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978-0-521-31947-8 - Work Places: The Psychology of the Physical Environment in Offices
and Factories

Eric Sundstrom and Mary Graehl Sundstrom

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WORK PLACES

The psychology of the physical environment in offices and factories

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in collaboration with

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Knoxville, Tennessee



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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 prefers 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 topic 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 dif-

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ferent 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

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PREFACE

This book explores psychological and social-psychological influences of the physical environment in offices and factories. Its purpose is to provide a coherent, focused overview of current knowledge on the basis of empirical research and relevant theory.

Students and professionals interested in offices, factories, or the built environment in general comprise the audience envisioned for this book. The book is directed primarily toward the field of environmental psychology, but also toward such related disciplines as applied experimental psychology, architecture, engineering psychology, ergonomics, facilities management, human factors engineering, human factors psychology, industrial engineering, industrial hygiene, industrial-organizational psychology, interior design, management science, occupational psychology, office planning, organizational behavior, and social psychology.

Our approach represents an attempt to serve readers from diverse backgrounds, who are not necessarily familiar with environmental psychology. We define our terms, particularly those that carry special meanings for psychologists; wherever possible, however, we try to avoid technical language. Examples from actual offices and factories are provided. For heavily studied topics, research findings are condensed into tables. In an effort to concentrate on the central issues, empirical studies are described only in sufficient detail to indicate their contribution to current knowledge.

Although this book deals more with basic knowledge than with practical application, the two are not always distinct. Examples often involve

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discussions of current practices or actual cases. Even so, we provide little advice on the design of offices or factories. We do outline, in general terms, the practical issues involved in the topics addressed here.

This book should interest professional designers, but it makes no attempt to provide practical guidelines or standards for offices or factories. However, selected sources are cited where readers can find them. We offer no procedures, algorithms, or flowcharts for use in making decisions about design. Nor do we analyze or criticize the processes by which the design of offices or factories occurs. (For a discussion of this topic, see Becker's *Workspace*.) We offer no advice on the conduct of applied research, whether as an adjunct to design or as a tool for evaluation (see Zeisel, 1981). We explore basic knowledge that should prove useful in the design of work places, but we do not try to close the gap between knowledge and application.

For coherence, the book is planned around an analytic framework on the influences of the work environment. The framework includes three units of analysis, which differ in size and scale: individual workers, interpersonal relationships, and organizations. For each unit of analysis, we identify critical facets of the physical environment and try to link them with important outcomes through psychological, social-psychological, or organizational processes.

The scope of the book is largely defined by the outcomes and facets of the physical environment included in the framework. For the individual worker, we emphasize the outcomes of satisfaction and performance and their connections with the ambient environment (light, air, temperature, sound) and with the work-station. For interpersonal relationships, we focus on the outcomes of communication and group formation and cohesion, as well as their connections with features of workspaces and the layout of work areas. For the organization, we focus on the outcome of organizational effectiveness and its connections with the features and layouts of buildings.

The scope of this book does not include the physiological or medical influences of the work place, nor does it deal with its impact on the health of workers or its connection with safety and security. However, these issues are sometimes difficult to separate from those we do emphasize. For instance, the discussion occasionally raises issues related to health. Recommended sources for a fuller treatment of physiological and health-related effects of offices and factories are the textbook on human engineering by McCormick (1976) and the textbook on industrial hygiene by Allen, Ellis & Hart (1976).

This book attempts to provide an historical perspective on the work place. Although this approach may be unusual for a text on environmental psychology we believe it is essential to the subject matter. Offices

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and factories have changed during their history, as have ideas about their influences. An understanding of today's offices and factories calls for an understanding of their past. Furthermore, we speculate about the future of the work place, and our forecasts are based in part on the trends in their past evolution.

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The University of Tennessee has been an ideal setting for the research and writing for this book, thanks in large part to the continued support of William Calhoun, Head of the Department of Psychology, and office co-managers Karen Fawver and Polly Johnson. Our project has benefited from the timely efforts of a succession of capable secretary-typists, including Margaret Garrett, Debbie Myers, Connie Ogle, Mary Richards, Ann Smith, and Deanna Tilley. The university also provided the services of graphic artist Carlene Malone, who executed all the original graphic art. Several graduate students in psychology assisted with the

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We thank the staff at Cambridge University Press, especially psychology editor Susan Milmoe, who oversaw the project.

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