

THE EFFECTS OF COLLEGE EDUCATION ON  
CONSUMER SOPHISTICATION: AN EXPLORATORY STUDY

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Abstract

The authors report the results of an exploratory survey among students with varying degrees of formal education. The study investigated their knowledge concerning the product warranty on their recent purchase (within the year) of a consumer durable. The results provided some support for the notion that there is neither a linear nor a monotonic relationship between education and information seeking in the purchase of consumer durables.

Introduction

Traditionally, college education has served mainly to prepare persons with the skills needed to earn a living. Recently, however, there has been a growing awareness that education produces consumers who strive to spend their earnings wisely. Engle, Blackwell and Kollat (1978, p. 51) put this view succinctly: "...the effect of higher education is likely to be greater sophistication in consumer decisions. As such, consumers are likely to be more demanding in the areas of product quality, warranties, sales assistance and a variety of marketing policies..." It has been suggested that these better educated consumers are richer and more likely to own a fairly wide range of consumer durable goods (Thorelli, Becker and Engledow 1975, pp. 142-144), engage in such consumer-activist activities as returning unsatisfactory products (McEwen 1978), and evaluate alternative products on a greater number of salient dimensions, hence becoming more satisfied consumers (Crosby and Taylor 1981).

Information seeking, for instance, has been shown to be greatest among households with higher education (Claxton, Fry and Portis 1974; Newman and Staelen 1972). Similarly, in a study using information-display-board shopping tasks, Schaninger and Sciglimpaglia found significant correlations between housewives' education and the number of attributes examined for a durable product (1981).

Using child safety knowledge and playground behavior, consumer education has been shown to influence both knowledge and behavior in the desired direction (Reid and Preusser 1983). Because of these potential benefits for the enlightened consumer, some states are even making consumer education courses required in high school curriculums (Langrehr 1979).

Sproles, Geistfeld and Badenhop (1978) operationalized consumer sophistication with such variables as general education level, number of consumer education courses completed, awareness of brand names, past experiences in purchasing products, self confidence in purchasing, level of general knowledge relating to purchase decision making, etc. They indicated from their findings that, "...it also appears that consumer sophistication can be a relevant intervening variable in consum-

ers evaluation of product quality and purchase preferences."

One of the theoretically relevant variables in consumers' purchase of durable goods is the warranty on such goods (Bryant and Gerner 1978). Warranties are purported to act as an important sales variable (Kendall and Russ 1975) and as a protection from unreasonable product claims (Udell and Anderson 1968). Indeed, warranties have been shown to reduce financial risk perceptions with both college students and "upscale" adult consumers (Shimp and Bearden 1982).

The purpose of this study is to investigate whether increased levels of education discriminate between consumers' knowledge of, use of, and request for warranty coverage in the purchase of consumer durables, e.g., to determine if there is a significant difference among education levels (from college freshman to doctorate) in the perception of warranties. The influence of other hypothetical explanatory variables including age, business courses completed, and social class will also be investigated.

Studies by Newman and Staelin (1972) and McEwen (1978) have dealt with this topic using the dichotomy of college degree versus no college degree as discriminating levels. The statement by Newman and Staelin (p. 252) that "It is clear, however, that the relationship between education and information seeking is neither monotonic nor linear," seems to contradict theoretical and public views.

Findings from this study may be of interest to both marketing theorists and business and public policy strategists. Consumer policy has been categorized as protection, education and information with a note that it is time for a change in emphasis from a protection and "public trusteeship" stance toward one emphasizing education and information (Thorelli and Engledow 1980). If increasing levels of education, per se, are followed by greater awareness and demand for such product dimensions as warranties, then we can expect greater payoffs from our education system in terms of consumer sophistication.

Marketing educators and theorists may also begin to appreciate the need to use better delineations of consumer education levels as suggested by this study instead of the current college-degree-and-above and below-college-degree dichotomy. For business firms, an indication that consumers become more sophisticated as they attain higher education levels may call for a review of present marketing strategies. A decline, however, in consumerism may be anticipated as consumers become better able to ask for and discriminate between various product offerings on their own. There will, hence, be less need for government intervention in the marketplace.

Description of the Study

One hundred, forty-six usable questionnaires were

obtained from a sample of one hundred eighty students at a leading southeastern business school. The choice of business school was both for convenience and because most of the courses taken by college students which might have bearings on warranty information are taught in business schools.

Subjects completed the questionnaires only if they had bought a durable item within the last twelve months. The time frame was so restricted because items such as watches, irons and fans which were expected to represent the majority of students' purchases generally have warranties of one year or less. Additionally, it was necessary that the subjects be able to recall how they shopped for these items.

To capture the importance of warranty terms in purchase decisions, respondents were asked to rank eight criteria which were felt to be the most influential in purchase decisions. These criteria were purchase price, whether he/she had purchased a similar item before, retail outlet, reputation of the manufacturer, warranty coverage, dependability, style, and other (included to account for any other subjective criteria).

Experience was operationalized by asking respondents to state on a seven-point scale (ranging from completely satisfied to completely dissatisfied) how satisfied they were with the items they purchased. Other information obtained from the respondents included when they learned about the warranty on the items for the first time (before or after purchase), source of warranty information, how well they understood warranty terms on their own, whether they requested more explanation of the warranty terms from the salesperson, how well the salesperson understood the warranty terms, the implied value of the warranty, subjective evaluation of the warranty-quality relationship, and whether they felt a regulation requiring salespersons to explain warranty terms to prospective buyers was necessary. Respondents also provided information on their student classification; the income, level of education, and occupation of the head of their household; and marketing-related courses completed.

## Results

One hundred, twenty-four of the 146 respondents purchased products within the major categories included in the questionnaire (stereo, hair dryer, camera, watch, fan, electric iron, automobile, automatic drip coffee maker, coffee percolator, toaster, and television) while 22 indicated they had purchased some "other" product. Most frequently indicated were watches (26), stereos (22), and automobiles (22). Items were most likely to have been purchased during school vacation times, e.g., July (20), August (21), and December (20).

In general, students were satisfied with their purchases (88%) with only four students indicating they were dissatisfied. Eighty-six percent said their purchased product included warranty coverage and, as expected, the majority of the warranties (70%) were for a period of one year or less. Fifteen respondents (12%) said that while they knew a warranty was given for the product, they didn't know how long the life of the warranty was. More than one out of four (27%) said they knew about

the warranty only after the purchase and 83 percent of these indicated they learned about the warranty because it was attached to the product. Of the 73 percent who indicated they learned of the warranty prior to purchase, the majority said they knew of it from information provided by the salesperson (38%) or from personal experience (30%). Of those respondents who had learned of the warranty from a salesperson, 51 percent had specifically requested warranty information.

Regarding their understanding of the terms of the warranty, nearly all (96%) said they understood them on their own at least fairly well. Only 22 percent, however, felt they understood them "extremely well."

How important was it for consumers to know the terms of the warranty prior to purchase? Only 17 percent indicated it was very important and 14 percent felt it was not important at all. Most (53%) felt it was either very important or fairly important.

Do consumers perceive a warranty to be an indication of product quality? Nearly all of the respondents (98%) told us that quality of a product is somewhat related to warranties by only 14 percent were convinced enough to indicate it was completely related.

## Evaluative Criteria

What evaluative criteria are most important to consumers in purchase decisions? Respondents ranked the eight listed evaluative criteria from one (most important) to eight (least important). In order to determine the overall rankings of the evaluative criteria, it was necessary to compute weighted means of the ranks. Thus a low mean indicates a more important criterion and a high mean indicates a less important one.

**Table 1** shows the overall means and standard deviations of respondents' ranking of the eight evaluative criteria which were thought to influence their purchase of durable items. These weighted means were also ranked to determine the overall rankings of the evaluative criteria. Rankings are also shown in **Table 1**.

As seen, purchase price was ranked first overall followed by dependability, reputation of manufacturer, style, warranty, whether respondent had purchased a similar item before, retail outlet, and other considerations.

Also shown in **Table 1** are rankings of the eight criteria by student classification. Regardless of classification, respondents ranked the importance of the evaluative criteria used in purchasing durable items similarly. Warranty is ranked fourth or fifth by all groups except Ph.D. students where it ranked seventh. Additionally, there appears to be little variation in ranking within the group (mean=6.11, s.d.+1.17).

In general, the means for the rankings of the items exhibit similar values for all items. Some exceptions are that juniors rank purchase price as less important than all other student classifications (mean=3.04) while master's students rank reputation of the manufacturer more important than do other groups (mean=2.50) and dependability less important (mean=4.00).

Thus it appears, that contrary to expectations, increased levels of education do not influence the perceived importance of warranties or of any other evaluative criteria in the purchase of durable goods.

Marketing theory would support the contention that retail outlet (especially in terms of convenience) is an important criterion in the purchase of durable items. This was not the case as retail outlet ranked seventh overall.

Also, purchase experience with similar items was considered unimportant (ranked sixth by all groups). This, however, may be explained by the fact that students could be buying most of these durable items for the first time and thus not relying on their previous experiences with products. Rather than actual purchase experience, reputation of the manufacturer (which was consistently ranked third most important) was obviously more important.

Does the warranty become more important in the purchase of more expensive products? **Table 2** shows that when classified by type of product purchased, responses on the rankings of the various evaluative criteria again are consistent across all categories with warranty again being ranked either fourth or fifth. In fact, the mean for the ranking of warranty is highest (least important) for the automobile, obviously the most expensive item. Dependability, not purchase price, is considered most important within this product category.

Another indication of increased consumer sophistication would be a knowledge of warranties prior to purchase. Thus it is assumed that a more sophisticated consumer would seek out warranty information either from a salesperson or from package information prior to purchase. **Table 3** shows student classification and first-time knowledge or warranties. Whether a student knows about the warranty of a product he is buying for the first time before or after payment for the product is independent of student classification, again contradicting our theoretical notion that a higher academic level would be associated with increased consumer sophistication as defined in this study.

**Table 4** provides further confirmation of the statistical independence of student knowledge of warranties and student classification. It shows that the knowledge or warranty terms before the purchase is both unimportant overall and statistically unrelated to student classification. The exception is for those respondents in master's programs. A little over 64 percent of these believe that it is important to know the terms of the warranty prior to purchase.

Thus, we feel there is some support inferred for Newman and Staelin (1972) cited earlier that there is neither a linear nor monotonic relationship between education and information seeking.

#### Additional Findings

A surprising finding is that 95 percent of the sample agreed with the statement that there should be a law requiring sellers to clearly explain the terms of warranties on all durable goods before a sale. The percentages of respondents agreeing by respondent classification were similar with the

exception of the Ph.D. classification where only 75 percent agreed.

Both respondents who learned of the warranty prior to purchase and those who learned of it following purchase were asked how they learned of the warranty. While most of those who learned of the warranty prior to purchase learned of it from a salesperson or knew of the warranty from personal experience, of the 29 who learned of the warranty after purchase, 24 said they knew because of the warranty attached to the product. In total, 36 percent used information attached to the product.

While crosstabulation of most questions by student classification evidenced little variation, responses provided by the Ph.D. students did vary on several items. While overall 36 percent of the respondents indicated that they knew of product warranties prior to purchase of a product from personal experience, 60 percent of the Ph.D. students used experience as the source of information. When asked how important it is to know the terms of a warranty prior to purchase, overall only 30 percent said it was only somewhat important or not important at all. Seventy percent of the Ph.D. students, however, feel such information to be low in importance. Such responses might indicate that those in higher level academic programs feel warranties are of little value. When asked about the relationships between product quality and warranties, Ph.D. responses were not different from other student classification groups. That the Ph.D. group uses experience more often in selection of products, that they feel product warranties are less important and that they do, however, feel product quality and warranties are related thus provides some contradiction. One explanation which might be posited is that the Ph.D. group being older than undergraduate student groups (mean age = 29.5) and, thus, having greater purchasing experience has developed a ranking of product attributes such that while product warranty is relatively unimportant in choice heuristics, it remains one evidence of product quality.

A final area in which the Ph.D. group evidences marked difference from other student classification groups regards a law requiring warranty terms explanations. Twenty-one percent of this group indicated that they disagree with this suggestion. Only five percent of the total sample disagreed.

#### Implications and Conclusions

Obviously, insufficient cell sizes distorts both the interpretation and validity of some of the results reported in this study. There are, however, a few implications from the findings which have merit.

The salesperson is still the dominant source of information for consumers. For durable goods where manufacturers use consumer feedback to generate much of their new-product ideas (Chatterji, Lonsdale and Stasch 1982) it becomes necessary to train salespersons so that they both understand the products they are selling and also listen to consumer complaints.

The claims of increasing consumer sophistication as a result of rising levels of consumer education has been overexaggerated. At least results from this study offer no support for such conclusions.

We are also not likely to see an abatement of consumerism as a consequence of rising levels of consumer education.

Perhaps the importance of warranties as evaluative criteria in consumer decision-making processes has equally been over-blown. Findings from this study suggest that other criteria such as purchase price, reputation of the manufacturer, style and whether the consumer has bought a similar product before may be more salient than warranties. Or it may simply be that the results of this study reflect the fact that the sample (students) do not generally pay attention to product warranties when they purchase durable items contrary to the responses they check in questionnaires.

While the value of ex post facto research such as that reported here may be considered of less value than more rigorous experimental approaches, its worth should not be underestimated. Kerlinger has stated (1973, p. 392) "It can even be said that ex post facto research is more important than experimental research...the most important social and scientific and educational research problems do not lend themselves to experimentation, although many of them do lend themselves to controlled inquiry of the ex post facto kind."

Future studies in this area may utilize unobtrusive methods as alternative ways to investigate relationships between rising levels of education and consumer sophistication, especially the request for and use of warranty information.

TABLE 2

RANKINGS FOR THE EIGHT EVALUATIVE CRITERIA USED IN PURCHASING DURABLE ITEMS BY TYPE OF PRODUCT

Evaluative Criteria	Camera/Watch	Small Items	Automobile	Stereo/TV
<b>Purchase Price</b>				
Rank	1	1	2	1
Mean	2.43	2.24	2.60	2.03
s.d.	1.74	1.26	2.11	1.70
<b>Bought Similar Item Before</b>				
Rank	6	6	5	7
Mean	5.13	5.03	5.33	6.10
s.d.	1.80	2.20	2.06	1.30
<b>Retail Outlet</b>				
Rank	7	7	7	6
Mean	6.27	5.55	6.21	5.45
s.d.	1.05	1.43	1.38	1.55
<b>Dependability</b>				
Rank	3	2	1	3
Mean	3.27	2.43	2.58	3.29
s.d.	1.41	1.19	1.31	1.51
<b>Reputation of Manufacturer</b>				
Rank	2	3	3	2
Mean	3.14	3.87	3.74	2.84
s.d.	1.58	1.96	1.59	1.29
<b>Warranty</b>				
Rank	5	4	5	4
Mean	4.57	4.74	5.05	4.16
s.d.	1.45	1.65	1.51	1.44
<b>Style</b>				
Rank	4	5	4	5
Mean	3.60	5.00	3.84	4.55
s.d.	2.22	1.73	1.95	1.90
<b>Other</b>				
Rank	8	8	8	8
Mean	7.60	7.03	6.75	7.58
s.d.	1.55	2.39	2.38	1.63

TABLE 1

RANKINGS FOR THE EIGHT EVALUATIVE CRITERIA USED IN PURCHASING DURABLE ITEMS BY STUDENT CLASSIFICATION

Evaluative Criteria	Freshman	Sophomore	Junior	Senior	Master's	Ph.D.	Average
<b>Purchase Price</b>							
Rank	1	1	2	1	1	2	1
Mean	2.44	1.79	3.04	1.97	2.17	2.60	2.27
s.d.	1.86	1.45	1.79	1.50	1.59	1.51	1.64
<b>Bought Similar Item Before</b>							
Rank	6	6	6	6	6	6	6
Mean	5.69	5.15	5.15	5.07	5.67	5.22	5.25
s.d.	2.02	1.96	1.98	2.13	1.61	2.11	1.97
<b>Retail Outlet</b>							
Rank	7	7	7	7	7	5	7
Mean	6.00	5.88	6.15	5.33	6.08	5.00	5.78
s.d.	1.21	1.09	1.17	1.71	1.00	2.29	1.41
<b>Dependability</b>							
Rank	2	2	1	2	3	1	2
Mean	2.94	2.88	2.89	3.10	4.00	2.56	3.02
s.d.	1.77	1.32	1.48	1.47	1.60	1.01	1.47
<b>Reputation of Manufacturer</b>							
Rank	4	3	3	3	2	3	3
Mean	3.75	3.30	3.26	3.67	2.50	3.67	3.39
s.d.	1.48	1.57	1.81	1.54	1.31	2.35	1.65
<b>Warranty</b>							
Rank	5	4	5	4	4	7	5
Mean	4.88	4.67	4.19	4.33	4.17	6.11	4.57
s.d.	1.46	1.53	1.50	1.58	1.59	1.17	1.56
<b>Style</b>							
Rank	3	5	4	5	5	4	4
Mean	3.38	4.82	3.63	4.77	4.58	4.67	4.34
s.d.	1.86	1.70	2.17	2.00	2.15	1.87	2.00
<b>Other</b>							
Rank	8	8	8	8	8	8	8
Mean	6.94	7.59	7.70	7.70	6.83	6.20	7.38
s.d.	2.32	1.67	1.20	1.32	2.73	2.94	1.87

TABLE 3

FIRST TIME KNOWLEDGE OF PURCHASED PRODUCTS WARRANTIES BY STUDENT CLASSIFICATION (PERCENTAGE OF RESPONDENTS)

	Freshman	Sophomore	Junior	Senior	Master's	Ph.D.	Average
<b>Before Payment</b>	21	15	36	19	36	50	27
<b>After Payment</b>	79	85	64	81	64	50	73

TABLE 4

IMPORTANCE OF KNOWLEDGE OF WARRANTY TERMS BEFORE PURCHASE BY STUDENT CLASSIFICATION (PERCENTAGE OF RESPONDENTS)

	Freshman	Sophomore	Junior	Senior	Master's	Ph.D.	Average
<b>Extremely Important</b>	14	28	8	19	21	0	17
<b>Very Important</b>	21	18	27	23	43	10	24
<b>Fairly Important</b>	36	43	35	23	7	20	29
<b>Slightly Important</b>	21	4	15	19	29	20	16
<b>Not Important at All</b>	7	7	15	16	0	50	14

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