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Architects, city planners, and other design professionals have used theory and research from psychology and other behavioral sciences to make their work more responsive to the needs of people who use the buildings, parks, and city streets the designers help to shape. *Applications of Environment-Behavior Research* describes and analyzes 13 projects for which the final plans were informed by social-scientific research. Using a common conceptual framework, author Paul Cherulnik considers a variety of settings, including treatment facilities, public housing, offices, parks, neighborhoods, and city centers. Some of the cases utilize basic behavioral theory or research, including classic work in psychology and other disciplines, whereas in other cases applied research was conducted specifically for the purposes of the project in question.

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**case studies and analysis**

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# APPLICATIONS OF ENVIRONMENT- BEHAVIOR RESEARCH

## Case studies and analysis

PAUL D. CHERULNIK

*University of Science and Arts of Oklahoma*



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To Donald Appleyard, whose work inspired me to study environmental–  
design research and whose untimely death left a void in the field that may  
never be filled.

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## SERIES FOREWORD

In recent decades the relationship between human behavior and the physical environment has attracted researchers from the social sciences – psychology, sociology, geography, and anthropology – and from the environmental-design disciplines – architecture, urban and regional planning, and interior design. What is in many respects a new and exciting field of study has developed rapidly. Its multidisciplinary character has led to stimulation and cross-fertilization, on the one hand, and to confusion and difficulty in communication, on the other. Those involved have diverse intellectual styles and goals. Some are concerned with basic and theoretical issues; some, with applied real-world problems of environmental design.

This series offers a common meeting ground. It consists of short books on different topics of interest to all those who analyze environment–behavior links. We hope that the series will provide a useful introduction to the field for students, researchers, and practitioners alike and will facilitate its evolutionary growth as well.

Our goals are as follows: (1) to represent problems the study of which is relatively well established, with a reasonably substantial body of research and knowledge generated; (2) to recruit authors from a variety of disciplines with a variety of perspectives; (3) to ensure that they not only summarize work on their topics but also set forth a “point of view,” if not a theoretical orientation – we want the books not only to serve as texts but also to advance the field intellectually – and (4) to produce books useful to a broad range of students and other readers from different disciplines and with different levels of formal professional training. Course instructors will be able to select different combinations of books to meet their particular curricular needs.

*Irwin Altman  
Daniel Stokols*



## PREFACE

My interest in environment–behavior studies began quite by accident. Roger Stough, a colleague at the College of Charleston, introduced me to a visiting friend, Ralph Taylor. We talked in Roger’s office about applying social psychology to important problems and testing its theories in the real world. Not long afterward, in 1980, Roger and Abe Wandersman, of the University of South Carolina, coordinated the 11th annual conference of the Environmental Design Research Association (EDRA 11) in Charleston and gave me an opportunity to participate in the conference. I have been hooked ever since.

For quite some time, my involvement in the field was limited to teaching environmental psychology and dabbling in research on environmental perception using traditional social-psychological methods. It was that teaching assignment more than anything else that convinced me that applications such as those described in this volume deserve more recognition than they have received, to the credit of both environmental-design research (EDR) and the science on which it is based. It seemed to me that students were missing the excitement of seeing successful applications of the research and theory they were studying and the theory and research were not being accorded the ultimate validation warranted by their successful application.

Almost 10 years ago I decided that a collection such as the case studies presented here could make a useful contribution toward correcting that oversight. That decision was shaped by my exposure to Rich Wener’s NEA-sponsored exhibit of EDR “success stories” at an EDRA conference and the further information about those cases he so kindly provided afterward. It was also shaped by my participation in a National Endowment for the Humanities (NEH) summer seminar at Columbia University in 1983, where the brilliant urban historian Ken Jackson showed me the exciting possibilities of taking scholarship to a wider audience.

Any success I may have achieved in this effort is due in large part to those who have helped me along the way. Irv Altman and Dan Stokols, the editors of this series of books, helped me to reshape the entire project gradually into something far more interesting and useful than that which I first proposed to them, and they were patient enough to wait for me to catch on. Intramural research grants from Susquehanna University and Southeast Missouri State University made it possible for me to travel to the sites of many of the projects I have written about, and to others I was not able to include. The libraries at those schools, as well as the libraries I visited at Andrews University (the location of the invaluable collection of the Environmental Action Group [TEAG] and the

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sponsor of recent book exhibits at EDRA conferences), the State University of New York at Buffalo, the University of Michigan, and Columbia University, and the authors and publishers of the many reference works listed in chapter 16 made it possible for me to study many of the documents on which this book is based.

Of course, all of the environmental-design researchers who created this body of cases were the principal sources of inspiration and information for this book. Many of them and their institutions also gave generous assistance and encouragement throughout the project. Rich Wener supplied copies of his postoccupancy evaluations (POEs) for the federal Metropolitan Correctional Centers, Pat Kaya of Kaplan McLaughlin Diaz sent copies of drawings, Craig Zimring sent a copy of his follow-up POE report, and Administrative Officer Les Glenn arranged for me to tour the Contra Costa County Main Detention Facility. Jan Carpman allowed me a lengthy interview over lunch in Ann Arbor and provided copies of many documents, and Toni Sheers of the Public Relations Office took me on a tour of the new University of Michigan Hospital. William Weitzer of the University of Massachusetts provided a rare copy of the Belchertown State School report, and Jerome Feldstein, the director of psychology, took me on a tour of Belchertown State School. Sam Sloan sent me important documents and spent valuable time on the telephone, and Walter Kleeman sent documents and a helpful letter about the Seattle Federal Aviation Administration building project.

Officials at Trinity College provided useful information about the Jones Dormitory redesign there. Michael Bakos of the firm Architecture-Research-Construction (ARC) in Cleveland provided many documents and helpful letters about ARC's work on Ward 8 of Cleveland State Hospital. Margaret Lundin of Project for Public Spaces helped me to acquire documents describing that firm's research and the Exxon Minipark redesign work. Architect Jeff Oberdorfer of Santa Cruz, California, gave generous help with my research on Donald Appleyard's "livable streets" work (although I was able to give Jeff's important work only a brief mention in the final writing). Oscar Newman responded thoughtfully to my inquiry about his defensible-space research and design work. Joe Valadez supplied documents and spent a good part of a day in Cambridge helping me to do justice to his work in Macul. Ken Craik took me on a tour of the Environmental Simulation Laboratory at Berkeley (on a trip financed by a grant from the Southern Regional Education Board), and Laurie Glass, the publications officer of the Institute of Urban and Regional Development at Berkeley, helped me to obtain the documents I needed for the chapter on the development of San Francisco's high-rise zoning regulations. Rick Chenoweth helped me with the chapter on the Wisconsin State Riverway project with documents and a lengthy interview in his office in Madison.

Drafts of several chapters benefited from the comments of those whose work was being described. I owe a great debt to Rich Wener, Jan Carpman, Sam

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Sloan, Andy Baum, Michael Bakos, Bob Sommer, Skip Holahan, and Rick Chenoweth for their thoughtful advice.

The quality of the entire manuscript was improved greatly through the assistance of those at Cambridge University Press: editor Julia Hough and production editor Andrée Lockwood.

Last, but not least, my wife Beverly put up with numerous “vacations” planned around visits to sites of EDR projects and endless “conversations” about “the book.” I hope that her forbearance and support and the help of all those who were named earlier, as well as those whose names were inadvertently omitted, are justified by what I was finally able to accomplish. The limitations of the final product are my responsibility alone.