view of development, one that was and linked to a biologically based, deficit view of adolescence.

Fancying himself as the “Darwin of the mind” (White, 1968), Hall sought to translate the ideas of Ernst Haeckel (e.g., 1868, 1891), an early contributor to embryology, into a theory of life span human development. Haeckel advanced the idea of recapitulation: The adult stages of the ancestors comprising a species' evolutionary (phylogenetic) history were repeated in compressed form as the embryonic stages of the organism's ontogeny. Hall extended Haeckel's idea of recapitulation beyond the prenatal period in order to fashion a theory of human behavioral development. To Hall, adolescence represented a phylogenetic period when human ancestors went from being beastlike to being civilized. Hall (1904) saw adolescence as a period of storm and stress, as a time of universal and inevitable upheaval.

Although other scholars of this period (e.g., Thorndike, 1904) quickly rejected Hall's recapitulationism on both empirical and methodological grounds (e.g., see Lerner, 2002, for a discussion), other theorists of adolescent development used a conceptual lens comparable to Hall's, at least insofar as his biological reductionism and his deficit view of adolescence were concerned. Anna Freud (1969), for instance, saw adolescence as a biologically based and universal developmental disturbance. Erik Erikson (1950, 1959) viewed the period as one in which an inherited maturational ground plan resulted in the inescapable psychosocial crisis of identity versus role confusion. Even when the-

orists rejected the nature-based ideas of psychoanalysts or neopsychoanalysts, they proposed nurture-oriented ideas to explain the same problems of developmental disturbance and crisis. For example, McCandless (1961, 1970) presented a social-learning, drive-reduction theory to account for the developmental phenomena of adolescence (e.g., regarding sex differences in identity development) that Erikson (1959) interpreted as being associated with maturation (see Lerner & Spanier, 1980, for a discussion).

Although the developmental theory of cognition proposed by Piaget (1960, 1969, 1970, 1972) involved a more integrative view of nature and nurture than did these other models, the predominant focus of his ideas was on the emergence of formal logical structures and not on the adolescent period per se. The absence of concern in Piaget's theory with the broader array of biological, emotional, personality, social, and societal concerns that had engaged other theorists' discussions of adolescence did not stop a relatively minor and historically transitory interest in Piaget's ideas as a frame for empirical understanding of the adolescent period (Steinberg & Morris, 2001). However, as Steinberg and Morris explained, only a short while after this period of heightened interest in using the onset of formal operations as an explanation for everything adolescent, the influence of Piaget's theory on mainstream empirical work in the study of adolescence would become as modest as that associated with the other grand theories of the period, such as those authored by Erikson or McCandless.

The divergence between the so-called grand theories of the adolescent period and the range of research about adolescence that would come to characterize the field at the end of the 20th century actually existed for much of the first phase of the field's development. The classic studies of adolescence conducted between 1950 and 1980 were not investigations derived from the theories of Hall, Anna Freud, McCandless, Piaget, or even Erikson (work associated with the ideas of Marcia, 1980, notwithstanding). Instead, this research was directed to describing (note, not *explaining*; McCandless, 1970; Petersen, 1988) patterns of covariation among pubertal timing, personal adjustment, and relationships with peers and parents (e.g., Jones & Bayley, 1950; Mussen & Jones, 1957), both within and across cultural settings (e.g., Mussen & Bouterline Young, 1964); the diversity in trajectories of psychological development across adolescence (e.g., Bandura, 1964; Block, 1971; Douvan & Adelson, 1966; Offer, 1969); and the influence of history or temporality (i.e., as operationalized by time of testing- or cohort-related variation) on personality development, achievement, and family relations (e.g., Elder, 1974; Nesselroade & Baltes, 1974). Petersen (1988, p. 584) described the quality of the classic empirical work on adolescence by noting that most "research fell into one of two categories: (a) studies on behavioral or psychological processes that happened to use adolescent subjects, or (b) descriptive accounts of particular groups of adolescents, such as high school students or delinquents."

Despite its separation from the grand theories of adolescence that dominated the field during its first phase of scientific development, this body of early research, as well as the subsequent scholarship it elicited (e.g., see reviews by Lerner & Galambos, 1998; Petersen, 1988; Steinberg & Morris, 2001), made several important contributions to shaping the specific character of the scientific study of adolescence between the early-1980s and late-1990s. As elaborated later, this character involved the longitudinal study of individual-context relations among diverse groups of youth and the use of such scholarship for purposes of both elucidating basic developmental processes and apply-

ing developmental science to promote positive youth development (B. Hamburg, 1974; Lerner, 2002).

These contributions also advanced the study of adolescence because scholarship about the second decade of life acted synergistically with broader scholarly activity within developmental science pertinent to the theoretical, methodological, and applied features of the study of human development across the life span. For instance, a classic paper by B. Hamburg (1974) did much to provide the foundation for this integration, in that it made a compelling case for viewing the early adolescent period as a distinct period of the life course and one that provided an exemplary ontogenetic window for understanding key person-context processes involved in coping and adaptation. Based on such evidence, Petersen (1988, p. 584) noted,

Basic theoretical and empirical advances in several areas have permitted the advance of research on adolescence. Some areas of behavioral science from which adolescence researchers have drawn are life-span developmental psychology, life-course sociology, social support, stress and coping, and cognitive development; important contributing areas in the biomedical sciences include endocrinology and adolescent medicine. The recent maturation to adolescence of subjects in major longitudinal studies . . . has also contributed to the topic's empirical knowledge base.

The emergence of the relationship between the specific study of adolescence and more general scholarship about the overall course of human development provided the bridge to the second phase in the study of adolescent development. Indeed, about a decade after this second phase had begun, Petersen (1988, p. 601) predicted, "Current research on adolescence will not only aid scientific understanding of this particular phase of life, it also may illuminate development more generally." Future events were consistent with Petersen's prognostication.

## THE SECOND PHASE OF THE SCIENTIFIC STUDY OF ADOLESCENCE

From the late 1970s through this writing the adolescent period has come to be regarded as an ideal *natural ontogenetic laboratory* for studying key theoretical and methodological issues in developmental science (Lerner, 2002; Steinberg & Morris, 2001). There are several reasons for the special salience of the study of adolescent development to understanding the broader course of life span development. First, although the prenatal and infant period exceeds adolescence as an ontogenetic stage of rapid physical and physiological growth, the years from approximately 10 to 20 not only include the considerable physical and physiological changes associated with puberty but also mark a time when the interdependency of biology and context in human development is readily apparent (Susman & Rogol, this volume). Second, as compared to infants, the cognizing, goal-setting, and relatively autonomous adolescent can, through reciprocal relations with his or her ecology, serve as an active influence on his or her own development, and the study of adolescence can inform these sorts of processes more generally (Lerner, 2002). Third, the multiple individual and contextual transitions into, throughout, and out of this period, involving the major institutions of society (family, peers,

schools, and the workplace), engage scholars interested in broader as well as individual levels of organization and also provide a rich opportunity for understanding the nature of multilevel systemic change. Finally, there was also a practical reason for the growing importance of adolescence in the broader field of developmental science: As noted by Steinberg and Morris (2001), the longitudinal samples of many developmental scientists who had been studying infancy or childhood had aged into adolescence. Applied developmental scientists were also drawn to the study of adolescents, not just because of the historically unprecedented sets of challenges to the healthy development of adolescents that arose during the latter decades of the 20th century (Dryfoos, 1990; Lerner, 1995) but also because interest in age groups other than adolescents nevertheless frequently involved this age group (e.g., interest in infants often entailed the study of teenage mothers, and interest in middle and old age frequently entailed the study of the “middle generation squeeze,” wherein the adult children of aged parents cared for their own parents while simultaneously raising their own adolescent children).

### **The Emerging Structure of the Field of Adolescent Development**

This scholarly activity at the close of the 1970s was both a product and a producer of a burgeoning network of scholars from multiple disciplines. In 1981 the late Herschel Thornburg launched a series of biennial meetings (called the Conference on Adolescent Research) at the University of Arizona. During these meetings (which occurred also in 1983 and 1985), the idea for a new scholarly society, the Society for Research on Adolescence (SRA), was born. The first meeting of SRA was held in Madison, Wisconsin, in 1986, and Thornburg was elected the first president of the organization. Across the next two decades, with biennial conventions in Alexandria, Virginia (1988), Atlanta (1990), Washington (1992), San Diego (1994), Boston (1996), again in San Diego (1998), Chicago (2000), New Orleans (2002), and Baltimore (2004), and through the leadership of the SRA presidents who succeeded Thornburg—John P. Hill, Anne C. Petersen, E. Mavis Hetherington, Sanford M. Dornbusch, Jeanne Brooks-Gunn, Stuart T. Hauser, Laurence Steinberg, W. Andrew Collins, Jacquelynne Eccles, and Elizabeth Susman—the organization and the field it represented flourished. Between 1986 and 2002, attendance at SRA biennial meetings more than quadrupled. The SRA launched its own scholarly journal in 1991, the *Journal of Research on Adolescence* (Lerner, 1991); grew from approximately 400 members in 1986 to more than 1,200 members in 2002; and attracted disciplinary representation from scholars and practitioners with expertise in psychology, sociology, education, family studies, social work, medicine, psychiatry, criminology, and nursing.

Impetus to this growth in scholarly interest in the study of adolescence also was stimulated by the publication in 1980 of the first handbook for the field. Edited by Joseph Adelson (1980), the *Handbook of Adolescent Psychology* was published as part of the Wiley series on personality processes. The volume reflected the emerging multidisciplinary interest in the field (with chapters discussing levels of organization ranging from biology through history, including an interesting historical chapter on youth movements), the growing interest in systems models of adolescent development (e.g., in the chapters by Elder, 1980, and by Petersen & Taylor, 1980), the importance of longitudi-

nal methodology (Livson & Peskin, 1980), and the increasing interest in diversity (i.e., there was a five-chapter section titled “Variations in Adolescence”). It is important to note that through several chapters pertinent to the problems of adolescence there was still ample representation in the volume of the deficit view of adolescence. Nevertheless, the 1980 Handbook included information pertinent to normative development and developmental plasticity, and several chapters discussed the positive individual and social features of youth development.

The publication of a handbook, the organization of a successful scholarly society, and the initiation of that society’s scholarly journal all underscored the growing interest in and the scientific maturity of research on adolescent development. This intellectual milieu and the scholarly opportunities it provided attracted a broad range of scholars to the field, some for reasons that had little to do with adolescence per se, but others because they came to see themselves as experts on the second decade of life. By the mid-1980s a growing cadre of scientists would identify themselves as adolescent developmentalists.

### **The Study of Adolescence as a Sample Case for Understanding Plasticity and Diversity in Development**

Scholars interested primarily in the instantiation of developmental processes within other periods of the life span (e.g., infancy, Easterbrooks & Graham, 1999; adult development and aging, Brim, 1966; Nesselroade & Baltes, 1974) or in disciplines other than developmental psychology (e.g., life course sociology; Burton, 1990; Elder, 1974, 1980) became adolescent developmentalists as well. This attraction inheres in the window that the period provides to understanding how development at any point across the life span involves the relations of diverse and active individuals and diverse, active, and multitiered ecologies (Bronfenbrenner, 1979; Bronfenbrenner & Morris, 1998; Lerner, 2002).

As suggested by Steinberg and Morris (2001), the scientific concern that arguably was most significant in transforming the field of adolescent development beyond a focus on this single developmental period into an exemplar for understanding the breadth of the human life span was the emerging focus within developmental science on the ecology of human development (e.g., Bronfenbrenner, 1979, 2001; Bronfenbrenner & Morris, 1998). The integrated designed and natural ecology was of interest because its study was regarded as holding the key to (a) understanding the system of relations between individuals and contexts that is at the core of the study of human development and (b) providing evidence that theories about the character of interacting developmental system (e.g., Collins, Maccoby, Steinberg, Hetherington, & Bornstein, 2000; Gottlieb, 1997, 1998; Horowitz, 2000; Thelen & Smith, 1998) are more useful in accounting for the variance in human ontogeny than are theories whose grounding is either exclusively in nature (e.g., behavioral genetic or sociobiological; e.g., Plomin, 2000; Rowe, 1994; Rushton, 2000) or exclusively in nurture (e.g., social learning or functional analysis; Gewirtz & Stingle, 1968; McCandless, 1970).

A second set of broader issues that engaged developmental science in the study of adolescence pertained to understanding the bases, parameters, and limits of the plas-

ticity of human development. As implied earlier, this plasticity legitimated an optimistic view about the potential for interventions into the course of life to enhance human development, encouraged growth in scientific activity in the application of developmental science to improve life outcomes, and gave impetus to the idea that positive development could be promoted among all people (Lerner, Fisher, & Weinberg, 2000). Moreover, plasticity meant that the particular instances of human development found within a given sample or period of time were not necessarily representative of the diversity of development that might potentially be observed under different conditions.

Third, developmentalists pursuing an interest in the developmental system and the plasticity in ontogenetic change that it promoted recognized the need to develop and deploy methods that could simultaneously study changes in (at least a subset of) the multiple levels of organization involved in the development of diverse individuals and contexts. Accordingly, multivariate longitudinal designs were promoted as key to the study of the relatively plastic developmental system, as were the development of empirical tools, such as change-sensitive measures, sophisticated data analysis techniques, and strategies such as triangulation of observations within and across both quantitative and qualitative domains of inquiry.

### **Defining Features of the Study of Adolescence During Its Second Phase**

Four defining features of the second phase of the science of adolescent development are worth noting. First, during its second phase of life, the empirical study of adolescence emerged as a *relational* field of inquiry. That is, it became an area of scholarship in which implicitly (e.g., Block, 1971; Mussen & Bouterline-Young, 1964) or, at times, explicitly (e.g., Nesselroade & Baltes, 1974) the key unit of analysis in understanding the development of the person was his or her relation with both more molecular (e.g., biological) and more molar (social group, cultural, and historical) levels of organization (Overton, 1998). In such a relational frame, no one level of organization was seen as the prime mover of development.

A second distinctive feature of the field of adolescence within this second phase derived from its relational character. The confluence of the multiple levels of organization involved in the developmental system provides the structural and functional bases of plasticity and of the inevitable and substantively significant emergence of systematic individual differences; that is, such individuality serves as a key basis of the person's ability to act as an agent in his or her own development (Brandtstädter, 1998; Lerner, 2002). Accordingly, the field of adolescence has become the exemplar within the broader study of human development for the substantive study of diversity and for the person-centered approach to research on human development (Magnusson, 1999a, 1999b; Magnusson & Stattin, 1998).

Third, although there remains a focus within the contemporary adolescent literature on problems of this developmental period (Steinberg & Morris, 2001), the focus on plasticity, diversity of development and people, and individual agency—and thus the strength or capacity of an adolescent to influence his or her development for better or for worse—means that problematic outcomes of adolescent development are now just one of a larger array of outcomes that may characterize the relatively plastic relations between adolescents and their contexts (e.g., B. Hamburg, 1974; D. A. Hamburg, 1992).

Indeed, this plasticity provides the theoretical basis of the view that all young people possess strengths, or, more simply, the potential for positive development (Damon, 1997; Damon & Gregory, 2003).

The idea that the adolescent period provides the ideal time within life to study the bases of positive human development frames what has become a fourth defining feature of the field. The study of adolescent development is now characterized by a synthetic interest in basic and applied concerns about youth development. One's basic understanding of how relational processes within the developmental system provide a basis for diverse developmental trajectories across adolescence can be tested by assessing whether changes in individual and ecological variables within the system combine to actualize the strengths of youth. Benson (1990, 1997; Benson, Mannes, Pittman, & Ferber, this volume) termed these individual and ecological variables *developmental assets*. Such tests of developmental theory, when implemented within the actual ecology of human development, are interventions into the course of adolescent development. Depending on their target level of organization, these actions constitute policies or programs, and in this context basic research in adolescence is also applied developmental science (Bronfenbrenner & Morris, 1998; Lerner, 2002). As a consequence of this trend, the field has come to place a premium on community-based, change-oriented methods, both to study development and to evaluate the efficacy of programs and policies designed to alter the course of adolescent life for the better.

## **CONCLUSIONS: ADOLESCENCE AS A FIELD OF SCIENTIST–PRACTITIONER–POLICY MAKER COLLABORATION**

The chapters in this Handbook both reflect and extend the emphases on individual-context relations, developmental systems, plasticity, diversity, longitudinal methodology, and application that were crystallized and integrated within the second phase of the development of the scientific study of adolescence. As evident within each of the chapters in this Handbook, and as underscored in both the foreword and the afterword to the volume, the study of adolescence today represents the exemplar within developmental science wherein excellent conceptual and empirical work is undertaken with a collaborative orientation to making a contribution both to scholarship and to society. Arguably more so than in scholarship pertinent to other periods across the life span, within the study of adolescence the vision of Bronfenbrenner (1974) and D. A. Hamburg (1992; D. A. Hamburg & Takanishi, 1996) of a developmental science involving reciprocal collaborations among researchers, practitioners, and policy makers is being actively pursued, if not yet completely realized.

The future of civil society in the world rests on the young. Adolescents represent at any point in history the generational cohort that must next be prepared to assume the quality of leadership of self, family, community, and society that will maintain and improve human life. Scientists have a vital role to play to make in enhancing, through the generation of basic and applied knowledge, the probability that adolescents will become fully engaged citizens who are capable of, and committed to, making these contributions. The chapters in this Handbook demonstrate that high-quality scientific work on adolescence is in fact being generated at levels of study ranging from the bio-

logical through the historical and sociocultural. Above all, this volume demonstrates that the study of adolescent development at its best both informs and is informed by the concerns of communities, practitioners, and policy makers. It is our hope that we have assembled the best information possible to be used to promote and advocate for the healthy and positive development of young people everywhere.

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**Part One**

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***FOUNDATIONS OF THE  
DEVELOPMENTAL SCIENCE  
OF ADOLESCENCE***



# ***PUBERTY AND PSYCHOLOGICAL DEVELOPMENT***

Elizabeth J. Susman and Alan Rogol

### **INTRODUCTION**

Puberty is one of the most profound biological and social transitions in the life span. It begins with subtle changes in brain-neuroendocrine processes, hormone concentrations, and physical morphological characteristics and culminates in reproductive maturity. The onset and trajectory of the hormone and physical changes that characterize puberty are well documented. Puberty as a social construction is a more complicated concept and entails definitional ambiguity regarding the onset and offset of puberty; social-role passages into new reference groups; perceptions of body, self, and sexual image; and expectations for independent and mature behavior (Alsaker, 1995). Puberty as an integrated biological and social construction has intrigued scholars, artists, parents, and adolescents alike for centuries, and cultures have ritualized puberty to varying degrees. The biological changes of puberty are universal, but the timing and social significance of these changes to adolescents themselves, societies, and scientific inquiry vary across historical time and cultures. Nonetheless, there is widespread agreement on the profound biosocial complexity of puberty and its essential role as a period beginning with reproductive-function awakening and culminating in sexual maturity.

The evolution of puberty occurred in such a way as to maximize the probability for successful procreation. Puberty-related mutations across generations have favored biological qualities that foster survival in particular geographic and cultural settings. One perspective is that individuals have evolved to be sensitive to features of their early childhood environment (Draper & Harpending, 1982). Therefore, changes in pubertal processes are considered a response to shifting environmental demands. Shifting environmental circumstances are conjectured to be a factor in the downward trend in the age of onset of puberty. This shift reflects secular environmental trends rather than an evolutionary process. Nonetheless, genes that become expressed as a function of environmental demands may favor earlier or later timing of puberty in subsequent generations.

In contrast to the evolutionary and physical-developmental adaptive properties of puberty, the social component of puberty historically was perceived as a major transition contributing to the turbulence and stress experienced by some adolescents. Adolescence as a period of storm and stress is an early- to mid-20th century conception of adolescence (Blos, 1962; Freud, 1958; Hall, 1904) that was viewed as universal and bi-

ological in origin. Contemporary empirical-based findings support the view that storm and stress are neither a universal phenomenon nor a biologically based aspect of development. The majority of adolescents enjoy at least some aspects of pubertal development, principally, increased height. Accordingly, the storm and stress perspective has been revised to represent a more balanced view of adolescence as a period of development characterized by biological, cognitive, emotional, and social *reorganization* with the aim of adapting to cultural expectations of becoming an adult. This *revisionist* perspective suggests that adolescence is a period when specific types of problems are more likely to arise than in other periods of development (Arnett, 1999) yet that these problems are not universal. Behavioral reorganization occurs in the service of accommodating to changing social roles, and it is important to note that adolescents change social roles, thereby influencing their social environment. It also implies that the majority of adolescents experience neither maladjustment nor notable undesirable behaviors.

### **PUBERTY: AN INTEGRATED BIOSOCIAL PERSPECTIVE**

The myriad molecular-biological, molar-psychological, and social changes that characterize puberty engender scientific interests that span the biomedical, behavioral, and social sciences. Hence, interdisciplinary perspectives necessarily are required to characterize adolescent development (Lerner, 1998; Magnusson, 1999; Susman, 1997). Research foci on pubertal development now include genetic and neuroendocrine mechanisms that initiate puberty; influences from the molecular to the social contextual; the significance of timing of puberty; and the dynamic interactive processes among physical growth changes, emotions, problem behavior, cognition, and risky sexual activity (but these latter studies remain relatively rare). Given the diversity and magnitude of pubertal changes, an integrative theory is essential for understanding the fragmented findings regarding pubertal development. This chapter presents a review of puberty as a biopsychosocial transition that initiates psychological changes and that simultaneously initiates changes in the social contexts in which adolescents find themselves. This theoretical approach is referred to as *dynamic integration* and refers to the essential fusion of processes across psychological, biological, and contextual levels of functioning.

The absence of an integrated biosocial perspective on puberty has historically been problematic. Puberty as a biological event that deterministically modifies behavior was derived from evolutionary (Parker, 2000) and psychodynamic (Freud, 1958; Hall, 1904) theories that dominated the early 20th century. The perceptual salience of sexual maturation was considered to heighten the psychological significance of biological pubertal changes (Brooks-Gunn & Petersen, 1984). In the last three decades, behaviorism, contextualism, and learning theory supplanted theories of development and evolution. Empirical research came to reflect a dominant interest in contextual influences (e.g., peers and schools) on development (e.g., Simmons & Blyth, 1987). Social contextualism gave rise to the social constructionist viewpoint that the psychological significance of puberty is derived from how others view puberty-related changes. Pubertal changes were considered more graphic to others than to the adolescents themselves. The biological-deterministic and social constructionist views of adolescence disregarded the dynamic integration of biological, psychological, and contextual levels of analysis.