

# HANDBOOK OF CHILD PSYCHOLOGY

SIXTH EDITION

Volume Four: Child Psychology in Practice

*Volume Editors*

K. ANN RENNINGER and IRVING E. SIGEL

*Editors-in-Chief*

WILLIAM DAMON and RICHARD M. LERNER



John Wiley & Sons, Inc.



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In memory of Paul Mussen, whose generosity of spirit  
touched our lives and helped build a field.





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# *Preface to Handbook of Child Psychology, Sixth Edition*

WILLIAM DAMON

Scholarly handbooks play several key roles in their disciplines. First and foremost, they reflect recent changes in the field as well as classic works that have survived those changes. In this sense, all handbooks present their editors' and authors' best judgments about what is most important to know in the field at the time of publication. But many handbooks also influence the fields that they report on. Scholars—especially younger ones—look to them for sources of information and inspiration to guide their own work. While taking stock of the shape of its field, a handbook also shapes the stock of ideas that will define the field's future. It serves both as an indicator and as a generator, a pool of received knowledge and a pool for spawning new insight.

## **THE HANDBOOK'S LIVING TRADITION**

Within the field of human development, the *Handbook of Child Psychology* has served these key roles to a degree that has been exceptional even among the impressive panoply of the world's many distinguished scholarly handbooks. The *Handbook of Child Psychology* has had a widely heralded tradition as a beacon, organizer, and encyclopedia of developmental study for almost 75 years—a period that covers the vast majority of scientific work in this field.

It is impossible to imagine what the field would look like if it had not occurred to Carl Murchison in 1931 to assemble an eclectic assortment of contributions into the first *Handbook of Child Psychology*. Whether or not Murchison realized this potential (an interesting speculation in itself, given his visionary and ambitious nature), he gave birth to a seminal publishing project that

not only has endured over time but has evolved into a thriving tradition across a number of related academic disciplines.

All through its history, the *Handbook* has drawn on, and played a formative role in, the worldwide study of human development. What does the *Handbook's* history tell us about where we, as developmentalists, have been, what we have learned, and where we are going? What does it tell us about what has changed and what has remained the same in the questions that we ask, in the methods that we use, and in the theoretical ideas that we draw on in our quest to understand human development? By asking these questions, we follow the spirit of the science itself, for developmental questions may be asked about any endeavor, including the enterprise of studying human development. To best understand what this field has to tell us about human development, we must ask how the field itself has developed. In a field that examines continuities and changes, we must ask, for the field itself, what are the continuities and what are the changes?

The history of the *Handbook* is by no means the whole story of why the field is where it is today, but it is a fundamental part of the story. It has defined the choices that have determined the field's direction and has influenced the making of those choices. In this regard, the *Handbook's* history reveals much about the judgments and other human factors that shape a science.

## **THE CAST OF CHARACTERS**

Carl Murchison was a scholar/impresario who edited *The Psychological Register*; founded and edited key psychological journals; wrote books on social psychology,

politics, and the criminal mind; and compiled an assortment of handbooks, psychology texts, autobiographies of renowned psychologists, and even a book on psychic beliefs (Sir Arthur Conan Doyle and Harry Houdini were among the contributors). Murchison's initial *Handbook of Child Psychology* was published by a small university press (Clark University) in 1931, when the field itself was still in its infancy. Murchison wrote:

Experimental psychology has had a much older scientific and academic status [than child psychology], but at the present time it is probable that much less money is being spent for pure research in the field of experimental psychology than is being spent in the field of child psychology. In spite of this obvious fact, many experimental psychologists continue to look upon the field of child psychology as a proper field of research for women and for men whose experimental masculinity is not of the maximum. This attitude of patronage is based almost entirely upon a blissful ignorance of what is going on in the tremendously virile field of child behavior. (Murchison, 1931, p. ix)

Murchison's masculine allusion, of course, is from another era; it could furnish some good material for a social history of gender stereotyping. That aside, Murchison was prescient in the task that he undertook and the way that he went about it. At the time Murchison wrote the preface to his *Handbook*, developmental psychology was known only in Europe and in a few forward-looking American labs and universities. Nevertheless, Murchison predicted the field's impending ascent: "The time is not far distant, if it is not already here, when nearly all competent psychologists will recognize that one-half of the whole field of psychology is involved in the problem of how the infant becomes an adult psychologically" (Murchison, 1931, p. x).

For his original 1931 *Handbook*, Murchison looked to Europe and to a handful of American centers (or "field stations") for child research (Iowa, Minnesota, the University of California at Berkeley, Columbia, Stanford, Yale, Clark). Murchison's Europeans included a young "genetic epistemologist" named Jean Piaget, who, in an essay on "Children's Philosophies," quoted extensively from interviews with 60 Genevan children between the ages of 4 and 12 years. Piaget's chapter would provide American readers with an introduction to his seminal research program on children's conceptions of the world. Another European, Charlotte Bühler, wrote a chapter on children's social behavior. In this chapter,

which still is fresh today, Bühler described intricate play and communication patterns among toddlers, patterns that developmental psychology would not rediscover until the late 1970s. Bühler also anticipated the critiques of Piaget that would appear during the sociolinguistics heyday of the 1970s:

Piaget, in his studies on children's talk and reasoning, emphasizes that their talk is much more egocentric than social . . . that children from 3 to 7 years accompany all their manipulations with talk which actually is not so much intercourse as monologue . . . [but] the special relationship of the child to each of the different members of the household is distinctly reflected in the respective conversations. (Bühler, 1931, p. 138)

Other Europeans included Anna Freud, who wrote on "The Psychoanalysis of the Child," and Kurt Lewin, who wrote on "Environmental Forces in Child Behavior and Development."

The Americans whom Murchison chose were equally notable. Arnold Gesell wrote a nativistic account of his twin studies, an enterprise that remains familiar to us today, and Stanford's Louis Terman wrote a comprehensive account of everything known about the "gifted child." Harold Jones described the developmental effects of birth order, Mary Cover Jones wrote about children's emotions, Florence Goodenough wrote about children's drawings, and Dorothea McCarthy wrote about language development. Vernon Jones's chapter on "children's morals" focused on the growth of *character*, a notion that was to become lost to the field during the cognitive-developmental revolution, but that reemerged in the 1990s as the primary concern in the study of moral development.

Murchison's vision of child psychology included an examination of cultural differences as well. His *Handbook* presented to the scholarly world a young anthropologist named Margaret Mead, just back from her tours of Samoa and New Guinea. In this early essay, Mead wrote that her motivation in traveling to the South Seas was to discredit the views that Piaget, Levy-Bruhl, and other nascent "structuralists" had put forth concerning "animism" in young children's thinking. (Interestingly, about a third of Piaget's chapter in the same volume was dedicated to showing how Genevan children took years to outgrow animism.) Mead reported some data that she called "amazing": "In not one of the 32,000 drawings (by young 'primitive' children) was there a single case of personalization of animals, material phenomena, or



inanimate objects” (Mead, 1931, p. 400). Mead parlayed these data into a tough-minded critique of Western psychology’s ethnocentrism, making the point that animism and other beliefs are more likely to be culturally induced than intrinsic to early cognitive development. This is hardly an unfamiliar theme in contemporary psychology. Mead also offered a research guide for developmental fieldworkers in strange cultures, complete with methodological and practical advice, such as the following: Translate questions into native linguistic categories; don’t do controlled experiments; don’t do studies that require knowing ages of subjects, which are usually unknowable; and live next door to the children whom you are studying.

Despite the imposing roster of authors that Murchison assembled for the 1931 *Handbook of Child Psychology*, his achievement did not satisfy him for long. Barely 2 years later, Murchison put out a second edition, of which he wrote: “Within a period of slightly more than 2 years, this first revision bears scarcely any resemblance to the original *Handbook of Child Psychology*. This is due chiefly to the great expansion in the field during the past 3 years and partly to the improved insight of the editor” (Murchison, 1933, p. vii). The tradition that Murchison had brought to life was already evolving.

Murchison saw fit to provide the following warning in his second edition: “There has been no attempt to simplify, condense, or to appeal to the immature mind. This volume is prepared specifically for the scholar, and its form is for his maximum convenience” (Murchison, 1933, p. vii). It is likely that sales of Murchison’s first volume did not approach textbook levels; perhaps he received negative comments regarding its accessibility.

Murchison exaggerated when he wrote that his second edition bore little resemblance to the first. Almost half of the chapters were virtually the same, with minor additions and updating. (For the record, though, despite Murchison’s continued use of masculine phraseology, 10 of the 24 authors in the second edition were women.) Some of the authors whose original chapters were dropped were asked to write about new topics. So, for example, Goodenough wrote about mental testing rather than about children’s drawings, and Gesell wrote a general statement of his maturational theory that went well beyond the twin studies.

But Murchison also made some abrupt changes. He dropped Anna Freud entirely, auguring the marginalization of psychoanalysis within academic psychology. Leonard Carmichael, who was later to play a pivotal role

in the *Handbook* tradition, made an appearance as author of a major chapter (by far the longest in the book) on prenatal and perinatal growth. Three other physiologically oriented chapters were added as well: one on neonatal motor behavior, one on visual-manual functions during the first 2 years of life, and one on physiological “appetites” such as hunger, rest, and sex. Combined with the Goodenough and Gesell shifts in focus, these additions gave the 1933 *Handbook* more of a biological thrust, in keeping with Murchison’s long-standing desire to display the hard science backbone of the emerging field.

Leonard Carmichael was president of Tufts University when he organized Wiley’s first edition of the *Handbook*. The switch from a university press to the long-established commercial firm of John Wiley & Sons was commensurate with Carmichael’s well-known ambition; indeed, Carmichael’s effort was to become influential beyond anything that Murchison might have anticipated. The book (one volume at that time) was called the *Manual of Child Psychology*, in keeping with Carmichael’s intention of producing an “advanced scientific manual to bridge the gap between the excellent and varied elementary textbooks in this field and the scientific periodical literature” (Carmichael, 1946, p. viii).

The publication date was 1946, and Carmichael complained that “this book has been a difficult and expensive one to produce, especially under wartime conditions” (Carmichael, 1946, p. viii). Nevertheless, the project was worth the effort. The *Manual* quickly became the bible of graduate training and scholarly work in the field, available virtually everywhere that human development was studied. Eight years later, now head of the Smithsonian Institution, Carmichael wrote, in the preface to the 1954 second edition, “The favorable reception that the first edition received not only in America but all over the world is indicative of the growing importance of the study of the phenomena of the growth and development of the child” (Carmichael, 1954, p. vii).

Carmichael’s second edition had a long life: Not until 1970 did Wiley bring out a third edition. Carmichael was retired by then, but he still had a keen interest in the book. At his insistence, his own name became part of the title of the third edition; it was called, improbably, *Carmichael’s Manual of Child Psychology*, even though it had a new editor and an entirely different cast of authors and advisors. Paul Mussen took over as the editor, and once again the project flourished. Now a two-volume set,

the third edition swept across the social sciences, generating widespread interest in developmental psychology and its related disciplines. Rarely had a scholarly compendium become both so dominant in its own field and so familiar in related disciplines. The set became an essential source for graduate students and advanced scholars alike. Publishers referred to *Carmichael's Manual* as the standard against which other scientific handbooks were compared.

The fourth edition, published in 1983, was now redesignated by John Wiley & Sons to become once again the *Handbook of Child Psychology*. By then, Carmichael had passed away. The set of books, now expanded to four volumes, became widely referred to in the field as “the Mussen handbook.”

### WHAT CARMICHAEL CHOSE FOR THE NOW EMERGENT FIELD

Leonard Carmichael, who became Wiley's editor for the project in its now commercially funded and expanded versions (the 1946 and 1954 *Manuals*), made the following comments about where he looked for his all-important choices of content:

Both as editor of the *Manual* and as the author of a special chapter, the writer is indebted . . . [for] extensive excerpts and the use of other materials previously published in the *Handbook of Child Psychology, Revised Edition*. (1946, p. viii)

Both the *Handbook of Child Psychology* and the *Handbook of Child Psychology, Revised Edition*, were edited by Dr. Carl Murchison. I wish to express here my profound appreciation for the pioneer work done by Dr. Murchison in producing these handbooks and other advanced books in psychology. The *Manual* owes much in spirit and content to the foresight and editorial skill of Dr. Murchison. (1954, p. viii)

The first quote comes from Carmichael's preface to the 1946 edition, the second from his preface to the 1954 edition. We shall never know why Carmichael waited until the 1954 edition to add the personal tribute to Carl Murchison. Perhaps a careless typist dropped the laudatory passage from a handwritten version of the 1946 preface and its omission escaped Carmichael's notice. Or perhaps 8 years of further adult development increased Carmichael's generosity of spirit. (It also may be possible that Murchison or his family com-

plained.) In any case, Carmichael acknowledged the roots of his *Manuals*, if not always their original editor. His choice to start with those roots is a revealing part of the *Handbook's* history, and it established a strong intellectual legacy for our present-day descendants of the early pioneers who wrote for the Murchison and Carmichael editions.

Although Leonard Carmichael took the 1946 *Manual* in much the same direction established by Murchison back in 1931 and 1933, he did bring it several steps further in that direction, added a few twists of his own, and dropped a couple of Murchison's bolder selections. Carmichael first appropriated five Murchison chapters on biological or experimental topics, such as physiological growth, scientific methods, and mental testing. He added three new biologically oriented chapters on animal infancy, physical growth, and motor and behavioral maturation (a tour de force by Myrtal McGraw that instantly made Gesell's chapter in the same volume obsolete). Then he commissioned Wayne Dennis to write an adolescence chapter that focused exclusively on physiological changes associated with puberty.

On the subject of social and cultural influences in development, Carmichael retained five of the Murchison chapters: two chapters on environmental forces on the child by Kurt Lewin and by Harold Jones, Dorothea McCarthy's chapter on children's language, Vernon Jones's chapter on children's morality (now entitled “Character Development—An Objective Approach”), and Margaret Mead's chapter on “primitive” children (now enhanced by several spectacular photos of mothers and children from exotic cultures around the world). Carmichael also stayed with three other Murchison topics (emotional development, gifted children, and sex differences), but he selected new authors to cover them. But Carmichael dropped Piaget and Bühler.

Carmichael's 1954 revision, his second and final edition, was very close in structure and content to the 1946 *Manual*. Carmichael again retained the heart of Murchison's original vision, many of Murchison's original authors and chapter topics, and some of the same material that dated all the way back to the 1931 *Handbook*. Not surprisingly, the chapters that were closest to Carmichael's own interests got the most significant updating. Carmichael leaned toward the biological and physiological whenever possible. He clearly favored experimental treatments of psychological processes. Yet he still kept the social, cultural, and psychological analyses by Lewin, Mead, McCarthy, Terman, Harold Jones, and

Vernon Jones, and he even went so far as to add one new chapter on social development by Harold and Gladys Anderson and one new chapter on emotional development by Arthur Jersild.

The Murchison and Carmichael volumes make for fascinating reading, even today. The perennial themes of the field were there from the start: the nature-nurture debate; the generalizations of universalists opposed by the particularizations of contextualists; the alternating emphases on continuities and discontinuities during ontogenesis; and the standard categories of maturation, learning, locomotor activity, perception, cognition, language, emotion, conduct, morality, and culture—all separated for the sake of analysis, yet, as authors throughout each of the volumes acknowledged, all somehow inextricably joined in the dynamic mix of human development.

These things have not changed. Yet, much in the early editions is now irrevocably dated. Long lists of children's dietary preferences, sleeping patterns, elimination habits, toys, and somatic types look quaint and pointless through today's lenses. The chapters on children's thought and language were written prior to the great contemporary breakthroughs in neurology and brain/behavior research, and they show it. The chapters on social and emotional development were ignorant of the processes of social influence and self-regulation that soon would be revealed through attribution research and other studies in social psychology. Terms such as *cognitive neuroscience*, *neuronal networks*, *behavior genetics*, *social cognition*, *dynamic systems*, and *positive youth development* were of course unknown. Even Mead's rendition of the "primitive child" stands as a weak straw in comparison to the wealth of cross-cultural knowledge available in today's *cultural psychology*.

Most telling, the assortments of odd facts and normative trends were tied together by very little theory throughout the Carmichael chapters. It was as if, in the exhilaration of discovery at the frontiers of a new field, all the facts looked interesting in and of themselves. That, of course, is what makes so much of the material seem odd and arbitrary. It is hard to know what to make of the lists of facts, where to place them, which ones were worth keeping track of and which ones are expendable. Not surprisingly, the bulk of the data presented in the Carmichael manuals seems not only outdated by today's standards but, worse, irrelevant.

By 1970, the importance of theory for understanding human development had become apparent. Looking back

on Carmichael's last *Manual*, Paul Mussen wrote, "The 1954 edition of this *Manual* had only one theoretical chapter, and that was concerned with Lewinian theory which, so far as we can see, has not had a significant lasting impact on developmental psychology" (Mussen, 1970, p. x). The intervening years had seen a turning away from the norm of psychological research once fondly referred to as "dust-bowl empiricism."

The Mussen 1970 edition—or *Carmichael's Manual*, as it was still called—had a new look and an almost entirely new set of contents. The two-volume edition carried only one chapter from the earlier books, Carmichael's updated version of his own long chapter on the "Onset and Early Development of Behavior," which had made its appearance under a different title in Murchison's 1933 edition. Otherwise, as Mussen wrote in his preface, "It should be clear from the outset . . . that the present volumes are not, in any sense, a *revision* of the earlier editions; this is a completely new *Manual*" (Mussen, 1970, p. x).

And it was. In comparison to Carmichael's last edition 16 years earlier, the scope, variety, and theoretical depth of the Mussen volumes were astonishing. The field had blossomed, and the new *Manual* showcased many of the new bouquets that were being produced. The biological perspective was still strong, grounded by chapters on physical growth (by J. M. Tanner) and physiological development (by Dorothy Eichorn) and by Carmichael's revised chapter (now made more elegant by some excerpts from Greek philosophy and modern poetry). But two other cousins of biology also were represented, in an ethological chapter by Eckhard Hess and a behavior genetics chapter by Gerald McClearn. These chapters were to define the major directions of biological research in the field for at least the next 3 decades.

As for theory, Mussen's *Handbook* was thoroughly permeated with it. Much of the theorizing was organized around the approaches that, in 1970, were known as the "three grand systems": (1) Piaget's cognitive-developmentalism, (2) psychoanalysis, and (3) learning theory. Piaget was given the most extensive treatment. He reappeared in the *Manual*, this time authoring a comprehensive (and, some say, definitive) statement of his entire theory, which now bore little resemblance to his 1931/1933 sortings of children's intriguing verbal expressions. In addition, chapters by John Flavell, by David Berlyne, by Martin Hoffman, and by William Kessen, Marshall Haith, and Philip Salapatek all gave major treatments to one or another aspect of Piaget's

body of work. Other approaches were represented as well. Herbert and Ann Pick explicated Gibsonian theory in a chapter on sensation and perception, Jonas Langer wrote a chapter on Werner's organismic theory, David McNeill wrote a Chomskian account of language development, and Robert LeVine wrote an early version of what was soon to become "culture theory."

With its increased emphasis on theory, the 1970 *Manual* explored in depth a matter that had been all but neglected in the book's previous versions: the mechanisms of change that could account for, to use Murchison's old phrase, "the problem of how the infant becomes an adult psychologically." In the process, old questions such as the relative importance of nature versus nurture were revisited, but with far more sophisticated conceptual and methodological tools.

Beyond theory building, the 1970 *Manual* addressed an array of new topics and featured new contributors: peer interaction (Willard Hartup), attachment (Eleanor Maccoby and John Masters), aggression (Seymour Feshback), individual differences (Jerome Kagan and Nathan Kogan), and creativity (Michael Wallach). All of these areas of interest are still very much with us in the new millennium.

If the 1970 *Manual* reflected a blossoming of the field's plantings, the 1983 *Handbook* reflected a field whose ground cover had spread beyond any boundaries that could have been previously anticipated. New growth had sprouted in literally dozens of separate locations. A French garden, with its overarching designs and tidy compartments, had turned into an English garden, a bit unruly but glorious in its profusion. Mussen's two-volume *Carmichael's Manual* had now become the four-volume Mussen *Handbook*, with a page-count increase that came close to tripling the 1970 edition.

The grand old theories were breaking down. Piaget was still represented by his 1970 piece, but his influence was on the wane throughout the other chapters. Learning theory and psychoanalysis were scarcely mentioned. Yet the early theorizing had left its mark, in vestiges that were apparent in new approaches, and in the evident conceptual sophistication with which authors treated their material. No return to dust bowl empiricism could be found anywhere in the set. Instead, a variety of classical and innovative ideas were coexisting: Ethology, neurobiology, information processing, attribution theory, cultural approaches, communications theory, behavioral genetics, sensory-perception models, psycholinguistics, sociolinguistics, discontinuous stage theories, and continuous memory theories all took their places, with none

quite on center stage. Research topics now ranged from children's play to brain lateralization, from children's family life to the influences of school, day care, and disadvantageous risk factors. There also was coverage of the burgeoning attempts to use developmental theory as a basis for clinical and educational interventions. The interventions usually were described at the end of chapters that had discussed the research relevant to the particular intervention efforts, rather than in whole chapters dedicated specifically to issues of practice.

This brings us to the efforts under the present editorial team: the *Handbook's* fifth and sixth editions (but really the seventh and eighth editions, if the germinal two pre-Wiley Murchison editions are counted). I must leave it to future commentators to provide a critical summation of what we have done. The volume editors have offered introductory and/or concluding renditions of their own volumes. I will add to their efforts here only by stating the overall intent of our design and by commenting on some directions that our field has taken in the years from 1931 to 2006.

We approached our editions with the same purpose that Murchison, Carmichael, and Mussen before us had shared: "to provide," as Mussen wrote, "a comprehensive and accurate picture of the current state of knowledge—the major systematic thinking and research—in the most important research areas of the psychology of human development" (Mussen, 1983, p. vii). We assumed that the *Handbook* should be aimed "specifically for the scholar," as Murchison declared, and that it should have the character of an "advanced text," as Carmichael defined it. We expected, though, that our audiences may be more interdisciplinary than the readerships of previous editions, given the greater tendency of today's scholars to cross back and forth among fields such as psychology, cognitive science, neurobiology, history, linguistics, sociology, anthropology, education, and psychiatry. We also believed that research-oriented practitioners should be included under the rubric of the "scholars" for whom this *Handbook* was intended. To that end, for the first time in 1998 and again in the present edition, we devoted an entire volume to child psychology in practice.

Beyond these very general intentions, we have let chapters in the *Handbook's* fifth and sixth editions take their own shape. We solicited the chapters from authors who were widely acknowledged to be among the leading experts in their areas of the field, although we know that, given an entirely open-ended selection process and



no limits of budget, we would have invited a large number of other leading researchers whom we did not have the space—and thus the privilege—to include. With very few exceptions, every author whom we invited agreed to accept the challenge. Our only real, and great, sadness was to hear of the passing of several authors from the 1998 edition prior to our assembly of the present edition. Where possible, we arranged to have their collaborators revise and update their chapters.

Our directive to authors was simple: Convey your area of the field as you see it. From then on, the authors took center stage—with, of course, much constructive feedback from reviewers and volume editors. No one tried to impose a perspective, a preferred method of inquiry, or domain boundaries on any of the chapters. The authors expressed their views on what researchers in their areas attempt to accomplish, why they do so, how they go about it, what intellectual sources they draw on, what progress they have made, and what conclusions they have reached.

The result, in my opinion, is still more glorious profusion of the English garden genre, but perhaps contained a bit by some broad patterns that have emerged over the past decade. Powerful theoretical models and approaches—not quite unified theories, such as the three grand systems—have begun once again to organize much of the field's research and practice. There is great variety in these models and approaches, and each is drawing together significant clusters of work. Some have been only recently formulated, and some are combinations or modifications of classic theories that still have staying power.

Among the formidable models and approaches that the reader will find in this *Handbook* are the dynamic system theories, the life span and life course approaches, cognitive science and neuronal models, the behavior genetics approach, person-context interaction theories, action theories, cultural psychology, and a wide assortment of neo-Piagetian and neo-Vygotskian models. Although some of these models and approaches have been in the making for some time, they have now come into their own. Researchers are drawing on them directly, taking their implied assumptions and hypotheses seriously, using them with specificity and control, and exploiting their implications for practice.

Another pattern that emerges is a rediscovery and exploration of core processes in human development that had been underexamined by the generation of researchers just prior to the present one. Scientific interest

has a way of moving in alternating cycles (or spirals, for those who wish to capture the progressive nature of scientific development). In our time, developmental study has cycled away from classic topics such as motivation and learning—not in the sense that they were entirely forgotten, or that good work ceased to be done in such areas, but in the sense that they no longer were the most prominent subjects of theoretical reflection and debate. Some of the relative neglect was intentional, as scholars got caught up in controversies about whether psychological motivation was a “real” phenomenon worthy of study or whether learning could or should be distinguished from development in the first place. All this has changed. As the contents of our current edition attest, developmental science always returns, sooner or later, to concepts that are necessary for explaining the heart of its concerns, progressive change in individuals and social groups over time, and concepts such as learning and motivation are indispensable for this task. Among the exciting features of this *Handbook* edition are the advances it presents in theoretical and empirical work on these classic concepts.

The other concept that has met some resistance in recent years is the notion of development itself. For some social critics, the idea of progress, implicit in the notion of development, has seemed out of step with principles such as equality and cultural diversity. Some genuine benefits have accrued from that critique; for example, the field has worked to better appreciate diverse developmental pathways. But, like many critique positions, it led to excesses. For some, it became questionable to explore issues that lie at the heart of human development. Growth, advancement, positive change, achievement, and standards for improved performance and conduct, all were questioned as legitimate subjects of investigation.

Just as in the cases of learning and motivation, no doubt it was inevitable that the field's center of gravity sooner or later would return to broad concerns of development. The story of growth from infancy to adulthood is a developmental story of multifaceted learning, acquisitions of skills and knowledge, waxing powers of attention and memory, growing neuronal and other biological capacities, formations and transformations of character and personality, increases and reorganizations in the understanding of self and others, advances in emotional and behavioral regulation, progress in communicating and collaborating with others, and a host of other achievements documented in this edition. Parents, teachers, and

other adults in all parts of the world recognize and value such developmental achievements in children, although they do not always know how to understand them, let alone how to foster them.

The sorts of scientific findings that the *Handbook's* authors explicate in their chapters are needed to provide such understanding. The importance of sound scientific understanding has become especially clear in recent years, when news media broadcast story after story based on simplistic and biased popular speculations about the causes of human development. The careful and responsible discourse found in these chapters contrasts sharply with the typical news story about the role of parents, genes, or schools in children's growth and behavior. There is not much contest as to which source the public looks to for its information and stimulation. But the good news is that scientific truth usually works its way into the public mind over the long run. The way this works would make a good subject for developmental study some day, especially if such a study could find a way to speed up the process. In the meantime, readers of this edition of the *Handbook of Child Psychology* will find the most solid, insightful

and current set of scientific theories and findings available in the field today.

February 2006  
*Palo Alto, California*

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It may be obvious, but we want to stress also that without the talent, commitment to quality, and professionalism of our editors at John Wiley & Sons, this edition of the *Handbook* would not be a reality and would not be the cutting-edge work we believe it to be. The breadth of the contributions of the Wiley staff to the *Handbook* is truly enormous. Although we thank all these colleagues for their wonderful contributions, we wish to make special note of four people in particular: Patricia Rossi, Senior Editor, Psychology, Linda Witzling, Senior Production Editor, Isabel Pratt, Associate Editor, and Peggy Alexander, Vice President and Publisher. Their creativity, professionalism, sense of balance and perspective, and unflagging commitment to the tradition of quality of the *Handbook* were vital ingredients for any success we may have with this edition. We are also deeply grateful to Pam Blackmon and her

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Child development typically happens in families. So too, the work of editors on the *Handbook* moved along productively because of the support and forbearance of spouses, partners, and children. We thank all of our loved ones for being there for us throughout the several years on which we have worked on the Sixth Edition.

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# *Introduction: Child Psychology Research in Practice*

K. ANN RENNINGER and IRVING E. SIGEL

## **APPLIED DEVELOPMENTAL RESEARCH**

We undertook the job of editing this volume of the *Handbook of Child Psychology* with a sincere interest in and concern for supporting research that is use-inspired and will impact practice. The applied developmental researcher is a conduit between basic research and real people and activity. By studying questions about a person or a group in context, rather than focusing on some aspect of a person's cognitive and affective functioning in isolation, the applied developmental researcher is positioned to contribute to the ways in which professional activity, including educational or clinical intervention, is carried out and/or text, software, curriculum, and media are designed. This form of developmental research draws on both theory and basic research to address the potential for change and development (age-related and/or content-related). It also can validate basic methods and developmental theory.

The basic methods of the applied developmental researcher may include rich description (participant observation, in-depth interviews, discourse analysis, micro-analysis) that supports hypothesis generation and, in later phases of the research process, serves to illustrate and explain quantitative findings. Basic methods may also include controlled hypothesis testing and use of control groups, randomized sampling, and existing questionnaires and tests. The choice of methods reflects the requirements of the research question.

Identifying relevant indicators for study and tracking change and development is critical to establishing and meeting curricular, therapeutic, and/or social policy goals, as is care in their measurement. A developmental focus assumes that (a) change is dynamic and requires

time, (b) the process of effecting change may involve what can look like forward and backward movement, and (c) change needs to be studied in terms of the individual or group as well as the context.

Although no form of research is a prescription for practice, research can inform practice if it is undertaken as a collaboration. Research collaborations in educational, clinical, and social policy contexts typically involve at least one party who is trained in and/or reads research and other(s) who may lack an understanding of, a real interest in, or a readiness to think about either the research literature or its process. These are most successful when all participants hold a jointly articulated vision of purpose and a readiness to build on serendipity, to build on new information, and to delve into and work through problems and/or differences of abilities, interests, prior experiences, and beliefs.

## **USE-INSPIRED BASIC RESEARCH**

Although psychologists such as Binet (1901) and Murchison (1933) used research to inform practice, it is only in recent years that basic research and practice have not been considered distinct efforts. In fact, there has been increasing interest in using developmental research to address problems of practice, or what Stokes (1996) calls "use-inspired basic research." This increased interest can be attributed, in part, to Stokes's articulation of the importance of grounding research in practice in order to meet societal needs. Stokes argues that neither basic nor applied research needs to be exclusive or linear. Rather, he suggests that the study of practice is enhanced by the rigor that characterizes basic

research methods and that government would effect change if it supported research that was use-inspired. In *Pasteur's Quadrant* (Stokes, 1997), he describes Louis Pasteur's work on vaccination and pasteurization as emblematic. Pasteur was a scientist and a humanitarian who was as interested in understanding microbiological processes as he was in how he might control the influences of these processes. Pasteur's interest in finding the source of germs inspired his work on a basic research problem. Stokes notes that information from basic research and the field informed Pasteur's work, and that Pasteur's work, in turn, made contributions to basic research as well as to practice.

Child development research that focuses on change and development in contexts of practice is use-inspired research. The first edition of this volume of the *Handbook of Child Psychology, Child Psychology and Practice*, was in press as Stokes's volume was being published. A newsletter (*Quarterly Newsletter of the Laboratory of Comparative Human Cognition*) and three journals (*Applied Developmental Science, Cognition and Instruction, and Journal of Applied Developmental Psychology*) focused on the application of child psychology to practice had preceded this effort, and a number of significant volumes have followed (e.g., Bransford, Brown, & Cocking's, 1999, *How people learn: Brain, mind, experience, and school*; Lerner, Jacobs, & Wertlieb's, 2002, *Handbook of applied developmental science: Promoting positive child, adolescent, and family development through research, policies, and programs*). Each of these publications highlights the importance of research to addressing problems related to education, clinical practice, and social policy. They also reflect a belief that research can provide needed data that make a case for changed and improved practice and evaluate its effectiveness.

Consistent with the model of use-inspired basic research, government and private foundations have begun championing research specific to practice in contexts that are sorely challenged (e.g., schools, out-of-school care, health care). Such initiatives highlight the importance of evaluating change, or impact. It is expected that studies will: include an evaluation component; demonstrate clear impact; document change; and use the information gathered as a basis for developing models that can be used to scale impact.

In this funding climate, the researcher trained in developmental methods with some experience in practical settings (and/or the possibility of partnering with others

who have experience) is positioned to: (a) identify relevant indicators of change, (b) select methods that will provide information about these indicators, and (c) develop partnerships that support and effect change even when the researcher is no longer present. This is a creative endeavor, one that involves building on existing theoretical models, research methods and findings—but not directly. Rather, theory, method, and prior research provide a basis for collaborating on the identification and prioritizing of questions to be investigated and methods to be used in the practice setting, so that change can be both assessed and effected.

Importantly, what counts as theory, method, and prior research is not necessarily all “developmental” in its origin. While developmental approaches that enable attention to change and human development have particular relevance to questions of practice, use-inspired basic research does not draw on a single theoretical or research tradition. Of necessity, developmental research that applies to practice builds on research specific to the context of inquiry, research focused on the general nature of context, and identifiable principles for practice. Depending on their questions, researchers studying human development may draw on other fields of psychology (clinical, cognitive, educational, neuropsychology, social) and/or disciplines as wide-ranging as anthropology, biology, communications, economics, learning sciences, linguistics, mathematics, and political science.

## THE CONTENTS OF THE PRESENT HANDBOOK

In planning the contents of this volume, we selected three fields that are exemplars of how research is informing practice in contexts that are challenged and of social significance: education, clinical practice, and social policy. Within each of these areas we sought authors who, because of their involvement with practice over time, could speak to their decision-making as researchers using basic research to address issues of practice.

For this volume, we specifically invited authors working in a wide variety of practice contexts to write a chapter that included a selective review of the literature and a description of their own research program as an exemplar. Summaries of prior research were considered to be informative, but not sufficient since the aim of this volume of the *Handbook* is to support use-inspired basic research. Similarly, while theoretical models can pro-