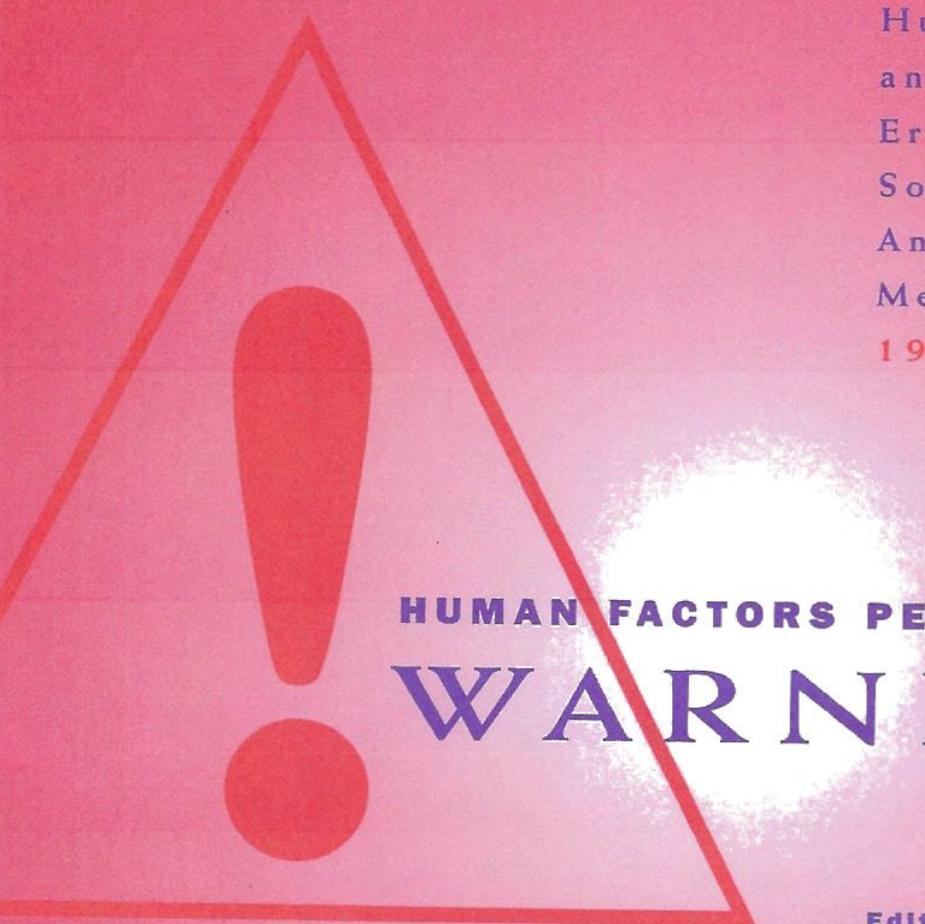


Selections  
from  
Human Factors  
and  
Ergonomics  
Society  
Annual  
Meetings  
1980-1993



**HUMAN FACTORS PERSPECTIVES ON  
WARNINGS**

Edited by  
**Kenneth R. Laughery, Sr.**  
**Michael S. Wogalter**  
and  
**Stephen L. Young**



Published by  
the Human Factors  
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This book is an essential reference for anyone interested in the way people perceive and comply with warnings about hazardous products, equipment, and environments. It contains 55 full papers (average 5 pages) that address aspects of warnings such as comprehension, behavior, attention, memory, and labeling. Also included are abstracts of 36 papers and a bibliography listing more than 100 papers. Author and subject indexes simplify access to the full papers and abstracts. This book makes 13 years of major research readily accessible and usable, even for those who have attended HFES meetings and purchased proceedings volumes.

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*Library of Congress Cataloging-in-Publication Data*

Human factors perspectives on warnings : selections from Human Factors and Ergonomics Society Annual Meetings, 1980-1993 / edited by Kenneth R. Laughery, Sr., Michael S. Wogalter, and Stephen L. Young.

p. cm.

Includes bibliographical references and index.

ISBN 0-945289-02-2 : \$50.00

1. Risk communication--Congresses. 2. Warnings--Congresses. 3. Product safety--Congresses. I. Laughery, Kenneth R., 1935-. II. Wogalter, Michael S., 1955-. III. Young, Stephen L., 1967-. IV. Human Factors and Ergonomics Society. Meeting. T10.68.H86 1994  
620.8'6--dc20

94-22254  
CIP

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# Preface

Three factors contributed to the genesis of this book. First, our aim is to encourage wider distribution of the many outstanding warnings research and application papers that are presented at Human Factors and Ergonomics Society annual meetings. Although attendance at these meetings now exceeds 1500, there is a broad community to which these important findings have not been disseminated. Professionals working in the areas of communications, safety engineering, health care, marketing, and other fields in which safety is emphasized will find a great deal of useful information here.

Second, the increasing number of requests for papers on warnings that HFES receives from members of the legal community led us to investigate the feasibility of compiling the most useful papers from past years into a single volume. *Human Factors Perspectives on Warnings* contains many of the papers that are in highest demand in legal matters involving warnings.

Finally, individuals who have attended HFES annual meetings, and those who have purchased past proceedings volumes, can enjoy the benefits of easier access to this important body of literature.

## The Contents

This collection consists of 55 papers that are reprinted in their entirety, 36 that are represented by an abstract, and 132 that are listed in a bibliography. Obviously, decisions had to be made about which papers to include. Our primary criterion was how well the papers dealt with the issues concerning the perception and understanding of hazards and risks, and the design and effectiveness of warnings. Empirical work or theoretical analysis was also given priority.

To include every paper published in HFES proceedings related to the topic of warnings would be a huge undertaking and probably not a very useful one. Instead, rather than reprinting some papers—for example, those on auditory displays in aircraft, labeling for controls, and highway signs—we elected to include only their abstracts. Although research on these topics is important and often has implications for warnings as conceptualized in this book, it is not the main focus of the collection. These papers, which have potential implications for warnings and risk perception, are listed as bibliographical references.

We tried to minimize our own biases in selecting the articles. The purpose of this collection is to make the research more easily accessible, not to impose an editorial evaluation on it.

## How To Use This Book

There are three ways to locate information in this collection. Full papers appear first, in alphabetical order by primary author. Abstracts follow that section and are also presented in alphabetical order by first author. The author and subject indexes identify all authors and the major concepts addressed in the papers and abstracts. The bibliographic entries are listed alphabetically by primary author and are not indexed.

For those who wish to cite any of the papers or abstracts in their original citation format, the year of publication and page numbers are provided following the title of each article in the contents (for full papers) and following each abstract. The titles of the proceedings covered in this book are listed separately following the bibliography.

We hope that *Human Factors Perspectives on Warnings* will occupy an important place in your safety library for many years to come.

## Proceedings Covered in This Book

<b>Year</b>	<b>Title</b>
1980	Proceedings of the Human Factors Society 24th Annual Meeting
1981	Proceedings of the Human Factors Society 25th Annual Meeting
1982	Proceedings of the Human Factors Society 26th Annual Meeting
1983	Proceedings of the Human Factors Society 27th Annual Meeting
1984	Proceedings of the Human Factors Society 28th Annual Meeting
1985	Proceedings of the Human Factors Society 29th Annual Meeting
1986	Proceedings of the Human Factors Society 30th Annual Meeting
1987	Proceedings of the Human Factors Society 31st Annual Meeting
1988	Proceedings of the Human Factors Society 32nd Annual Meeting
1989	Proceedings of the Human Factors Society 33rd Annual Meeting
1990	Proceedings of the Human Factors Society 34th Annual Meeting
1991	Proceedings of the Human Factors Society 35th Annual Meeting
1992	Proceedings of the Human Factors Society 36th Annual Meeting
1993	Proceedings of the Human Factors and Ergonomics Society 37th Annual Meeting

*Note: The Society's name changed in 1993 to the Human Factors and Ergonomics Society.*

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