

Perceived Persuasiveness of Product Manual Warnings as a Function of Statement Type

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Introduction

- **Warning is an injury prevention method used when the hazard has not been *eliminated* or *guarded* against.**
- **Previous research has examined some of the factors that influence warning effectiveness**
 - _ **Visual modality (signs and labels):**
 - _ **Location**
 - _ **Color**
 - _ **Size**
 - _ **Layout**
 - _ **Signal words**
 - _ **Symbols**

Introduction

Much less research on content

- **Warnings that include hazard, consequence and instruction statements rated more effective than without these statements (Wogalter *et al*, 1985)**
- **Statements with greater implied injury severity are rated as connoting greater hazard than statements with lower implied severity (Wogalter & Barlow, 1990)**
- **Statements with more explicit consequences are perceived more effective than statements with less explicit (more general) consequences (Laughery & Stanush, 1989)**
- **DVs: Used ratings of perceived hazard, perceived effectiveness, precautionary intent, intended carefulness, and willingness to comply**

Introduction

Warnings can be considered persuasive communications

- _ **Would like to convince people a hazard exists & that they should use a level of caution**
- _ Uses statements from power tool product manuals
- _ Embedded in the context of non-warning information
- _ Manipulate components of statements
 - _ Presence of absence of consequence statement
 - _ Form of injury statistics: percentages, frequencies, none
 - _ Magnitude of statistical value: low and high high or low
 - _ Quality of the information: low and higher clarity/specificity

Method

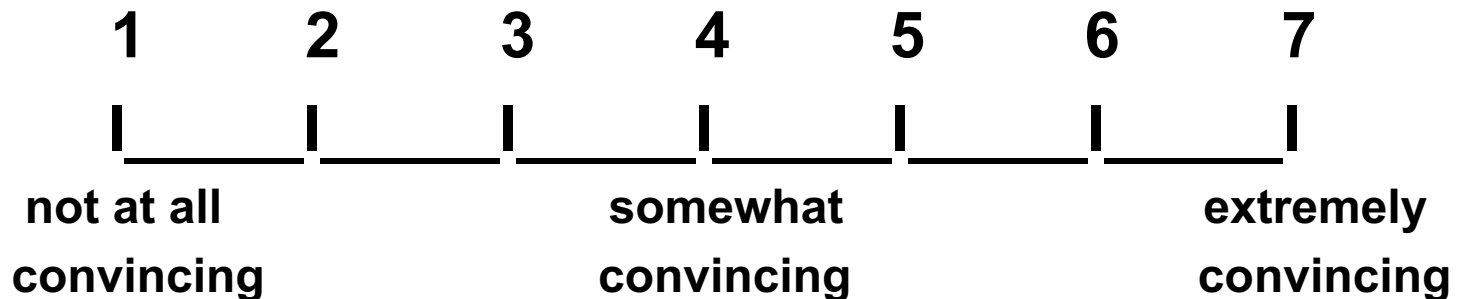
- **Participants**
 - 87 undergraduates
- **Materials**
 - 99 different warning statements derived from existing power sander product manuals
 - Products previously rated moderately high hazard and low familiarity
 - Statements selected according to ratings from ratings of a previous study (e.g., quality)

Method

- 99 different statements representing 13 content categories
 - 8 hazards:
 - **hair/clothing getting caught in moving parts**
 - **unsecured work being thrown**
 - **dust or foreign objects injuring eyes**
 - **dust/debris injuring lungs**
 - **electrical shock**
 - **hearing damage**
 - **lacerations from accidental starting**
 - **fires from sparks**

Method

Participants rated how convincing each statement was in supporting the claim that *the product is potentially hazardous and caution should be taken when using it*



Statement Type

- Directive, consequence, & instruction (what to do, why and how)
- Low quality statements using smaller & larger numeric frequencies
- High quality statements using smaller & larger numeric frequencies
- Low quality statements using smaller & larger percentages
- High quality statements using smaller & larger percentages
- Technical information only (no information about hazard)
- General work-related statements (no information about hazard)

Example

- Secure work. Unsecured work could be thrown towards the operator causing injury. Use clamps or vice to secure work.
- Approximately (100 or 2,500) persons have suffered eye injuries since 1975 while using power tools.
- Approximately (100 or 2,500) persons have suffered injuries each year while using power sanders.
- Approximately (4% or 35%) of all power sander injuries involve injuries to the eyes.
- Approximately (4% or 35%) of eye injuries from power tools occur while using power sanders.
- To avoid damage, do not exceed a +/- 10% voltage variation or a +/- 3% frequency variation
- Know your power tool. Read operator's manual carefully.

Results

- ANOVA using convincingness ratings as a function statement type was significant

	<u>Mean</u>	<u>SD</u>
Directive, consequence, & instruction)	4.64	1.66
Only directive & instruction	3.50	1.83
Only hazard consequences	3.51	1.61
Only technical information	3.55	2.05
General work-related statements	2.52	1.76

Results

- _ **With numeric frequency statistics:**
 - _ **High quality statements more convincing than low quality statements**
 - **No difference as a function of numerical magnitude**
- **With percentage statistics:**
 - **Larger % more convincing than smaller %**
 - **No difference as a function of quality**

Number size	Low Quality		High Quality	
	Small	Large	Small	Large
Frequency	3.41	3.22	4.02	4.22
Percentages	2.94	4.10	2.98	3.95

Discussion

- **Most effective warning statements included a directive, consequence and instructions**
- **When frequency statistics were used, the quality of the information being conveyed appeared more important than the magnitude of the statistic**
- **When the statistics were percentages, the magnitude of percentage seemed more important than the quality of the information conveyed by the statistics.**
- **In some situations, using statistics with small values may reduce a warning statement's persuasiveness.**
- **General work-related statements and technical statements**
 - **Commonly included in product manuals**
 - **Not very persuasive**