

Product Manuals: Reported Reading and Beliefs

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This research examined the extent of reading manuals for 16 consumer products consisting of two measured variables and composite of those measures. Data merged from a previous study on the same products showed that the extent to which participants reportedly would read consumer product manuals was positively correlated with perceived hazard ($r=.70$) and negatively correlated with familiarity ($r=-.61$). Both variables accounted for significant variance in predicting the percentage of product documentation they reported reading ($R=.81$; $R^2=.66$). Implications of this research are discussed.

Practitioner Summary: Product documentation is critical for proper product use, maintenance, and safety. This study examined people's reported reading of product manuals. The results showed that the extent to which people report reading manuals is reduced for familiar products and heightened for products with higher perceived hazard.

Keywords: manual, documentation, product, warning, read

1. Introduction

Most new consumer products come with documentation such as a product manual. For some products such as motor vehicles and appliances, the documentation can be extensive. Some research suggests that people may not read product manuals (e.g., Rettig, 1991). Other research suggests reading documentation depends on several factors such as product familiarity and perceived complexity (e.g., Wright et al., 1982). Manufacturers, however, may assume that product users read the entire contents of manuals when they may read only parts or none. Leonard and Kames (2000), for example, found that only 6.8 percent of 221 survey respondents reported reading all of their vehicle owner's manuals.

In Mehelenbacher et al. (2002), participants were asked whether they read the owner's manual for the vehicle they drive most often, and if so, how much of it they read. About 59% reported having read the owner's manual. Of those who stated that they read the manual, they reported reading an average of 52.7%. Most studies on product manuals have focused on automotive vehicles and seldom focus on other product types. Vehicle manuals are notorious for their length and have other unique aspects that may make them different from manuals for other products. This study examines a larger set of product types. Additionally, the present study's data are combined with those in an earlier study on the same products (Wogalter et al., 1991) and with that examines manual reading scores with respect to two product beliefs; namely, hazardousness and familiarity.

2. Method

2.1 Participants

A total of 670 participants comprised of both university students and older nonstudent adults.

2.2 Materials and Procedure

Names of 16 generic consumer products were used and are listed in Table 1. Participants were instructed to assume that they have just purchased each of the products and that each has an accompanying owner's manual or other product literature. Approximately half of the participants (Group 1) were asked to estimate for each product how much of the accompanying literature they would read. Participants answered using a percentage scale from 0 to 100%. A second group of

participants (Group 2) was given the identical task and were also asked to estimate the total number of pages of product-related literature that would accompany the product (estimated length of product manual).

3. Results

Table 1 presents the means. The means percentages of the product manuals that Group 1 said they read appear in the first column. The percentage-read means for Group 2 appear in the third column. The two groups' mean estimates were highly correlated ($r=.94$, $df=15$, $p<.0001$). Group 2 participants tended to give lower reading percentages after they considered the number of pages, but the overall mean difference did not reach significance at the conventional level ($p=.053$).

Table 1. Mean estimations of how much (%) of the product manual that they would read by two participant groups for 16 products. Also shown are estimated page lengths of manuals and a derived variable of how many pages of manuals that they would read.

Product	Group 1		Group 2	
	% Manual Read	Estimated Length-in pages	% Manual Read	Pages Read (Derived)
Car/Truck	56.0	125.9	34.7	42.5
Ink-jet printer	46.3	31.9	28.6	8.3
Garden shears	6.3	3.3	11.1	0.4
Toaster/oven	17.0	11.2	16.2	2.6
Gas outdoor grill	51.6	20.5	38.1	8.3
Hammer	2.5	1.4	5.9	0.1
Life vest	25.5	5.6	32.3	2.0
Drip coffee maker	30.1	10.9	27.4	2.9
Steam iron	23.8	7.7	20.7	1.8
Ladder	9.7	3.5	14.4	0.6
Insecticide/pesticide	67.9	8.3	53.7	4.2
Bicycle	23.4	14.9	27.3	4.5
Inflatable boat	39.3	13.9	38.4	6.5
Chain saw	61.7	19.8	51.5	10.7
Binoculars	20.3	8.3	17.0	1.4
Gas lawn mower	48.4	27.5	39.0	11.4

The mean estimates product manuals' page lengths are shown in the second column. As expected these estimates vary across different products. Lastly, Table 1 shows a derived variable created as a multiplicative function of the mean estimated pages and the percentage-read (converted to proportions) variables. This new variable provides an estimate of the number of pages that participants would read.

Of the 16 products, 14 had been examined in prior research on people's beliefs about warning-related variables. Two variables known to be strongly associated with willingness to read product warnings are perceived hazard and familiarity. Data from one study (Wogalter et al., 1991) in which hazardousness and familiarity ratings were collected were merged with the data from the present study.

The percentage of the documentation that they would read was positively correlated with perceived hazard ($r=.70$, $p<.01$) and negatively correlated with familiarity ($r=-.61$, $p<.05$). A multiple regression showed that both variables accounted for significant variance in predicting the percentage of product documentation they would read ($R=.81$; $R^2=.66$).

4. Discussion

This study extends prior research on reading product manuals beyond vehicle manuals. Results showed that different product types influence manual reading. People recognize that different product manuals vary in length as indicated by their page estimates. A derived variable, pages that they would read, gives a descriptive indication of the amount of time and effort that people would give to reading documentation.

Using data from earlier research it was found that the percentage-read variable was positively correlated to perceived hazard and negatively correlated with familiarity. The greater the hazard, the more they read, and the greater the perceived familiarity, the less they read. In general these findings comport with research indicating that people do not read all product documentation. There are different extents of reading materials for different products.

Typically manuals contain information critical for safe product use. Manufacturers ought to evaluate the utility of product documentation. Additional research should explore ways to enhance people's knowledge about product risks and hazards.

References

- Leonard, S. D., and E. W. Kames 2000. "Compatibility of Safety and Comfort in Vehicles". Proceedings of the IEA/HFES 2000 Congress, pp. 357-360. Santa Monica, CA: Human Factors and Ergonomics Society
- Mehlenbacher, B., M. S. Wogalter, and K. R. Laughery 2002. "On the reading of product owner's manuals: Perceptions and product complexity. Proceedings of the Human Factors and Ergonomics Society, 46, 730-734.
- Rettig, M. (1991). "Nobody Reads Documentation". Communications of the ACM, 34 (7), 19-24.
- Wogalter, M.S., J. W. Brelsford, J.W., D. R. Desaulniers, D.R. and K. R. Laughery 1991. "Consumer Product Warnings: The Role of Hazard Perception". Journal of Safety Research, 22, 71-82.
- Wright, P., P. Creighton, and S. M. Threlfall 1982. "Some Factors Determining when Instructions will be Read". Ergonomics, 25, 225-227.