Theory
and Research in
Behavioral Pediatrics
Volume 1

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Theory and Research in Behavioral Pediatrics Volume 1

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Foreword

This volume initiates a series devoted to theory and research in behavioral pediatrics. Focusing attention on the limited scientific contributions to understanding the development of behavior will, we hope, stimulate further research in this vitally important area of human knowledge. The ability of an individual to achieve his or her full potential as an adult is to a significant degree determined by critical variables in this development within a given society. Study of this aspect of human biology, therefore, may have far-reaching effects on the evolving human species.

An awareness of the complexity of the behavioral patterns in infancy is of relatively recent origin and is an obvious essential starting point for this series of publications. The need to discriminate between objective observations and theoretical constructs and to design scientifically valid experiments is vital to progress in understanding early infant behavior. It is easy to misinterpret apparent responses to interventions, especially in infants at biological risk. Preterm infants and their caretakers are particularly challenging as subjects but very difficult to assess scientifically. The interactions between mother and newborn and father and newborn hold promise of substantial additional insights into the development of behavior. Thus, this volume provides interesting perspectives into the relationship of the evolving immature neurological system to complex behavior patterns in newborn infants which raise many new questions and exciting opportunities to extend our very limited knowledge about the newborn infant's psychosocial, emotional, and cognitive development.

RICHARD E. BEHRMAN, M.D.

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Editors' Introduction

Publication of this biennial series on behavioral pediatrics reflects the historical evolution of the disciplines of pediatrics and child and developmental psychology. Around the turn of the century, when pediatrics first became an independent branch of medicine, the chief concern was the high infant mortality rate from infectious diseases such as smallpox. Research consisted primarily of the description and classification of childhood illnesses. By the early 1930s, when a specialty certifying board in pediatrics was established, infant mortality had decreased somewhat, and research began to focus on specific mechanisms of disease and therapy, particularly involving infant nutrition and fluid balance.

Around the same time, the Society for Research in Child Development was established, in part, to encourage interdisciplinary consideration of substantive and methodological issues in the field of child development. The spirit was reflected in the formation of a number of child development institutes in the 1920s and 1930s such as those at Iowa, Berkeley, Fels, Merrill–Palmer, Columbia, Minnesota, and Yale, and by the impact of people like Lawrence Frank, Arnold Gesell, Milton Senn, and Julius Richmond, to name just a few. Developmental psychology has become a specialty in psychology departments of American universities only within the last 20 years. It existed outside those departments precisely because, as G. Stanley Hall envisioned, the effort was toward a cross-disciplinary, practice-oriented enterprise. Interaction between the disciplines, however, was minimal. Perhaps these early attempts at cross-fertilization between child development and pediatrics were premature, coming at a time when the primitive level of development in both fields was not conducive to productive research in common areas of concern.

During World War II, pediatric concerns were refocused on the treatment of serious infections because the discovery of antibiotics offered dramatic uses. Together with immunizations and improved milk storage, these achievements permitted the control of most life-threatening infectious illness. More recently, tech-

nological advances have greatly improved the care of high-risk newborns and the diagnosis and treatment of immunological and genetic disorders. Because of the success of these contributions in treating serious disease and in decreasing infant mortality, pediatricians are now able to focus more attention on problems in child development and family adaptation.

The emergence of the field of behavioral pediatrics represents the increasing communication and collaboration between psychologists and pediatricians. Developmental psychology and pediatrics have evolved in parallel during the past century, and both are now firmly established and respected by their own and other disciplines. They tend to be eclectic and less committed to established authority and traditional methods and to share the common goal of fostering the optimal growth and development of the child and the family.

Interdisciplinary research and training in child development and pediatrics has increased dramatically during the past few years. Postresidency training programs in child development for pediatrics have been established, as have postdoctoral training programs for psychologists in clinical areas related to medicine. Much of this increased demand for communication between child development and pediatrics has come from the general acceptance of child development as the basic science of pediatrics, as stated by Julius Richmond (1967, 1975), "an idea whose time has arrived." Improved research and clinical training in child development and behavioral pediatrics have begun to be emphasized by the Task Force on Pediatric Education and by a special committee set up by the American Academy of Pediatrics. This new field of behavioral pediatrics faces the challenge of establishing itself as a science.

As with any new scientific field, behavioral pediatrics must offer a unique theoretical base relevant to the questions posed, define its assumptions, and create new research strategies. More specifically, it must support the study and management of complex psychosocial as well as biomedical problems. We hope that this series will further these goals.

The task of behavioral pediatrics as a newly emerging discipline is to develop a basic science that links biological science with behavioral science to provide a clinically relevant perspective on early human development. The purpose of this series is to provide a forum for the exposition of research findings in this new discipline. We predict that this approach to research through the binocular eyes of child development and pediatrics will generate multifaceted, dynamic theories and models of development and research methodologies that transcend and synthesize the strengths of the two disciplines, leading to a better understanding of development and the clinical care of children.

Perhaps because it is a new discipline, the term *behavioral pediatrics* has many uses, and it may be helpful to clarify how we plan to use the phrase. We are using the term *behavioral pediatrics* synonymously with the terms *developmental*, *psychosocial*, or *biosocial pediatrics*. For many purposes, behavioral pediatrics may be considered a subspecialty of the respective fields of developmental

psychology and pediatrics. In developmental psychology, this would be akin to education, cognition, or physiology and related to but different from pediatric psychology, which emphasizes the clinical care of children in psychiatric settings. In pediatrics, this would parallel subspecialties such as cardiology or neurology, particularly with respect to research and training activities. Clinical skills in behavioral pediatrics, however, must be integrated into general pediatric training and practice, rather than viewed as another clinical subspecialty, since clinical problems in this area represent the core of general pediatrics.

Behavioral pediatrics is a research discipline in areas that intersect child development and pediatrics, with particular emphasis on the study of the integration of biological systems and behavioral systems. It includes basic and clinical research aimed at developing both interdisciplinary models that will lead to a better understanding of developmental processes themselves by studying the whole child. In seeking this goal, behavioral pediatrics begins with an attempt to understand normal development. This effort is designed to balance the traditional disease model of medicine by recognizing the strengths of normal development and integrating strengths and deficits into the whole-child concept. There is an emphasis on the study of intraindividual and interindividual differences and on their application to the individualized clinical care of the child and family. Studies of deviant populations, psychopathology, and at-risk populations broaden our understanding of normal developmental processes by forcing us to construct inductive systems of hypotheses that would not have been expressed had we not encountered these phenomena. At the same time, studying physical and behavioral deficits from the perspective of normal development should lead to clinical strategies for prevention and intervention that balance the deficits with recognition of the strengths of the child from a behavioral as well as a psychological perspective. The questioning of theoretical and methodological orthodoxy is enhanced as we are forced to deal with the whole child and the child as an individual.

In this series we will present substantive research findings that advance our understanding in areas relevant to child development and pediatrics. This series will emphasize the need for clinical practice in behavioral pediatrics to be based on sound theory supported by solid empirical research. With that goal in mind, empirical findings on a sound theoretical framework will be provided by contributors in chapters of sufficient length to enable a broad discussion of important issues and an opportunity to consider the clinical implications of this work. As such, the series should make useful contributions to developmental theory and research and to clinical practice concerning developmental issues. We expect this series to be useful to academic audiences in pediatrics, child psychiatry, psychology, nursing, anthropology, social work, and education. We hope through this series to facilitate communication and collaboration among disciplines and to share skills, insights, and perspectives toward the common goal of fostering the optimal growth, development, and welfare of all children.

The first volume of this biennial series focuses on the beginnings of human

development during the infancy period. Each of the chapters begins by addressing an important theoretical question in early development, reports research findings, and attempts to relate the studies to clinical practice. Chapter 1 outlines a model for understanding plasticity in early development and relates this concept to the timing and quality of intervention by clinicians working with infants at biological risk. Chapter 2 focuses on the relationship between specific biological risk, prematurity, and newborn behavior. The authors postulate the existence of several behavior subsystems in newborn infants, provide a matrix for the careful description of these systems, and relate the behavior of these infants to their biological risk status. Appended is a manual for the assessment of preterm infants. Similarly, Chapter 3 describes crying, the most common behavior in young infants, and suggests its usefulness as both an index of and influence on the biological and social risk of the infant. All three of these chapters view the newborn and infant as embedded in a transactional relationship with caregivers right from birth.

The chapter on maternal perceptions of infants addresses one aspect of the caregiver's participation in this interactive process: How do infant physical characteristics influence the mother's attitudes toward her infant? The chapter on the father–infant relationship addresses the important issue of sex differences in caregiving. The author broadens our thinking about caregivers to include fathers and discusses both father–infant interactions and indirect influences of the father in his role as a member of the intrafamilial support system.

Chapters in future volumes in this series will address other topics in infancy and early childhood as well as the developmental issues of older school-age children and adolescents. We hope that over time this series will provide a useful forum for broad, general reviews of research areas. Typically, contributions to this series will be by invitation. However, readers and contributors who have ideas, suggestions, or manuscripts which they believe may be suitable for future volumes are encouraged to write the editors.

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