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A Behavior Analytic View of Child Development

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Springer Science+Business Media, LLC

Library of Congress Cataloging-in-Publication Data

Schlinger, Henry D.

A behavior analytic view of child development / Henry D. Schlinger, Jr.

p. cm. -- (Applied clinical psychology)

Includes bibliographical references and index.

1. Clinical child psychology. 2. Child development.
3. Developmental psychology. I. Title. II. Series.

RJ503.3.S35 1995

305.23'1--dc20

95-23848

CIP

ISBN 978-1-4757-8978-2 ISBN 978-1-4757-8976-8 (eBook)
DOI 10.1007/978-1-4757-8976-8

© 1995 Springer Science+Business Media New York
Originally published by Plenum Press, New York in 1995.
Softcover reprint of the hardcover 1st edition 1995

10 9 8 7 6 5 4 3 2 1

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To my parents, Henry and Norma Schlinger,
who always encouraged me

Preface

The cover story of a *Life* magazine was titled, "Babies Are Smarter Than You Think" (July 1993). The cover went on to say, "They can add before they can count. They can understand a hundred words before they can speak. And, at three months, their powers of memory are far greater than we ever imagined." These ways of talking about human infants are intended to capture the attention of readers, and they usually do. Developmental psychologists often talk about infant behavior in similar ways. Serious scientists might write such descriptions off as little more than the popularization of psychology or, as it is often termed, "pop psychology."

The research cited in the *Life* article represents a sample of developmental research in which the interpretations of the results exceed what the results themselves support. Developmental researchers usually study the relationship between infant behavior and various events in the environment. But when they talk about what is going on, they refer to such unobservable constructs as the infant's "mind," "memory," and "understanding." Among other "powers," infants are said to "grasp simple mathematics" and to "have a rudimentary knowledge of the way the world works."

The problem with talking about infants in these ways is that, although we are told what things infants are likely to do in particular situations, and even when in their lives they are likely to do them, we are told nothing about *how* the behavior comes about, that is, the processes responsible for the observed behavior. Lacking adequate scientific explanations, developmental researchers frequently use ordinary language to describe behavior. Consider, for example, that before infants are able to say "telephone," they are able to point to or look at one when the parent says, "Where's the telephone?" That most infants demonstrate such behavior is indisputable, but when asked to explain such observations, developmental researchers are likely to say that it is because infants "understand" words before they can speak. While such an explanation may sound good, scientists and logicians recognize it as being circular. The researchers have only labeled

the phenomenon “understanding” and then used that label as the explanation. The behavior of pointing to objects remains unexplained in the sense that researchers cannot identify the independent variables responsible for the behavior. So they infer unobservable and untestable events such as “understanding,” “memory,” and “mind” as explanations. Describing behavioral relations using mentalistic or cognitive language is not problematic per se. Mentalistic and cognitive language does organize and describe the content of everyday behavior pretty well. The problem, however, is that such language does not readily specify the variables that can be manipulated in an attempt to discover the processes by which the behavior comes about. Moreover, mentalistic language may actually lead researchers to try to study the mental or cognitive processes they assume underlie behavior.

In the past several decades, the field of developmental psychology has generated a vast amount of research. Despite this growth, the field remains theoretically fractionated; that is, very little of its research is united by a common orientation. Not surprisingly, textbooks in the field reflect this state of affairs. Although many developmental textbooks are written from a generally cognitive perspective, none adopts a unitary theoretical approach. On the contrary, textbooks in developmental psychology reveal a field populated by many different explanations and theories. It is also not unusual to find numerous instances of contradictory evidence for the same phenomenon. Developmental psychologists have provided valuable information about child behavioral development. Unfortunately, such information lacks a strong unifying theoretical background and fails to impart practical knowledge that can enable psychologists to reliably change behavior in natural settings.

Although many theoretical systems within developmental psychology are inadequate for the scientific understanding of the subject matter, much of the research is valuable and worthy of consideration. Therefore, we needn't throw the baby out with the bathwater. Instead, we ought to ask whether it is possible to make sense of this accumulation of apparently unrelated data according to a single, unifying theory.

There are some psychologists, behavior analysts, who take a natural science approach to psychology. For them the subject matter of developmental psychology consists of the behavioral changes that are observed over time in the life of an individual largely as a function of his or her interaction with objective, environmental events. Over the years, there have been some attempts by behavior analysts to offer a behavior analysis of development (e.g., Bijou, 1976; Bijou & Baer, 1961, 1978). Behavior analysts, however, have not by and large addressed the extensive research in the area conducted mainly by psychologists who are not behavior analysts

(c.f. Gewirtz, 1972a, 1972b; Gewirtz & Pelaez-Nogueras, 1990, 1991b). Since much of the existing research in developmental psychology suggests a strong environmental component to behavioral development, behavior analysts are in a prime position to study the processes responsible for this development.

Although behavior analysis is necessary for the understanding of behavioral development, its treatment in most developmental textbooks is inadequate. It is relegated either to being an almost historical marker in developmental psychology, or it is never credited with being able to explain anything more than trivial behavior. Some textbooks offer rather lengthy sections on learning in which the principles of respondent (i.e., classical) and operant conditioning are detailed; however, subsequent discussions of behavioral changes attributed to learning rarely refer back to these principles. In many textbooks, the discussion of learning, not to mention behavior analysis, is almost nonexistent. Finally, many standard textbooks omit the significant empirical and theoretical contributions of behavior analysts to the scientific understanding of behavioral development. At the very least, this omission does a disservice to students of developmental psychology by depriving them of valuable information concerning development.

The purpose of *A Behavior Analytic View of Child Development* is twofold. First, I want to introduce behavior analysis to the reader. It is frequently said that behavior analysis is antitheoretical or that it is at best a collection of unrelated, trivial facts. I hope this book disproves both ideas. Moreover, I intend to show that behavior analysis has a strong claim to "theory" in the natural science sense of the term. Second, I want to show how behavior analysis can be used fruitfully to interpret existing research in developmental psychology, thus offering the field a more unified theoretical approach. Although this book is intended primarily as an explication of behavior analysis as it relates to child behavioral development, throughout, I consistently contrast the behavior analytic approach with a more traditional psychological approach to similar problems. This should help the reader make comparisons between the two approaches.

The book is composed of two major sections. The first three chapters deal with the concept of theory in developmental psychology. In Chapter 1, science is defined and several criteria for evaluating scientific theories are discussed. In Chapter 2, the main features of traditional approaches in developmental psychology are presented—largely as structural theories based frequently on normative, correlational data. Chapter 3 introduces behavior analysis as it will be used throughout the book to interpret developmental research. Chapters 4 through 10 comprise the second major section. Here, behavior analysis is used to interpret research in the devel-

opment of infant memory (Chapter 4), motor development (Chapter 5), perceptual development (Chapter 6), cognitive development (Chapter 7), language development (Chapter 8), the development of attachment relations (Chapter 9), and the development of prosocial behavior (Chapter 10).

Although this book could be used as a primary text in courses on infant or child development, it would be equally valuable as a supplemental text, especially if the instructor is using one of the standard textbooks in child development. In such cases, I see the present book serving as a theoretical anchor for students.

Finally, several technical points need to be mentioned. First, throughout the book I reference standard textbooks in developmental psychology. These books were not selected according to any special criteria; they simply represent random sampling from various publishers. Although some may criticize the practice of referencing secondary sources, my intention is to present mainstream developmental psychology as it is likely to be introduced to students in the field. Second, I use the term "theory" frequently to describe both behavior analytic and nonbehavior analytic approaches. When the term is used for behavior analysis, I mean it in the scientific sense as described in Chapter 1. Next, I use the term "cognitive" to describe most theoretical approaches other than behavior analysis. I do this because all of these approaches have in common the practice of studying observable behavioral relations and then either reifying them as hypothetical internal events or processes or inferring such events and processes as explanations of those relations.

Throughout the book I analyze the language of traditional developmental psychology. I do this because how we talk about our subject matter determines, to varying degrees, what we do about it. For instance, if developmental psychologists talk about hypothetical cognitive events as explanations of behavior, that may determine the kinds of research methods they use to study the behavior, or the kinds of strategies they might employ in applied settings. A behavior analysis of the traditional language of developmental psychology may help to elucidate more objective controlling variables and to suggest more scientific ways of studying the behavior.

I would like to acknowledge several people who helped during various stages in the writing of this book. First, I want to thank all those at Plenum for their help, including, but not limited to, Mariclaire Cloutier, Robin Cook, and Herman Makler. I especially want to thank Eliot Werner for his encouragement, support, assistance, and patience from the beginning of the project. I also want to thank the staff of D'Amour Library at Western New England College, especially Lucy Brunelle and Suzanne Garber, for their help in acquiring interlibrary loan materials. I want to

thank Dennis Kolodziejski and Dave Palmer for reading and commenting on earlier drafts of individual chapters. I am especially grateful to Ed Morris for taking the time to review the entire manuscript and for his many helpful suggestions for improving both its style and substance. His knowledge of both behavior analysis and developmental psychology, as well as his editorial expertise, made him an ideal reviewer. Finally, I want to thank my loving wife, Julie Riggott, for reading and reviewing the manuscript twice. Her keen eye for grammatical mistakes and inconsistencies has resulted in a greatly improved product.

HENRY D. SCHLINGER, JR.

Contents

1. SCIENCE	1
Defining Scientific Theory	1
Fact versus Theory in Science	2
Scientific Laws	4
Scientific Theory	4
Scientific Prediction	5
Scientific Interpretation	7
Criteria for Evaluating Scientific Theories	8
Generality (or Inclusiveness)	9
Testability	9
External Validity (or Accuracy)	10
Fruitfulness (or Utility)	10
Simplicity (or Parsimony)	11
Scientific Understanding	11
Summary	13
2. DEVELOPMENTAL PSYCHOLOGY	15
The Concept of Behavior in Developmental Psychology	15
Structural Approaches to Behavior	16
Structural Approaches and Explanations of Behavior	18
Research and Theory in Developmental Psychology	20
Correlational Research	20
Problems with a Structural Approach to Behavior Change	24
Developmental Theory Assessed	26
Summary	29
3. BEHAVIOR ANALYSIS	31
A Little History: Are Theories (of Learning) Necessary?	31
Skinner on Theory in Science	32

Basic Units in Behavior Analysis	33
The Environment	35
The Traditional View of the Environment	35
A Behavior Analytic View of the Environment	36
Locus of Control	37
The Role of Inference in Behavior Analysis	38
A Behavior Analytic Taxonomy	39
Stimulus Functions	39
A Behavior Analytic View of Development	41
The Concept of Development	41
Genes, Brain, and Behavioral Plasticity	42
Proximate and Ultimate Causation	43
Applying a Behavior Analytic Interpretation	44
Cognitive and Behavior Analytic Approaches to Behavior	45
Summary	46
4. THE DEVELOPMENT OF MEMORY	49
The Concept of Memory in Developmental Psychology	50
Research on Infant Memory	51
Visual Recognition Memory	51
Experiments Using Operant Conditioning Procedures	57
Cognitive and Behavior Analytic Views of Memory	65
Summary	66
5. MOTOR DEVELOPMENT	67
Basic Concepts in Motor Development	68
Maturation and Experience in Motor Development	68
Rhythmical Stereotypies and Reflexes	70
Rhythmical Stereotypies	70
Reflexes	74
Structural Categories of Motor Development	76
Body Control	76
Manual Control	85
Voluntary (versus Involuntary) Control	90
Cognitive and Behavior Analytic Views of Motor Development ..	92
Summary	94
6. PERCEPTUAL DEVELOPMENT	95
Sensation and Perception	95
Visual Perceptual Behavior	96

Depth Perception	97
A Behavior Analytic View of Depth-Appropriate Responding ..	108
Object Perception	109
A Behavior Analytic View of Object-Appropriate Behavior	114
Summary	119
7. COGNITIVE DEVELOPMENT	121
Piagetian Concepts	122
Organization and Adaptation	122
Psychological Structures	124
The Sensorimotor Period of Cognitive Development	125
The Substages of Sensorimotor Development	125
Imitation and Object Permanence	136
Piaget's View of Imitation	137
Imitation in Infancy	139
The Role of Learning in Infant Imitation	140
Search Behavior and Object Permanence	142
Summary	148
8. LANGUAGE DEVELOPMENT	151
Speech Perception	152
Categorical Perceptual Behavior in Infants	153
The Development of Prespeech	155
Crying	156
The First Language-like Sounds	157
The Development of Speech	161
Structural versus Behavior Analytic Views	161
Single-Word Production	162
Multiple-Word Production	169
One-Word Period	169
Two-Word Period	171
Grammar and The Production of Sentences	171
Rule-Governed Morphology	172
Speed of Acquisition	174
Language Universals	175
The Nature and Nurture of Language	177
Criticisms of Chomsky's Argument for a Universal Grammar ..	177
The Treatment of Behavior Analytic Views of Language in	
Developmental Textbooks	178
The Role of Reinforcement in the Acquisition of Language	179
The Child as Passive Recipient of the Environment	181

Language as Inherently Generative (Creative)	182
Summary	182
9. SOCIAL AND EMOTIONAL DEVELOPMENT I: ATTACHMENT RELATIONS	185
Defining Attachment	186
Interpreting Bowlby's Theory of Attachment	187
Bowlby's Evolutionary–Ethological Perspective	187
Attachment Behaviors	189
Signaling Behavior	190
Approach Behaviors	196
Proximity-Establishing and Proximity-Maintaining Behaviors ...	196
Attachment Behaviors in Precocial Animals: Imprinting	197
Attachment Behaviors in Altricial Animals	199
Development of "Fearful" Behaviors	200
Separation Anxiety	201
Stranger Anxiety	204
A Behavior Analysis of Social–Emotional Development	206
Social Reinforcement	207
Social Discriminative Stimuli	208
Summary	212
10. SOCIAL AND EMOTIONAL DEVELOPMENT II: MORAL BEHAVIOR	215
Views of Moral Development	216
A Traditional View of Moral Development	217
A Behavior Analytic View of Moral Development	218
The Development of Prosocial Behavior	218
The Problem of Definition	218
Formal Categories of Prosocial Behavior	220
Empathy	230
Defining Empathy	231
The Origins of Empathic Responding and Prosocial Behavior ..	239
Summary	242
REFERENCES	243
INDEX	259