

benefits. Ideally, in future work, these decisions might be modeled by making use of the information presented by Fischer to capture exogenous effects of tax and transfer programs in the equations for living arrangements. Alternatively, simultaneous equations techniques could be used.

To sum up, a variety of somewhat overlapping questions concerning well-being--labor supply issues, household formation and its consequences, and income distribution--can be addressed to varying extents with the LIS data. Further research along these lines will clearly be important.

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PATTERNS IN THE ACQUISITION
OF FOOD INFORMATION

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Cluster analysis was employed to group respondents into categories which were similar in their use of ten different sources of food information. Six clusters were identified including Infrequent Users, Moderate Users and Frequent Users. Three other clusters were selective in their use of media, using some media more frequently than others. Differences among the clusters in the benefits of search (including factors increasing the efficiency of search) and the costs of search were investigated. The results suggest that any program of food and nutrition information should put strong emphasis on the benefits of the information as well as on reducing the costs of acquiring information.

After reviewing a number of the studies of information search by consumers, Wilkie and Dickson (1985) noted that the results were relatively consistent. The findings suggest that a large number of consumers engage in little information search and that there is wide variation in information search across consumers with some engaging in extensive search although many do not.

Most of the past studies of information search have focused on the usage of particular sources such as advertising, food labels, interpersonal sources or Consumer Reports. Those concerned with informing consumers need a clearer picture of information acquisition by individual consumers from a variety of sources. A few studies have looked at the acquisition of information from multiple sources and have identified patterns in the use of these sources. Several studies of the purchase of durables and semi-durables have investigated patterns in the acquisition of information from multiple sources. They include studies of the purchase of automobiles (Furse, Punj and Stewart 1984; Kiel and Layton 1981), appliances (Westbrook and Fornell 1979; Claxton, Fry and Portis 1974), furniture (Claxton, Fry and Portis 1974) and clothing (Midgley 1983).

These studies have dealt with relatively expensive products which are purchased infrequently. They also have dealt with products for which trial purchases or experiences typically are not feasible or are limited to a test drive. It is unclear to what extent these findings are relevant for regularly purchased nondurables such as food. There is clear evidence of a high degree of

variability among consumers in the use of food choice information in a study by Feick, Herrmann and Warland (1986). The study, however, provides few insights into patterns of information use. One study based on 1972 data did investigate patterns in the use of two information sources, grocery store ads and store visits (Miller and Zikmund 1975). It identified several distinctly different patterns in the use of these two sources.

An understanding of patterns in the acquisition of food information is essential for the development of effective informational and educational programs. Such programs have been a central part of consumer education since its early years (Herrmann 1982). Patterns in information use also are important to sellers who wish to communicate product benefits to the full range of potential buyers in an effective and efficient manner. An understanding of patterns in information use are, in addition, important to public officials who must decide whether existing informational arrangements adequately serve the full range of consumer needs.

PREVIOUS STUDIES

Past studies of the sources of information consulted by consumers have focussed chiefly on some or all of the four broad categories identified by Newman and Staelin (1973): interpersonal sources, the mass media, store visits and advertising. All these categories appear appropriate to the study of food information acquisition.

Certain other categories also appear to be useful. In past studies little attention has been given to examination of the product itself as a source of information. Product labels are obviously an important source of information in food buying and their use has received extensive study. Another source also appears to be appropriate for inclusion: the experience gained from examining and using the product (Kotler, 1984).

Any study of food as an overall category must focus on the acquisition of information for the ongoing process of food choice. Focussing solely on prepurchase search ignores the continuing need for up-to-date information and the continuous updating of information from the purchase and use

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process (Feick, Herrmann and Warland 1986). This purchase and use process provides new and useful, although limited, information even without overt search.

MODEL OF SEARCH FOR FOOD INFORMATION

A variety of types of information about food are available including information on use and preparation, on ingredients and nutrient content, on availability and price and on sensory appeal. This information is available from a variety of sources. Most sources, however, specialize in particular types of information. From an educational and public policy standpoint it appears most useful to consider use of the full range of available information sources.

It appears useful to consider five broad categories of information sources: interpersonal sources, media sources, visits to multiple stores, in-store search activity (including product inspection and label reading), and experience based on product use.

Benefits of Search

A variety of factors have been found to affect information acquisition, both positively and negatively. Recent work on the use of particular individual sources of information on food (Feick, Herrmann and Warland 1986) demonstrates the usefulness of organizing these factors into two broad categories: (1) costs, including factors which constrain or discourage information search and (2) benefits, including factors which encourage or motivate search and factors which make it more efficient (i.e., factors which reduce the cost of search). Factors which encourage information search are discussed in the following sections.

Sex. Blaylock and Smallwood (1987) found female shoppers to be able to obtain needed food items at a lower cost per meal and concluded they were more efficient in searching out lower prices than male shoppers. If women are more efficient searchers than men, they may be more active searchers because of the higher returns to search which they obtain. In addition to the monetary returns to search, search may also yield enjoyment. Ezell and Motes (1985) found that women considered grocery shopping to be a more desirable activity than did men. This presumably would make them more likely to gather information while in a store and to visit several different stores.

Age. Age and experience can increase search efficiency (Blaylock and Smallwood 1987) and the returns to search effort. Declining physical capabilities and energy may, however, reduce search by increasing its perceived cost. Older people have been found to be more frequent users of some sources of food information (Feick, Herrmann and Warland 1986). The health concerns of older shoppers can be expected to increase the value of health-related food information and the search for it.

Marital Status. Concern with the food preferences and nutritional needs of a spouse could be

expected to increase the value of information and the resultant search. Married older women have been found to be more concerned about nutrition than widows and older singles (Cross, Herrmann and Warland 1975). Marital status was not, however, found to have a significant impact on the use of the five information sources considered by Feick, Herrmann and Warland (1986).

Education. Higher levels of education can be expected to increase the efficiency of search, increasing the benefits obtained per unit of time spent in acquiring information (Blaylock and Smallwood 1987). Education has been found to be positively related to the use of several different food information sources (Feick, Herrmann and Warland 1986). It was not found to be related to the use of television, however.

Nutritional Concerns and Beliefs. Strongly held beliefs about the importance of nutrition and concerns about personal health could have the effect of increasing the value of food information and encouraging search. Feick, Herrmann and Warland (1986) found that health status was related to the frequency of using information from doctors and health professionals, but not to the use of other information sources they studied.

Enjoyment of Food-Related Activities. Certain search activities may yield pleasure independent of their utility in providing information. Both Wilkie and Dickson (1985) and Bloch and Richins (1982) have suggested enjoyment of shopping as a factor promoting information search. Consumers have been found to differ in their enjoyment of grocery shopping (Widrick and Fram 1983). Shopping enjoyment could increase the time spent within a store including time spent in acquiring information, and also could increase the number of different stores visited. Similarly, enjoyment of conversations about food products and food preparation could increase the use of this information source. Kolodinsky (1988) has found enjoyment of shopping effort to be strongly related to one particular kind of food information search: search for information on prices.

Costs of Search

A more limited set of factors can be regarded as costs of search or as constraints on or barriers to search.

Income. Higher income could be expected to increase the opportunity cost of time and thus reduce the time spent in information search. Household income was not, however, found to be related to the use of the five different food information sources studied by Feick, Herrmann and Warland (1986). One study has found an effect opposite to what might be expected (Miller and Zikmund 1975). Income was found to be positively related to the number of different stores visited and to the reading of grocery store ads. There is evidence in that this result may have been due to better access to the print media and to the personal transportation needed to facilitate store visits.

Labor Force Participation. Employment outside the home could be expected to increase the opportunity

TABLE 1 - Means of the Cluster Variables for the Six Clusters

Source	1 Infrequent Users (n = 80)	2 Selective Occasional Users (n = 114)	3 Print Media Users (n = 40)	4 Moderate Users (n = 96)	5 Selective Frequent Users (n = 68)	6 Frequent Users (n = 59)
Asking others	1.54	1.74	1.33	1.96	2.35	2.58
Watching TV programs	1.23	1.28	1.15	1.81	1.69	2.20
Reading magazine articles	1.55	2.03	2.53	2.41	2.88	2.97
Reading articles in food pages	1.51	1.58	2.63	2.37	2.94	2.90
Reading newspaper food ads	1.45	1.75	2.88	2.55	2.72	2.93
Picking up pamphlets	1.20	1.33	1.30	2.01	2.81	2.64
Going to several stores	1.76	1.31	1.05	2.41	1.29	2.76
Checking product labels	1.21	2.58	1.88	1.89	2.37	2.83
Looking over new products	1.71	2.19	2.55	2.26	2.78	2.46
Trying new products	1.76	2.01	2.23	2.09	2.63	2.25

Scoring: 1 = Seldom or never, 2 = Sometimes, 3 = Frequently

cost of time, having the same effect as higher income, and thus reducing search. Labor force participation has been found to reduce the use of several time-intensive sources -- conversations with family and friends, the reading of books and pamphlets and the viewing of television programs (Feick, Herrmann and Warland 1986).

Time Pressure. Limited time availability for shopping and meal preparation may reduce information search activity. Under time pressure, both the food shopping and meal preparation processes will be simplified wherever possible. Time pressure has been found to have a negative effect on information acquired in an experimental setting on bread prices and attributes (Moore and Lehman, 1980). Time pressure also has been found to reduce television viewing (Robinson 1977).

DATA AND ANALYSIS

The data were collected in telephone interviews conducted in June and July 1985 with 458 respondents in the coterminous United States. A random sample of operating numbers with stratification to the county level was employed. The interviews were conducted with the major food preparer of the household, all of whom also did some or all of the household food shopping. Households in the lowest income category (under \$15,000), non-whites and one-person households were found to be underrepresented in the sample.

The current, on-going use of ten different sources

of food information was investigated. The sources are described in Table 1. The sources for study were chosen to represent the five major categories of sources identified. The particular sources included were selected from those identified in previous studies as important sources of food information (Yankelovich, Skelly and White 1980; Jalso, Burns and Rivers 1965) and from those considered in previous studies of prepurchase information search.

The data were analyzed using the SPSS-X cluster analysis program employing Ward's method (Norusis 1985). Cluster methods group observations with similar characteristics. The result, in this case, was to create clusters of respondents who were relatively homogeneous in the frequency with which they used the particular information sources. After examination of the cluster results the six cluster solution was selected for further study.

RESULTS

The six clusters identified are presented in Table 1. They range from the Infrequent Users (Cluster 1) to the Frequent Users (Cluster 6). Those in each of the six clusters indicated distinctly different usage of the ten information sources as can be seen by comparing their mean scores on frequency of use. The information acquisition patterns of the six clusters are discussed in the following sections.

Infrequent Users

The Infrequent Users (17 percent of the respondents) reported the lowest usage of seven of the ten information sources. They were next to the lowest on two additional sources: asking others for information and in watching television programs. Their reported frequency for visits to several stores was, however, close to the overall sample mean.

Selective Occasional Users

The Selective Occasional Users (25 percent of the respondents) reported more frequent use of nine of the ten information sources than did the Infrequent Users. They did report a lower frequency of visits to several stores. Those in this category relied chiefly on occasional use of magazine articles, label reading, inspection of new store offerings and product trial experience for information.

A notable characteristic of this cluster was their dependence on information gathered from reading product labels and inspecting new store offerings. This pattern of information acquisition suggests only limited interest in or involvement with food (Robertson 1976). Low involvement consumers have been hypothesized to make little systematic information search prior to shopping. With low involvement, it is expected that some information will be gathered while shopping and some will be gained from product trial.

Print Media Users

The Print Media Users (9 percent of the respondents) reported the least frequent use of three sources: asking others, watching television programs and visiting several stores. They were distinguished by their relatively frequent use of three print media sources: magazine articles, newspaper food pages articles and grocery store ads. They also reported relatively frequent use of inspection of new products and trial of new products as information sources.

Moderate Users

The Moderate Users (21 percent of the respondents) reported intermediate levels of usage of the ten information sources. Their reported use fell near the overall sample mean for all ten sources. This indicates moderate use of sources with no selective emphasis on particular sources.

Selective Frequent Users

The Selective Frequent Users (15 percent of the respondents) reported frequent use of most of the ten sources. They reported the most frequent use of four sources: food pages articles, pamphlets distributed in stores, inspection of new products and trial purchases. They were second highest in use of two other sources: asking others and magazine articles. They were, however, relatively low in watching television programs. They also were substantially below the sample mean in their use of visits to several stores. It is useful to note in interpreting this behavior that both television viewing and store visits are relatively

time-consuming methods of obtaining food information.

Frequent Users

The Frequent Users (13 percent of the respondents) were distinguished by their frequent use of all ten of the information sources. They were the most frequent users of six sources: asking others, television programs, magazine articles, food ads, store visits and product labels. They were the second highest users of three additional sources: food pages articles, pamphlets and product trial. They were lower, but still above the mean for the sample mean on the inspection of new products.

THE EFFECTS OF COSTS AND BENEFITS

The distribution of cost and benefit variables across the six clusters was investigated to obtain insights into the factors underlying the behavior of each cluster. The independence of the distributions of the cost and benefit variables from the six clusters was tested using Chi-square analysis. All the costs/benefits variables were statistically significant except for marital status.

The Infrequent Users cluster contained the lowest percentage of female respondents (or, conversely, the highest proportion of males) and reported the lowest level of formal education. The group displayed little interest in or concern with nutrition. They also seemed to have little involvement with food. Relatively few said they enjoyed talking about food and recipes and few indicated they enjoyed grocery shopping. Overall, this downscale group appears to have put little importance on food information and to have put little effort into obtaining it.

The Selective Occasional Users differ from the Infrequent Users in several ways. The cluster included a higher proportion of female respondents. The cluster had the highest proportion of younger respondents with the highest level of formal education of any of the clusters. This cluster also had the highest proportion of respondents employed outside the home. In light of these responsibilities it is not surprising that the proportion of respondents indicating they frequently felt rushed at mealtimes was the highest of the six clusters. The cluster expressed some concern about nutrition with a relatively high percentage indicating they felt their choices diet would affect their future health. Those in the cluster were less interested in other aspects of food other than nutrition. Relatively few said they enjoyed talking about food and recipes or doing grocery shopping.

While the Infrequent Users displayed what may be a downscale pattern of low involvement, the Selective Occasional Users displayed what may be an upscale pattern of low involvement. They were somewhat more concerned about nutrition but also were relatively low in food information acquisition. The sources they used tended to be those which are readily accessible and easily processed. They depended chiefly on information

gathered in-store while shopping and on product trial for information. Their higher use of food labels may be a result of their somewhat higher level of nutritional concern.

In the Print Media Users cluster over three-fifths of the respondents were employed outside the home and a high proportion indicated they frequently feel rushed for time when preparing meals. While two-thirds said they felt that their future health would be affected by their present diet, many in the cluster did not follow recommended nutritional practices. This lack of interest in nutrition would seem to explain the cluster's low usage of product labels, a key source of nutrition information.

Over one-half in the Print Media Users cluster said they enjoyed talking about food and recipes. This interest links to the cluster's readership of magazine and newspaper articles on food. These two media are major sources of recipe information. Those in the cluster expressed less enjoyment of grocery shopping which may help to explain their low level of store visits. While those in this cluster seem to have moderate levels of involvement with food, their behaviors do not seem to match their expressed interest. One explanation is that their reading activities are a form of escapism. The gap between expressed interest and actual activity also may be due, at least in part, to the constraints imposed by employment outside the home and the time pressures experienced. The cluster's interest in newspaper food ads also suggests they may have been limited by financial constraints.

The Moderate Users had few distinctive demographic characteristics. The cluster did have one of the lowest proportions employed outside the home and the lowest percentage indicating they frequently felt rushed when preparing meals. One-fifth indicated their health was only fair or poor and over two-thirds felt their present diet would affect their future health. Despite these expressions of interest and concern, only a little over one-third of the cluster scored high in their efforts to follow recommended nutritional practices. The more frequent indications by this cluster that they enjoyed talking with others about food and recipes and enjoyed grocery shopping undoubtedly are related to the higher use of these two information sources by this cluster. The cluster's interest in food also explains its relatively high level of usage of magazine and newspaper articles, two other major sources of recipe information.

The Selective Frequent Users cluster had the highest percent of female respondents. This group was relatively older, but almost one half were employed outside the home. However, only somewhat under one third indicated they frequently felt rushed when preparing meals. Over three-fourths indicated they believed that their present diet would have a major effect on their future health. Almost one-half scored high in their efforts to follow nutritionally recommended practices. A high proportion indicated that they enjoyed talking about food and recipes and that they enjoyed cooking and preparing meals. However, only about one-third indicated they really enjoyed

grocery shopping. This response helps to explain the low frequency of visiting several stores in this cluster. Those in this cluster appear to be nutritionally concerned and involved with food and sources. They did, however limit their use of two time-intensive food information sources: store visits and television viewing.

The Frequent Users clusters was typically the oldest of the clusters and contained a high percent of female respondents. This cluster also had the lowest percent of respondents employed outside the home. Those in this cluster expressed high levels of concern with nutrition and typically said they tried hard to follow recommended nutritional practices. A large proportion of those in this cluster indicated a high level of involvement with food. About three-fourths indicated that they really enjoy talking about food and recipes and that they really enjoy cooking and preparing meals. The proportion indicating that they really enjoy grocery shopping was higher in this cluster than in any other. This highly involved cluster has many of the characteristics of the stereotypical "homemaker." They were interested in all aspects of food and were able to devote a good deal of time to acquiring information about them. In contrast to the Selective Frequent Users those in this cluster used a full range of information sources including both store visits and television, two time-intensive sources.

CONCLUSIONS

The six clusters identified show marked differences in the sources of information used and in the frequency of their use. Only a portion of the respondents made frequent use of all the sources available. Most used the various sources selectively. Some respondents, however, made little use of any of the sources or used only the most accessible and easily processed. The overall pattern of usage is much like that identified in earlier studies on durables and semi-durables with a high usage cluster, a low usage cluster, an in-between moderate usage cluster and several clusters which used sources selectively.

The pattern of the results indicates that there is no one information source which reaches all types of food preparers. The least-involved (the Infrequent Users) made relatively little use of any of the sources, but did make more use of store visits, examination of new products and product trial than other sources. These results support Robertson's (1976) suggestion that the less-involved are likely to engage in little search prior to shopping and are likely to rely chiefly on in-store sources. The information use pattern of the less-involved suggests that in-store provision of information should receive continuing priority.

The results in this study suggest that information usage is driven by perceived benefits, but may be constrained by cost factors. These benefits include an interest in and an enjoyment of food and nutrition/health concerns. The two highest search categories both were motivated by such

interests and concerns. The differences between the two highest search clusters, the Selective Frequent Users and the Frequent Users, appear to arise out of differing willingness to devote time and effort to two time-intensive sources: watching television programs and visiting several stores. These differences underline the conclusions that perceived benefits must be present to motivate search, but that costs may operate to constrain it.

In recent years there has been much interest in simplifying the information environments available to consumers. Substantial attention has been given to ways to improve the format and presentation of nutrition label and unit price information. The results of this study suggest that changes which reduce costs will be beneficial. However, it still is essential to motivate consumers to use such information.

It is important to continue to provide and to work to improve the food information provided on food packages and within stores. Such information is readily accessible and is among the sources most frequently used by a wide range of consumers. In working to provide and improve such information it is important, however, to keep in mind that usage may depend, in large part, on the motivating forces of perceived benefits.

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ARE HEAVILY ADVERTISED PRODUCTS REALLY BETTER?

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BELIEFS

Some economists strongly assert that heavily advertised products are of better quality, yet empirical support remains very weak. As objective product evaluations become more extensive and better publicized, as the consumer public becomes better educated, it is possible that a stronger correlation between advertising and product quality might be discovered in the 1980s. This paper presents a replication of a decade-old study that compared ratings of product quality and advertising expenditure data, using contemporary data from the same sources.

ARE HEAVILY ADVERTISED PRODUCTS REALLY BETTER?

A basic consumer welfare issue asks whether consumers are well served using advertising per se as an indicator of product value. The potential loss to consumers from haphazard buying can be quite huge (Morris and Bronson 1969; Morris 1971), so any indicators of quality that are easily available in the marketplace beyond promotional assertions could be an aid to consumers.

Consumers tend to perceive heavily advertised brands to be of higher quality (Norris 1984; Woodside and Taylor 1978). At the same time, heavily advertised brands tend to be higher priced (e.g. Comanor and Wilson 1979; Telser 1964), although there exists dispute about the strength of the advertising-price relationship (e.g. Farris and Albion 1982; Farris and Reibstein 1979; Ferguson 1982; Telser 1974). These higher prices would be "acceptable" if associated with higher quality products. But it is not clear that the presence of advertising does, in fact, serve as a valid indicator of product quality (as asserted by Ferguson 1982; Nelson 1974; 1975; 1978).

In other words, should "choosy mothers choose Jif" because, as an advertised brand, it is most likely better than the store brand? Can the consumer "Be sure if it's Westinghouse," instead of a brand never seen on television? Is Budweiser a true "King of beers" because it is a heavily advertised product?

Economists' discussions of relationships between advertising and brand quality have been marked by contradiction. Norris (1984, pp. 40-45) provides detailed examples of how discussion might be colored by intellectual predispositions or financial ties of the researchers; various writers on the subject are described in business texts and by each other as advertising's "defenders" or "critics."

To many of advertising's defenders, the logic almost takes reference to an "as any fool can plainly see" argument. Nelson (1978) asserts that "The evidence seems inescapable: larger-selling brands do, on the whole, provide better value per dollar. The evidence also shows--and all would admit--that larger selling brands advertise more. In consequence, the more advertised brands are likely to be the better buys." Telser (1964) laid out several logical arguments as to why analysts should expect the quality of advertised goods to be greater than non-advertised goods of the same product, citing anecdotal evidence.

Reviewing research literature, Farris and Albion (1980) do find some data support for Nelson and Telser's arguments. They concluded that advertised products do tend to be of higher quality, though they admitted that the studies did not find a strong relationship and note that "its level of significance is questionable" (emphasis theirs; also discussed in Albion and Farris 1981, ch. 8).

However, in a comprehensive review of the literature of the economics of advertising, Norris (1984) disagreed with Nelson's primary assumption of "inescapable evidence." Presenting anecdotal examples plus an extensive survey of research on advertising and product quality--including the studies cited by Farris and Albion--he asserted that "[A] rather sizable body of evidence contradicts the assertion that heavy advertising or high price (or both, because they go together), are valid indicators of superior quality."

Part of the disagreement might relate to problems with data necessary for research which are frequently unavailable; and when available, are often inaccurate or untrustworthy (Norris 1984, p. 40). Most studies are extremely narrow in scope, limited in generalizations and virtually never replicated--each original author might dutifully note limitations, but later reviews ignore implications of the past research's limits.

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In general, data support for a positive relationship is extremely weak, often drawn from research directed at concerns other than advertising-quality relationships. Reviews of the research often mention "positive but not significant" relationships, though a non-significant finding means results might just as easily be explained as research artifacts.

Data from one study, often cited as evidence that heavily advertised products are better buys, were actually a minor portion of a larger analysis structured to determine whether or not Consumer Reports and Consumers Bulletin were anti-big business, giving low ratings to large advertisers because of a bias (Beem and Ewing 1954). While not finding any support for assertions that big advertisers were consistently rated low, the results do not lend themselves to conclusions about advertising and brand quality relationships.

A Federal Trade Commission (1933) study of canned fruits and vegetables in supermarket chains is the strongest finding of a positive correlation between advertising and quality. The chances of purchasing a high grade of canned goods was found to be greater when selecting from advertised brands than when selecting from the non-advertised alternative. Cole et. al. (1955) looked at similar data and are cited in contrast with the FTC study as finding very mixed, weak results (Albion and Farris 1981). However, it should be noted that the Cole group had not collected data with an eye towards advertising-quality comparisons.

Using Consumers' Union assessments of quality, Marquardt and McGann (1975) found heavy advertisers' products earning a disproportionately high number of good product ratings, but the overall conclusions were that private versus nationally advertised brands were not significantly associated with differences in product quality. Rotfeld and Rotzoll (1976) did not find any significant positive Spearman rank correlation coefficients between Consumer Reports quality ratings and levels of advertising expenditures, though a strong and significant negative correlation was found in one product category for one year. Qualitative comparisons found that heavily advertising brands were more likely to be the better products by a slim margin, but only in some categories, in some years, for some limited versions of a given brand.

Farris and Reibstein (1979) and Farris and Buzzell (1979), using businesses' own assessment of quality relative to their major competitors, found a relationship between advertising and quality. However, Albion and Farris (1981) have pointed out that it was "not at any significant level, especially when price is taken into consideration."

Since they utilized the businesses' views of their quality, the work of Farris and his co-authors are an interesting contrast to Lambin (1975; 1976). Measuring the quality of 21 brands in seven countries, Lambin estimated a rival's reaction in advertising to a firm's change in product quality. Based on the reported elasticities of response, the interpretation was that a rival's budget will decrease as a response to a firm's product quality, the implications being that a firm's relative advertising intensity will increase with its relative product quality.

If product quality influences advertising expenditures--as opposed to simple covariation--Archibald, Haulman and Moody (1983) assert that the existence of published quality ratings should make the correlation between advertising and quality more positive. The authors tested this assumption with a look at quality ratings for running shoes published in Runner's World magazine and advertising expenditures, by manufacturer and by shoe model, in Runner's World, Runner, and Running Times. Unfortunately, the author's own discussion of research limitations and a necessary cynicism of quality ratings in publications that depend on advertising revenue from the rated firms would limit generalizations beyond the advertisers and publications used in their analysis.

However, a replication of an earlier study of advertising expenditures and product quality would add insight to these assumptions. Rotfeld and Rotzoll (1976) studied these relationships for 1972 and 1973, the start of a growth period in consumer education. The question becomes whether there is an improvement in the relationship between advertising expenditures and product quality after a decade of increased public awareness and desire for published product ratings.

Rotfeld and Rotzoll used Leading National Advertisers estimates of advertising expenditures and (mostly) Consumers Union assessments of product quality. These two data sources have altered little over the intervening decade, with the latter always explaining any differences or improvements in the tests or standards. If quality ratings in Consumer Reports change for the same brands over time, it is probably related to improvements in the organization's testing and might also be seen as an indication of how products change over time (Morris and Block 1968).

METHODOLOGY

Except where noted, the methodology and data analysis are replications of Rotfeld and Rotzoll.

The products were selected on the basis of readily available and unbiased product quality

data, obtained from Consumers Reports articles published in 1982 and 1983.

ANALYSIS

Product categories were selected by virtue of having been rated in Consumer Reports during 1982 or 1983. Product categories had to permit objective evaluation and some method by which responses across categories could be standardized. Products that were rated by general description, with allowances for personal preference, could not be standardized and were eliminated. Products such as cars, tires and refrigerators were excluded because of variance in the ratings between different models of the same brand, coupled with the difficulty of acquiring breakdowns on advertising expenditures for each model.

In all, 196 product brands were considered. For some products it was necessary to convert the varying product ratings to a standardized scale. Many of the products were rated by the magazine on a five-point scale, from "excellent" to "poor." Others were rated in levels of relative quality, such as "highest in overall quality," "slightly lower in quality," etc. Such ratings were converted to a standard five-point scale which occasionally meant drawing inferences from the accompanying article to make the transposition.

One product not converted was ready-to-eat cereal. The article did not give a clear indication of an accurate or fair way to convert the rating, so the category was eliminated from the quality grade comparisons, although it was retained for the correlation analysis.

Advertising expenditure data for each brand and company selected were obtained from the annual compilations published by Leading National Advertisers, Inc. (LNA) for 1982 and 1983. The 1972-73 study also included newspaper advertising expenditure data from Advertising Age. However, discussion suggested that inclusion of that additional data did not affect the results. Since that material is no longer readily accessible, it was not used in the replication.

For advertising expenditure data by coffee brands, each brand had separate figures for type of grind, combination campaigns, coupon offers, and "multi-product advertising." All expenditures for each brand were totaled to determine the advertising expenditure rank in the product category.

Once expenditure figures were gathered, the brands in each product class were rank ordered, from greatest to least amount of advertising, with brands not listed in LNA ranked last. The quality rank orders within each product class were then compared with the expenditure rank orders for 1982 and 1983. Summary correlation coefficients also were computed for the two major product categories, food product and soaps, and for all products in the study.

The relationship between product quality and advertising expenditures was analyzed in two ways. First, a Kendall's Tau rank-order correlation was performed to examine the relationship between the expenditure and quality rankings in each product category and across all categories.

Second, the relationship of brands in all categories to advertising expenditures was considered by comparing bivariate spending levels across product quality grades. One comparison was made between "heavily advertised" and "less-heavily advertised" brands and another comparison was made between "nationally" and "non-nationally" advertised brands.

"Heavily advertised" brands were those defined as having a minimum of \$5 million in advertising expenditures in either study year; "less-heavily" advertised brands had less than \$5 million in expenditures for either year. "Nationally advertised" brands were those for which any expenditures were found for 1982 or 1983; and "non-nationally" advertised brands were those for which no advertising expenditures could be found. The previous study defined "heavily advertised" brands as those with greater than \$1 million in expenditures. The higher figure was chosen for this study to adjust for increases in expenditures over the last 10 years. The jump to \$5 million was based, in part, on the size of increases reported in the LNA summaries for the brands. For example, the mean expenditure for creamy peanut butter in the 1972/1973 study was \$2189.75 million, while the figure for 1982/1983 was \$7987.57 million. Both the \$1 million and \$5 million figures are to a degree arbitrary, based in part on natural wide gaps in the absolute amounts spent (i.e. no brand spending was close to the border).

LIMITATIONS

As Norris (1984) points out along with other basic caveats to his review of the economics of advertising research, basic weaknesses of secondary data sources are a common problem.

Intrinsic difficulties in attempts to quantify the slippery concept of product quality, and the reliance on one secondary source for such a quantification, is apparent at the outset. There exists potential differences between the evaluative criteria of Consumer Reports and those of the ultimate consumers. One might even assert that the published ratings are "second best" to those done by the corporations themselves. However, advertising spending, product image and consumer (or corporate) judgments of quality are not independent measurements, while CR solely looks at how two products stack up against objective measures and performance potential, sometimes in terms

of variables consumers cannot discern. In other words, their ratings are more "objective."

Consumer Reports provides a standard for measurement across time and offers one of the few consistent and unbiased sources for such information. A related problem is the inability to include brands not rated by CR, although the major brands --those with which the consumers are most familiar --are generally included in the CR evaluations.

Generalizations are, of course, limited by the nature of the product categories reviewed for this study, low-cost convenience goods (as defined by Porter 1976). However, the products themselves may represent good subjects for research given the significant variation in quality across brands and the high levels of brand advertising for these products. Given the nature of more complex products, it is difficult to make assessments of quality for purposes of any systematic ratings and correlation analysis. For analysis such as this, there are problems from complex products having multidimensional quality features (as illustrated by discussions in Hjorth-Anderson (1984) and arguments between Hjorth-Anderson (1986), Curry and Faulds (1986) and Sproles (1986). Further research might start with a replication and extension of Morris (1971), but the continuing proliferation of family brands and multiple-product lines makes such replications increasingly difficult and any "meaning" would be quite limited.

More important, the number of cases in each correlation set was limited by the number of brands rated in each Consumer Reports article. As a result, a few of the correlation coefficients were based on a small number of brand comparisons. To provide a wider additional measure, the 10 individual product categories were collapsed into the two major summary classifications, food products and soap products, as well as a total summary grouping of all products, providing n's of sufficient size to make the correlations more meaningful.

Finally, the crude measure of advertising expenditures restricts the precision. LNA records provide information only on national advertisers, ignoring regionally or locally advertised brands that might spend more in their area than national competitors. The data also make no adjustment for volume discounts that expand large advertisers' purchasing power.

RESULTS

Nationally Advertised Brands

No correlations for LNA-listed brands were significant at the .01 level, and only two--dishwashing detergents in hard water and

chunky peanut butter--were significant at the .05 level. The correlation for non-dairy coffee creamers in 1983 showed a .051 probability, but the direction here was negative, suggesting an inverse relationship between advertising and product quality (Table 1).

Summary correlations for the combined food categories, soap categories and for all products, similarly showed only weak, non-significant relationships, the 1983 food correlation being negative.

The 1972/1973 data found only one significant correlation for nationally advertised brands, toothpaste (also at the .05 level), and it was a negative correlation. For the three products found in both studies, only the findings for chunky peanut butter were different: no significant correlation was found in 1972 or 1973.

The percentages of heavily advertised and less heavily advertised LNA-listed brands that were rated "excellent," "very good," "good," "fair," and "poor" reveal an apparent skew in the distributions of both categories. The heavily advertised brands tend to be skewed toward higher quality, while the less heavily advertised brands tend to more often fall toward the lower end of the scale (Graph 1). This distribution is not, however, statistically significant (chi square = 5.67, sign. = .13). A similar graph in the 1972/73 study showed both heavily and less-heavily advertised brands distributing about the same over the ratings points.

All Brands

The preceding analysis considered only products for which national advertising expenditures could be located. The number of cases that could be considered was increased by folding-in products that were not nationally advertised. These were assigned the lowest rank in the expenditure ratings. Two product classes had significant positive correlations between brand quality and advertising expenditures: dishwashing detergents, in both hard and soft water, and peanut butter, both creamy and chunky. Non-dairy coffee creamers showed a significant correlation for 1983, but it was in a negative direction (See Table 2).

The strong positive correlation in the dishwashing detergent categories and the moderate relationship in the hand laundry detergent category account for the overall positive relationship in the summary soap statistic (sig. = .001). That strong correlation also served to overcome the non-significant negative correlation in the summary food category and account for a very weak (tau = .1614/.1224) but significant (sig. = .002/.015) positive correlation for all products.

Table 1: Relationship Between Product Quality and Amount of Advertising Expenditure For Nationally Advertised Brands

Product	Sig.	Correlation		N of Brands	
		1982	1983	1982	1983
All-Purposes Cleaners (.500)		-1.00	-1.00	2	2
Ready-to-Eat Cereals (.144/.375)		.1623	-.0498	27	28
Drip Grind Coffee (.4/.46)		-.0652	.0217	11	11
Non-Dairy Coffee Creamers (.219/.051)		-.4082	-.8944	4	2
Dishwashing Detergents:					
In Hard Water (.017)*		.7559	.7559	6	6
In Soft Water (.067)		.5345	.5345	6	6
Hand Laundry Detergents (.385)		-.1155	-.1155	5	5
Ketchup (.222/.359)		.4000	.1826	4	3
Peanut Butter:					
Creamy (.075)		.5298	.5298	7	7
Chunky (.042)*		.7746	.7746	5	5
All Food Products (.462/.138)		.0101	-.1148	57	56
All Soap Products (.096)		.2601	.2601	19	19
All Products (.084/.369)		.1258	.0306	76	75

(*p < .05)

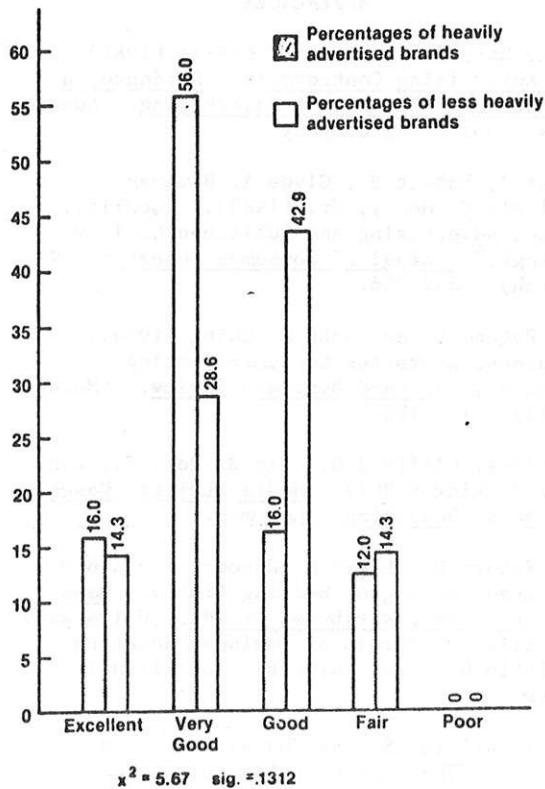
Table 2: Relationship Between Product Quality and Amount of Advertising Expenditure For All Brands

Product	Sig.	Correlation		N of Brands
		1982	1983	
All-Purposes Cleaners (.209)		-.2692	-.2692	9
Ready-to-Eat Cereals (.375/.218)		.0456	-.1111	32
Drip Grind Coffee (.350/.387)		-.0638	-.0479	28
Non-Dairy Coffee/Creamers (.147/.019)*		-.2698	-.5490	14
Dishwashing Detergents:				
In Hard Water (.001)**		.5859	.5859	27
In Soft Water (.006/.002)**		.4346	.4934	27/26
Hand Laundry Detergents (.074)		.4067	.4067	11
Ketchup (.238/.333)		.1539	.0934	18
Peanut Butter:				
Creamy (.003)**		.5979	.5979	18
Chunky (.017)*		.5729	.5729	12
All Food Products (.35/.076)		-.0279	-.1041	122/121
All Soap Products (.000/.000)**		.5820	.6090	74/73
All Products (.002**/.015*)		.1614	.1228	196/194

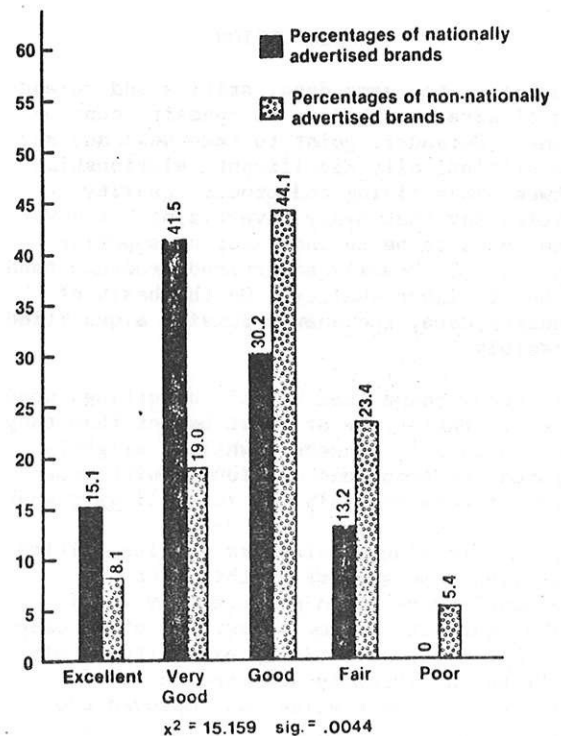
(**p < .01)

(*p < .05)

GRAPH 1. Percentages of heavily advertised brands vs. the percentages of less heavily advertised brands within each product category.



GRAPH 2. Percentages of all nationally advertised brands vs. the percentages of non-nationally advertised brands within each quality grade.



In 1972/1973, there were a comparable number of positive, significant correlations in the individual product categories (8 out of 14 ratings), but had only one non-significant negative correlation, compared to several in the present study. Additionally, correlations for 1972/1973 tended to vary greatly between the two study years, even within the same product class. The correlations appeared to be more stable over the two years in the present study. Of the three products examined in 1972/1973 and in 1982/1983, all showed some degree of significant positive relationship both times.

Comparison of the percentage of nationally advertised brands in the five rating categories to the percentage of non-nationally advertised brands (Graph 2) reveals results similar to Graph 1. The distribution of nationally advertised brands also tends to be skewed toward the higher quality categories, but here the distribution is significant ($\chi^2 = 15.159$, sig. = .004). Brands that are not nationally advertised tend to be distributed toward the lower end of the quality rating scale. This is quite similar to the 1972/1973 data which also found such skewing among advertised and non-advertised products.

This graph suggests stronger support for a relationship between advertising expenditures and product quality than does the correlation data. On the other hand, over 43 percent of the nationally advertised brands in the current study were rated as only good or fair. In the earlier study 58 percent of the nationally advertised products were rated good, fair or poor.

DISCUSSION

Looking at the same data, critics and defenders of advertising come to opposite conclusions. Defenders point to some weak and seldom statistically significant relationships between advertising and product quality. Critics say that heavy advertising has never been shown to be an indicator of superior quality. Do heavily advertised products tend to be of higher quality? On the basis of research data, the answer remains a qualified "possibly."

This study found that heavily advertised products are better, or at least better than they were in 1972-3. However, while a slightly stronger relationship was found--with some forms of data analysis--it is still very weak.

Both advertising's defenders and its critics will find some support in this data. Frequently advertised products may be of higher quality in some cases. In other cases, they are not. Advertising expenditures may still be an extremely weak indicator of quality, but their value has improved over the past decade. Then again, the improvement has

been minimal. It may still be asserted that if the advertised brands always cost more, the margin of quality difference, in those cases where it exists, might be so slim that the higher costs would not be justified.

This erratic and uncertain quality to be found in heavily advertised brands might logically be seen to the critics as a form of consumer deception. It is often asserted that, for the most part, dishonesty in advertising does not pay (e.g. Goddard 1986). However, there exist various methods used by advertisers to claim superiority while legally claiming little to which they can be held. Using puffery and other methods to skirt the truth, advertisers claim everything while saying next to nothing, knowing that the simple fact of being an advertised product conveys an image of superior quality to consumers (Christians, Rotzoll and Fackler 1987).

Maybe the consumer welfare question could be answered in terms of odds or probabilities. Trusting advertised brands might--for some products, in some years, by some standards of quality--improve the chances of making a good buy, but it only slightly better than haphazard buying. Consumers who always trust advertised brands might select better products. Then again, they might not. Unfortunately, most consumers do not know for which products advertised brands are the better buy.

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AMERICAN AND BRITISH EVALUATIONS OF CONSUMER PRODUCTS:
A THIRTY-YEAR COMPARISON OF CONSUMER REPORTS AND WHICH?

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This study attempts to determine the reliability of product quality ratings published in Consumer Reports and its British counterpart, Which?, from 1957 through 1986. Ratings on the same product brands and models as well as the same evaluative dimensions are compared by statistically analyzing the report findings for 43 pairs of parallel tests conducted by the two magazines. Three measures of agreement were employed in this analysis and all three revealed statistically significant (above chance) levels of agreement between the two magazines. Implications of the study findings are discussed for consumer testing organizations and consumer educators.

This study constitutes a first attempt to determine the agreement existing between product quality ratings published in the leading consumer testing magazines in the United States and abroad. For many years such ratings have been guiding the purchase decisions of millions of consumers; yet little, if anything, is known about whether the ratings provided by one magazine agree with the ratings provided by another.

The question is of fundamental importance since a lack of agreement would suggest that the magazines' product ratings are not a solid foundation upon which consumers could or should base their purchase decisions. On the other hand, close agreement would suggest that whatever it is that the ratings are measuring, it is being measured consistently across magazines.

To put the matter more technically, this study attempts to assess the reliability of product quality ratings published in consumer testing magazines (or, in other words, the extent to which different magazines agree on their ratings of the same product). Not directly assessed is the validity of the ratings (whether they do indeed measure product quality). However, neither are validity considerations completely ignored by the study in that high reliability is a necessary but not sufficient condition for high validity. Thus an unreliable measure cannot be valid, but a reliable measure may or may not be valid.

Before addressing the reliability question it is

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helpful to provide some background information for the study. For some years now the two leaders in consumer product testing have been Consumers Union in the United States, which has published Consumer Reports since 1936, and the Consumers' Association in Britain, which has published Which? since 1957. Both organizations are non-profit and their publications, Consumer Reports and Which?, are monthly magazines featuring comparative test reports for a variety of consumer products. Both magazines rate products by brand and model, and both, too, have large circulations (3,800,000 for Consumer Reports and 720,000 for Which?).

METHOD

The task confronting the investigator in this study was somewhat akin to rummaging through dozens of used furniture stores in search of a few valuable antiques. We were looking for rare coincidences of circumstance - instances of tests reported in both Consumer Reports and Which? focusing on the same product category, and more specifically, on the very same product brands and models. Also, to assure data comparability, the tests reported had to use the same or similar evaluative dimensions to assess the common brands and models. And finally, to avoid the possibility of the evaluative data generated by one magazine affecting the evaluative data generated by the other, the tests reported in the two magazines had to be conducted independently of each other.

To arrive at a study sample meeting these criteria we established a series of gatekeeper steps. Each had the effect of reducing the potential pool of thousands of test report pairs (one member from Consumer Reports and one from Which?) to a much smaller subset of eligibles which would constitute the study sample. The steps were undertaken in 1987 and drew upon data from all issues of Consumer Reports and Which? for the years 1957 through 1986 (the 30 years of overlap for the two magazines).

RESULTS

We begin this section with an overview of the test pairs which constituted the study sample. Following this overview we present summary information relating to the agreement found between the members of the test pairs

The Nature of the Test Pairs

The test pairs comprising the study sample can be described as follows:

1. Very few test pairs met the selection criteria for the study. Indeed, 30 common years

of publication for Consumer Reports and Which? (1957 through 1986) led to only 43 qualifying test pairs which were assessed on a total of 97 comparable evaluative dimensions.

2. Most of the test pairs in the study sample are, relatively speaking, from the recent past rather than the distant past. To illustrate, only three test pairs were generated in the first 10 years of the 30 year study period (1957-1966) as compared to 24 in the last 10 years (1977-1986).

3. Most of the consumer products evaluated in the study sample are small in size, relatively high in price and the result of high-tech design and/or manufacturing processes. Leading the list in these respects were still and movie cameras (19 test pairs) and camera lenses (7 test pairs).

Measuring Agreement Between Members of a Test Pair

While measuring agreement between members of the 43 test pairs in the sample would appear to be a straightforward statistical procedure employing one of the standard correlational techniques, a close look at the data revealed some problems with this approach. The test pairs focus on very small samples (only a few common brands and models) which statistical theory suggests are likely to yield extreme and unstable correlation coefficients (e.g., either +1 or -1 for samples with two common brands and models). And although some of the samples were larger, often they exhibited many cases of identical ratings on the Consumer Reports and Which? dimensional evaluations, a "tied score" circumstance that makes interpretation of correlation coefficients a most difficult and uncertain undertaking. Contributing to the high frequency of identical ratings on the dimensional evaluations is the tendency of both magazines to use a five-point scale for reporting dimensional evaluations, similar to the A through E scale used to grade students on academic performance. With only five points on the scale as compared, say, to 100, identical dimensional ratings can be expected to occur more frequently.

As a result of the foregoing, not one but three measures of agreement were used in analyzing the study data. The first is the standard product moment correlational coefficient as it is customarily used in reliability studies. The second is a simple percent matches measure. For any test pair this measure indicates the percentage of individual brands and models that received the same rating from the two magazines on a given evaluative dimension. A less exacting variation of this second measure is the third measure, the percent near-matches measure. This measure is identical to the percent matches measure except that it broadens the boundaries of what constitutes a match to include values one step removed from each other on the five-point rating scale. Thus a product receiving an A from Consumer Reports and a B from Which? would be considered a near-match while a product receiving an A from Consumer Reports and a C, D or E from Which? would not.

The Findings for Test Pairs

Having described the three measures used to assess agreement between test pairs on evaluative dimensions, let us turn next to an examination of the relevant study findings. Inspection first of the 68 computed correlation values reveals wide variability, a not unexpected finding in light of the many small samples and frequent ties in dimensional ratings.² More importantly, 45 of the 68 were positive (66%) while 21 were negative (31%), indicating that more often than not there was a tendency for high values (or low values) on Consumer Reports ratings to be associated with high values (or low values) on Which? ratings. The mean r value for the subsample of 68 dimensional pairs was .25 indicating a positive but weak relationship between the ratings of the two magazines.

Looking next at the results for all 97 dimensional pairs on the percent matches measure we find, as expected, extreme variability in scores (ranging from 0 to 100), with a mean value of 25. This means that, on the average, a fourth of the product brands and models in a test pair had identical ratings in Consumer Reports and Which?. Looking next at the results on the more liberal percent near-matches measure, we find, once again, extreme variability in scores (ranging from 0 to 100), with a mean value of 76. This means that, on the average, three fourths of the product brands and models in a test pair had ratings in Consumer Reports and Which? that were no more than a point apart on the five-point dimensional scales used by the two magazines.

The Findings for Individual Brand/Model Pairs

While there are certain advantages to analyzing the data by test pairs there are also disadvantages. One in particular is that the test pair procedure assigns equal weights to all test pairs even though their samples sizes differ markedly. A second disadvantage is that the matches and correlation measures cannot both be applied to the complete set of dimensional data for the 43 test pairs.

In an effort to cope with these drawbacks it was decided to analyze the data at a micro level of aggregation. Each unit at this level is not a test dimensional pair but consists instead of a product brand/model dimensional pair. We refer here to the pair of scores on a specific evaluative dimension received by a particular brand and model of product (e.g., a Commodore 64 computer) in Consumer Reports and Which?. There are 462 such pairs in our study sample.

To represent these data it is helpful to use a bivariate frequency distribution (expressed as percentages) restricted to the five integer

2

Correlation values were not computed for 29 of the 97 dimensional test pairs since for these cases there was no variation in the data reported for Consumer Reports or Which?.

values, 1, 2, 3, 4 and 5; the relatively few dimensional ratings which differed from these values were rounded up or down to yield one of the five values. The practice assumed that an A rating equals 1, a B equals 2, etc. To illustrate the practice, if a product brand/model had a B+ or B- dimensional rating it was rounded to a B or its numerical equivalent of 2.

The computed correlation value for these 462 data pairs is .28, a statistically significant value ($p < .001$) which is slightly higher than the summary value of .25 reported earlier for the analysis conducted on the 68 dimensional test pairs. Also slightly higher are the values for the percent matches measure (35 versus 25) and the percent near-matches measure (82 versus 76). Using the binomial probability distribution as our model, we find that these larger values are also significantly greater ($p < .001$) than what one would expect by chance (30 for the percent matches measure and 77.5 for the percent near-matches measure).

The Findings for Product and Dimension Classes

Continuing with our micro unit of analysis (the product brand/model dimensional pair), we investigate how the measures of agreement fared by product class as well as dimensional class. The findings reveal that cameras outperformed the other product classes on all three measures of agreement. Camera lenses also scored relatively high on the two matches measures and the correlational measure. Audio equipment and miscellaneous products, such as home computers and hair sprays, appeared on the bottom of the list for the two matches measures and the miscellaneous products category registered a low scoring 0 value for the correlation measure.

Looking next at the summary results for dimension classes we find that a total of 23 dimensions was used in the evaluation of the test pairs. Examination of the findings for the three measures of agreement uncovers extremely wide variability on all three measures (from 0 to 100 on the percent matches measure, from 50 to 100 on the percent near-matches measure, and from -1 to +1 on the correlation measure). In light of the many instances of small samples and frequent ties in scores, these results are not unexpected.

DISCUSSION

How are we to interpret the study findings? Although not at the high levels of standards found in the test reliability literature, the overall study findings appear to offer testimony in support of agreement between the American and British test data ratings. It will be recalled that for 35% of the 462 product/model dimensional pairs, the American and/British ratings were the same. And for 82% of these pairs, the American and British ratings differed by no more than one point. Moreover, each of these two values was significantly above chance expectation ($p < .001$). Also while it is true that the .28 correlation coefficient for the American and

British members of the 462 pairs only accounts for 8 percent of the common variance, the value of .28 is statistically significant at the .001 level.

Implications of the Study Findings

The findings of this exploratory study should be of interest to consumer testing organizations and the many consumers who make use of the comparative reports published in the organizations' monthly magazines. For the first time empirical evidence has been brought forth to permit a very rough and seemingly conservative assessment of the tacit assumption of measurement reliability for the test data reported in these magazines. And while the evidence is not uniformly strong it does appear to be supportive across three empirical measures of agreement.

Especially underscored by the findings is the importance of looking at the differences among product classes with regard to ratings agreement in Consumer Reports and Which?. It will be recalled that certain product classes for which much testing experience exists, such as cameras, performed relatively well on the three measures of agreement, while others, for which little testing experience exists, such as home computers and hair sprays, performed more poorly on the three measures. This suggests that consumers as well as consumer product testers should consider treating some product classes differently. Just as consumer testing magazines often warn their readers to be especially careful in acting upon test report data for a brand new model of automobile without a track record with which to project future repair frequencies, so perhaps should the magazines warn their readers that the magazines' evaluative data for a brand new product, such as home computers, may be lacking in reliability. Consumer educators have a role here as well in helping to assure that the message is communicated and understood.

Finally, since this is an exploratory study there is a clear need for replication by other researchers. Other products need to be examined as well as other magazines. And to get at a measure of reliability closer to that found in the scholarly literature would require a systematic program of research consisting of efforts on the part of some product testing magazines to evaluate the products already assessed by other product testing magazines. This suggests what would seem to be an appropriate initiative for IOCU to consider pursuing in order to assure that high quality test data are made available to IOCU members, and through them, to millions of consumer-users around the world.

CONSUMER INFORMATION: DISCUSSION

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Abstract

The three papers presented in this session each examined sources of information that consumers might use in decision making. Herrmann, et al. presents new perspectives on information sources that consumers might choose in making foods decisions, while Rotfeld and Parsons and Friedman examined the validity of two very different types of information that consumers might use. The discussion focuses on additional research questions and issues raised by the papers.

Each of the excellent papers in this session shares a common theme -- information used by consumers in decision making. All three papers in some way increase our understanding of this area of study. However, each paper takes a different approach. Herrmann, et al. examine the various sources of information that different consumers might choose in making foods decisions. Friedman and Rotfeld and Parsons examine the validity of two very different types of information that consumers might use. Because each paper is unique, this discussion reviews each separately.

Herrmann, et al. have developed an interesting framework from which to proceed in their examination of the sources of information consumers use in food purchases. Their five categories of information sources (interpersonal sources, media sources, visits to multiple stores, in-store search, and experience based on product use) encompass most of the primary sources one would expect consumers to use. They unfortunately exclude what may be for food a very important source of information -- past experience. However, there are few realistic and effective ways to learn about consumers' use of past experience in individual decisions.

The six clusters of consumers identified by the researchers present many interesting questions. The authors refer to level of involvement in explaining the different clusters but perhaps underestimate its importance in explaining the differences among groups. One view of the six clusters is that as we move from the infrequent users to the frequent users, the level of involvement increases. Selective infrequent users merely read information available in the stores or learn about product information through experience. That indicates a lower level of involvement than that demonstrated by consumers in the moderate, selective frequent, and frequent clusters. Those consumers made more extensive use of information prior to visiting the store. The first cluster is, however, a bit of a puzzle. This group reported that their primary method of

acquiring information was to visit several stores to find the best values -- a strategy that would appear to be very time-intensive. What it actually means could be open to interpretation, however. One could assume that these consumers go to several stores on each purchasing trip. "Visiting several stores to find the best values" could also mean that they shop at only one store during each shopping trip but not the same one each time.

The six clusters could also be divided into two groups based on level of intensity of search activities. The first three clusters (infrequent users, selective occasional users, and print media users) selected search activities that involve low amounts of time as well as use of information that is readily accessed and easily processed (reading magazine and newspaper articles and ads, looking at and buying new products). The moderate, selective frequent, and frequent users selected search activities that involved greater intensity and commitment. The primary difference in these latter three groups appears to be the constraints on their time. The moderate and selective frequent users were more likely to be employed and thus have greater time restrictions than the frequent users.

Rotfeld and Parsons address an interesting topic. Can consumers legitimately use level of advertising to indicate product quality? Are advertising expenditures valid substitutes for objective information about product quality?

The authors' paper replicates an earlier study. Their description of the methodology raises several questions, many of which are noted in the paper. Inconsistency in converting quality ratings to numerical scores clearly could affect the findings. Also, the authors may have eliminated from consideration the most interesting product -- automobiles. Ideally, their replication would have included the same products as those studied in 1972-73. That was not an objective of the study and probably not realistic.

Of greatest concern is the small number of product tests analyzed. Fewer than 10 tests for 8 of the 10 products (only two tests for one product) does not inspire confidence in the correlations. As Friedman notes in his paper, with so few pairs the correlation coefficients are highly unstable.

Rotfeld and Parsons note that in studies of this type in the past, the same data often lead different persons to different conclusions. That is true to some extent in this case. They incorrectly (at least in my opinion) conclude that, "heavily advertised products are better -- or at least better than they were in 1972-73." I see no justification for that statement. The

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authors did not compare either relative or absolute quality across the two time periods. Rotfeld and Parsons correctly conclude that the relationship between level of advertising and product quality was slightly stronger although still very weak in 1982-83 compared to 1972-73. I believe their emphasis on the ambivalence of the results is justified.

My greatest concern with the paper lies in the logic that is used as a basis for the hypothesis. The authors' rationale for a replication is that two conditions exist which suggest that there might be a stronger correlation between level of advertising and product quality in 1982-83 than was true in 1972-73. First, they suggest that more extensive and better publicized objective product evaluations should lead to stronger correlations. Second, they believe that a better educated consumer public should lead to stronger correlations. In fact, one could easily argue the opposite or at least that under such conditions consumers would be less likely to use rules even if they were valid. With greater access to objective product evaluations and better education, consumers should find less reason to use such rules of thumb as level of advertising indicates quality. They could be expected to rely more on objective information or at least to become better judges of which rules are more reliable. Better educated consumers would at least be able to discern between puffery and informative advertising. And, there is no reason that consumers would associate a high level of puffery advertising with product quality. In fact, some might logically assume that that relationship would be negative.

Finally, research by Morris (1971) and Cude (1988) suggests that the quality of products of major manufacturers varies significantly from year to year. In light of such evidence, how can the advertising-quality rule be valid unless advertising expenditures are also erratic?

Friedman is to be commended for accomplishing what appears to be a most formidable task. His research addresses a very critical question: Can consumers rely on the quality ratings of Consumer Reports and Which? Each stage of the methodology is clearly thought out and logical. As has been frequently noted in the past, consumers may not always agree with the characteristics the organizations choose to use as evaluative criteria. However, Friedman's research provides us with the first evidence that whatever it is that the ratings are measuring, it is being measured fairly consistently across magazines. In fact, the consistency in ratings across the two organizations is probably remarkable considering all of the intervening variables that could lead to differences. Examination of the results indicates that, as might be expected, negative correlations frequently occurred for characteristics that might be subjectively evaluated (i.e., picture quality). Consumer

educators should heed Friedman's suggestions about information consumers need to make wiser use of product ratings. His work makes a significant contribution to the literature.

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CONSUMER EDUCATION IN JAPAN: THE CURRENT SITUATION

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In Japan, the transformation of the value orientation from a growth-oriented economy to a life-oriented economy has paralleled a growing interest in consumer education. This paper reviews the historic development of the consumer movement in Japan from which consumer education evolved, discusses the present situation of consumer education at school, and examines the new wave of enthusiasm for consumer education in Japan.

INTRODUCTION

Next to the United States, Japan has become the second largest nation in terms of GNP in the world. Tokyo, where I come from, has almost the same area as Baltimore. My country grows rich. The real estate value of just the Tokyo area is equivalent to that of the entire land of the United States. In Tokyo, however, in order to get a tiny house, not much larger than a chicken coop, we have to pay thirty times the average annual income. Japanese people dream of having their own houses, however small, by working hard and saving. Ironically, for many families, the dream has turned into a nightmare. After having successfully pursued the national goal of economic development with centralized policies, few people can afford a house in Tokyo. We Japanese have gradually come to realize that something is wrong with our basic value orientation and socio-economic system. Something has to be done about our educational system. Consumerism and consumer education should be understood in this context.

A HISTORICAL PERSPECTIVE OF THE CONSUMER MOVEMENT IN JAPAN

Historically speaking, the consumer movement in Japan has been closely connected with economic situations caused by the wars in which Japan participated either directly or indirectly. After World War I, Japan was struck by an extremely high inflation rate and the people suffered. Then, there emerged the cooperative movement. We can observe a similar phenomenon after World War II. Because the price of rice skyrocketed, housewives with aprons rose and demonstrated on the street demanding "rice" and "necessities" all over Japan. It seems that the housewives could not trust men any more, because the men were the ones who started the previous wars and brought about such difficulties. At that time, the Japan Housewives Association was organized.

The series of local wars took place in Asia, particularly in Korea and Indochina. This time, the economic situation in Japan was far different from the previous post-war cases. Japan gradually increased its economic power through the expanding business stimulated by these wars. The average

Japanese came to enjoy TV, refrigerator, car and so on. This is the rosy side of the economic growth. We must remember, however, that there is always the dark side of the success story.

The rapid economic development caused distortion in the socio-economic system. For example, the Thalidomide case, the Chinoform incident, the Kanemi Rice Oil and PCB, the Morinaga Arsenic Milk case, etc. These cases, which damaged the consumers, are closely related to mass-production and mass-sale economic system. In order to fight back, in 1970, the Consumers Union of Japan was organized by the men who were influenced by Ralph Nader.

In 1973, the formation of OPEC and an Iran / Iraq conflict brought about the oil crisis which caused a shortage of oil related products in Japan. For example, toilet paper, which is made of pulp using oil energy, suddenly disappeared from supermarkets in Japan. Because of a rumor that there would be no more toilet paper in Japan, the housewives became panicky and rushed into the supermarkets. The rumor was spread through the mass media by a certain business group in order to take advantage of the situation. Both men and women rose against the toilet paper crisis.

The Japanese learned a lesson through the toilet paper crisis that if we express our complaints to business and the government, we would less likely be victims again. This lesson gradually changed the Japanese mentality, which used to hold that one should not express one's complaint to the authority. Many Japanese worried about being labeled "fox", a term used traditionally to describe people who try to take advantage of a situation. After the toilet paper crisis, a lot of complainants with their problems rushed into local consumer centers established by the government as part of a consumer protection system. Gradually, Japanese are beginning to understand the rights of consumers.

When we analyze the content of complaints expressed by consumers to the consumer centers in the 1970's, we recognized the trend changing from concerns about "visible products" such as safety and quality of products to those on "invisible matter" such as financial services, consumer credit, dishonest door-to-door sales, pyramid schemes, etc. Dr. Hayden Green explains the characteristics of the present economic system by saying, "there is an illustration attached to a visible product, but there is no such thing attached to invisible matter". Therefore, we as consumers need training in critical thinking as well as comprehensive judgment in our daily decision making. We live in a complex economic system which works best when we have educated consumers.

In the historical perspective, we can clearly understand that Japan made economic development the supreme national goal both during the modernization and after. After the long journey of economic development, many Japanese people are asking a crucial question, to use David Riesman's phrase, "Abundance for what?"

Under these circumstances, we come to recognize the significance of consumer education in order to create an educated consumer as well as an informed citizen, who can carry the ideal of civic culture. We also expect that consumer education will accelerate the change of the basic value orientation from the growth-oriented economy to a meaningful life-oriented economy.

CONSUMER EDUCATION AT SCHOOL

In an upsurge of consumerism in the 1960's, the government began to pay attention to consumer protection and consumer education, in order to deal with the increasing number of consumer problems. In 1966, the National Welfare Council, which is an advisory body of the Prime Minister, submitted a report "On the Organization for Consumer Education". In May 1968, the government enforced the Consumer Protection Law. In 1971, the Ministry of Education introduced the concept of consumer protection into social studies at the secondary school level.

Although various social groups and organizations expressed the necessity of consumer education to the Ministry of Education, we could not find the term "consumer education" in the Basic Guideline for Curriculum, which is the bible for education in Japan. Several groups encouraged greater attention to consumer education. The advisory committees for the Minister of Finance, including the Consumer Credit Industrial Committee, and the Financial Problem Committee prepared reports on consumer education in 1983 and in 1984. The Consumer Credit Problem Committee of the Economic Planning Agency requested that consumer credit be taught in the schools in 1985.

The Ministry of Education responded to the increasing demands for consumer education. In 1976, the Ministry of Education announced the Fifth Revised Basic Guideline for Curriculum. In spite of the absence of the term consumer education in the Guideline, we can see a sign that the Ministry of Education gradually introduced "consumeristic education" reflecting the social demands. Consumeristic Education can be seen in the subjects like social studies, home economics, business, and moral education in the following manner:

- (1) Social Studies: consumer life and economic system; the idea of consumer protection
- (2) Home Economics: the basic and practical knowledge of living; livelihood planning

- (3) Business (High School): basic accounting; basic knowledge of distribution system and business contracts
- (4) Moral Education (Elementary): the basics of living planning; the significance of money and its usage
- (5) Other (Vocational High): specific knowledge of products, foods, and housing

Consumeristic education, as seen above, is implemented in the present educational system. However, consumeristic education in different subjects does not have a common focus and is sporadic in character. Also, a high priority is not placed on consumeristic education in the Guideline.

These deficiencies of consumeristic education are caused by the following reasons. First, there is no academic discipline established as consumer education in Japan. Second, there is no evaluation system established. Third, academic subjects relating to college entrance exam have strong weight in the present system. As a result, the status of consumer education is very low.

Because of these deficiencies, those teachers who try to introduce consumer education can not get full support from their colleagues and have become isolated. Ironically, those students who only focused on the college entrance exam, face various consumer problems without knowing how to deal with them after entering college.

NEW ENTHUSIASM FOR CONSUMER EDUCATION

Until recently, we did not pay attention to consumer education abroad. We were only concerned with how often consumer-related subjects were mentioned in textbooks. We did not try to improve teaching methods which were theory-oriented rather than practical.

In 1982, Avon organized an International Forum on Consumerism in Tokyo, inviting consumer leaders from England, West Germany, the United States, and Japan. Through this forum, Japanese consumers and opinion leaders recognized that consumer influence had risen across national boundaries. With an understanding that consumer education would help raise consumer consciousness, in 1983, Avon sponsored the International Forum on Consumer Education held in Washington D.C. An administrator of consumer protection in the Economic Planning Agency participated as a representative of Japan. Upon returning to Japan, he reported on consumer education in the United States. His report gave a great shock to the Japanese consumer leaders. Before their enthusiasm cooled off, in 1984, Avon asked seven leaders from different fields, who would be the movers of consumer education in the future, to go to the United States to observe what was really happening in consumer education. Though their backgrounds were different, the seven leaders whom I call the Seven Samurai, all reached

the same conclusion after the Study Trip. That is, "We need the kind of consumer education that the United States has".

As soon as they came back from the trip, the Seven Samurai, including a woman, made their moves. One from the mass media reported consumer education in the United States on TV and radio and in the newspaper. A consumer leader was elected to be a member of the Board of Education in Nakano Ward in Tokyo, and played an important role in introducing consumer education in that district as a pilot case. A group of scholars influenced teachers and their colleagues through lectures and speeches on different occasions.

In 1985, the Seven Samurai invited American friends to Kyoto, Japan, in order to share experiences, exchange opinions, and promote consumer education. Those Americans who came to Kyoto are now among us, Ms. Rosella Bannister, Ms. Irene Williamson, Dr. Hayden Green, and Ms. Virginia Knauer. The Kyoto Forum was reported nationwide through the mass media. Three months later, stimulated by this forum, the Economic Planning Agency submitted a recommendation entitled "On Consumer Education at School" to the Ministry of Education.

In 1986, in cooperation with top businesses in Japan, Toyota and Toshiba, Avon persuaded officers in the Ministry of Education to observe consumer education in the United States and organized the Second Study Trip. In parallel, Avon developed a series of video cassette programs on consumer education in the United States, which became a strategic tool to help Japanese educators, leaders, and consumers deepen their understanding of consumer education, which in turn helped to increase informed supporters.

After seeing the video showing lively children in consumer education classes in the United States, the officers of the Ministry of Education were persuaded to introduce consumer education into the curriculum in Japan. In 1987, The Economic Planning Agency invited participants of both trips to form a "A Study Group on Consumer Education", in order to present their views to the Ministry of Education. Thus at the national level, there emerged a triangular network connecting the Economic Planning Agency, the Ministry of Education, and the Seven Samurai.

At the local level, those teachers who were interested in consumer education assembled to exchange their opinions in study meetings held in Tokyo, Kobe, and Osaka. The Boards of Education in these cities also showed interest in consumer education, which created a favorable social environment for the Ministry of Education. Finally, the Ministry of Education decided to introduce consumer education into the Basic Guideline for Curriculum. The Ministry of Education asked the Council on Teaching and Curriculum to discuss consumer education in order to prepare for the Sixth Revision of the Basic Guideline for Curriculum. To support the Ministry of Education, the Economic Planning Agency decided that "consumer education" be the main theme for

the Consumer Day in May 1988. That day, the Director of the Michigan Consumer Education Center, Ms. Rosella Bannister delivered a speech during the main event before a crowd of many prominent people including the Prime Minister.

Ms. Bannister's speech stimulated the establishment of the Working Committee on the Consumer Education Resource Center. In June 1988, this committee officially began work with members selected from leaders in the consumer movement, business, academia, the government, and the mass media. The committee included the members of both study trips to the United States.

In February, 1989, the Ministry of Education announced the Sixth Revised Basic Guideline for Curriculum. According to the new Guideline, livelihood studies will be introduced in the second grade at the elementary level in 1991, units of life economics in 1992, and consumer economics into home economics at the high school level as a required subject in 1994.

The transformation of the value orientation from a growth-oriented economy to a life-oriented economy has paralleled the growth of consumer education in Japan. Consumer education reflects our need to understand the meaning of affluence and to create educated consumers as well as informed citizens in a changing international society. During the process of introducing consumer education to Japan, I fully enjoyed the cooperation that went beyond national boundaries, and learned the importance of it.

I am pleased to share our joyful success with you, and express my hearty thanks to all of you. Thank you!

THE CONTRIBUTION OF THE EUROPEAN COMMISSION TO THE
DEVELOPMENT OF CONSUMER EDUCATION IN EEC COUNTRIES

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An increasingly accepted view in European countries is that there is a need to strengthen consumer education both as an essential element of consumer protection policy and as an equally essential part of "entitlement" within the general education of every youngster and the continuing education of every adult. This paper outlines the recent initiatives of the European Commission, assesses their impact, and considers possibilities for international cooperation in achieving a better provision of Consumer Education.

INTRODUCTION

I feel particularly privileged and honoured to have been invited to contribute to the work of this important panel concerned with aspects of consumer education in three continents. It is, of course, not by any means the first time that consumer education matters have been discussed at the international level. For example, IOCU, the International Organisation of Consumer Unions, has devoted a section of its international conferences to consumer education for a number of years now. It does however reflect a new strain of thinking in the field of consumer education, a strain already illustrated at the major European Conference on Consumer Education, held in Madrid in May 1988² - in which the attempt is at last being made to go beyond simple international confrontation of experiences and towards co-operative action programmes.

It is in this context that the actions carried out by the European Commission since 1975 may be of particular interest. The focus, therefore, of what this paper offers is less on the details of what consumer education should contain or how it should be taught, than on the processes of managing change and of influencing the development and implementation of appropriate policies.

THE CONTEXT

It is perhaps as well to begin by sketching in the context within which the work of the European Commission in the field of consumer education is being carried out, for it may be that the intricacies of that context are not fully known to

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² First European Conference on Consumer Education in Schools, Madrid, May 1988, organized on behalf of the European Commission by the Instituto Nacional del Consumo, Madrid.

all members of an American audience. In general terms, the lot of consumers in European countries is no less underinformed and underpowered in the market place for goods and services, as well as in the corridors of power, than it is in other countries. The detailed effects of this underpowerment naturally varies from country to country. In general terms, however, they mirror to a large extent, though with a lag of between one and two decades, many of the features which characterise the position of consumers in the USA. As in the USA, they have led not only to the need for national consumer protection policies but also to the spontaneous development of consumer organisations and an increasing realisation of the importance of the development of consumer education (Agozzino and Celada, 1986).

Whereas, prior to the seventies in Europe, consumer policy was generally concerned with legislation and paternalistic protection, there has since then been a growing understanding of the importance of "self protection" through education. This is a point I made to the UK House of Lords Select Committee on the European Communities during its inquiry into Consumer Education Policy on the 25 February 1986 (House of Lords, 1986). Nevertheless, it has to be said that, despite the efforts of enthusiasts in all the countries concerned, progress in the development of consumer education, either within the schools or in adult education, has continued until recently to be slow and halting.

Speaking to the first European Conference on Consumer Education, held in Madrid last year, Terence Scanlon, of the US Consumer Product Safety Commission, based in Washington, pointed out that in the United States, 17 states already require that consumer education be taught in the public schools and at least 21 other state school systems have voluntarily included it in their course offerings or recommend that it be taught (Scanlon, 1988). I do not know how well that represents the actual position in schools in the USA, or how good a state of affairs an American audience would consider this to be. What I can say is that it is far superior to the situation that even now exists in Europe, even in those countries which are most advanced along the road toward the acceptance and generalisation of consumer education.

Within Europe the situation of course varies enormously from country to country. Moreover, in those countries, like the United Kingdom, with decentralised systems, it varies even further as between Local Education Authorities and even individual schools. In the main, little or no legislation exists in European countries to enforce even minimum standards of consumer education as part of the educational provision

offered. And, despite glowing exceptions which are generally part of an experimental nature, consumer education therefore remains inadequate in scope and character and limited to only certain groups of pupils. Characteristically, the latter are generally composed of those who, for one reason or another, do not have the capacity or desire to follow the more academic, and still largely traditional curricula which on the whole continue to characterise the professional educational provision in most European countries. It is therefore not uncommon, apart from a certain amount of health education in the elementary stages of schooling, to find that consumer education is limited to practical home economic programmes offered especially to those girls not thought able to cope with more prestigious school courses in science, languages and humanities.³

In general, of course, seen from an American perspective, and despite major efforts currently taking place to modernise educational provision in terms of its content and method, schools in most European countries continue to look more traditional and academic in their curricular provision than is common in the United States. In particular, despite lip service, to the need to develop consumer education, relatively little change occurred in this respect until the eighties.

THE NATURE OF THE EUROPEAN COMMISSION'S CONTRIBUTION

Within this general context, the European Commission, acting on behalf of the twelve countries which now belong to the European Economic Communities (EEC), has developed a common policy for Consumer Education since 1975 and has implemented a number of initiatives within that policy aimed at nudging individual Member countries towards more meaningful approaches. In doing so, through the medium of its Consumer Protection Service rather than through its Educational Services⁴, it has been limited not only by lack of resources made available to this activity but also by the jealous way in which individual Member states guard their state rights to autonomy in educational matters. (The Treaty of Rome itself, which governs the activities of the European Commission on behalf of the EEC significantly contains no Articles on the development of educational policy.) Community level action has therefore had to be limited to discussion, persuasion and support. The programmes carried through have nevertheless not been without their significance.

³ Space does not permit the considerable qualification needed to this statement in particular cases in all European countries. Nevertheless, in the main, consumer education remains a "Cinderella" area of curricular provision.

⁴ Within the context of the Consumer Protection Service of the Directorate General on the Environment, Consumer Protection and Nuclear Safety (DG11) of the European Commission.

When the European Communities' Preliminary Programme for Consumer Protection and Information Policy was adopted by the Council in April 1975, the first formal Community initiative to specify action in the area of consumer education began (European Commission, 1975). It would, however, be wrong not to preface consideration of that programme by reference to a previous initiative on consumer education in schools carried out by the Council of Europe in 1970 and 1971 and resulting in the production of the first systematic European statement on Consumer Education⁵. It was this document which set out the foundations for the work later to be organised by the European Commission, enunciating the principle:

What we can and should do is to make sure that tomorrow's citizens are furnished with the basic tools of knowledge and appreciation which will enable them to exercise their freedom of choice and their personal and collective responsibilities in the light of the different options and manifold problems which will face them as consumers - not only in today's but also in tomorrow's society. (Council of Europe, 1971)

Initially, the action enjoined on the European Commission by the Communities' Preliminary Programme was specifically concentrated on consumer education in schools, with particular reference to the methods and materials to be used and the training of instructors. In practical terms a series of national reports was commissioned on the state of consumer education in all the EEC countries and these were the subject of a Symposium held in London in 1977 (Commission of The European Communities, 1977). At this Symposium the importance of paying special attention to the development of pilot school-based activities and to the training of teachers was particularly emphasised. Following the London Symposium the Commission initiated two main strands of work, related, respectively, to a network of "pilot schools" in which teaching methods and materials could be tested (Jensen H.R., 1984), and to a "working party" on the training of teachers for consumer education.

By 1981, sufficient work had been done in these areas to enable a major Communication to the Council of Ministers of the Community to be prepared. This was entitled Consumer Education in Schools. Also in 1981, the Council adopted a Resolution on a Second Programme for Consumer Protection and Information Policy. This allowed the existing strands of work to continue and others to be added. These others were concerned with the extension of the teacher training work to a full "action programme", the creation of "exemplar curriculum materials and guidelines", and some particularly interesting fundamental research into "Children's Consumption Images in the EEC". It is to a brief account of these, and

⁵ The Council of Europe, Strasbourg, with its 23 Member States, should not be confused with the EEC, now consisting of 12 Member States and based on Brussels.