

Figure 2: Consumer Competencies: Operations Level

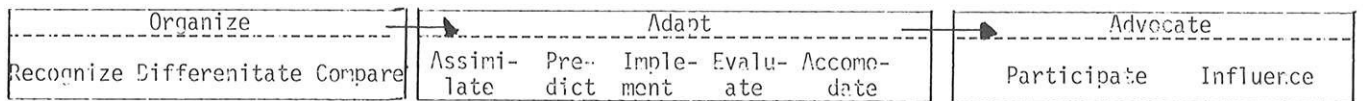


Figure 4: Consumer Competencies

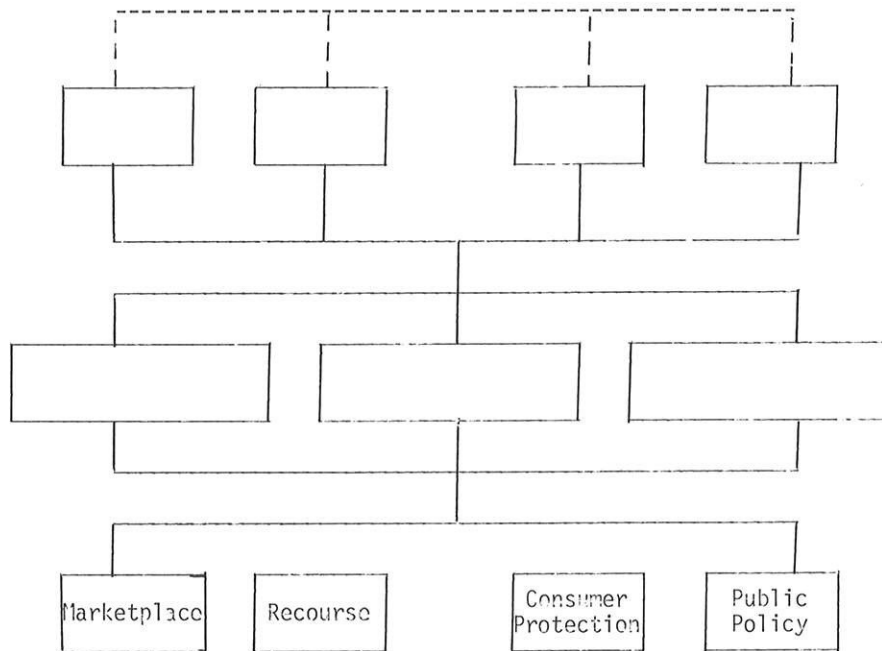


Figure 5: Consumer Arenas

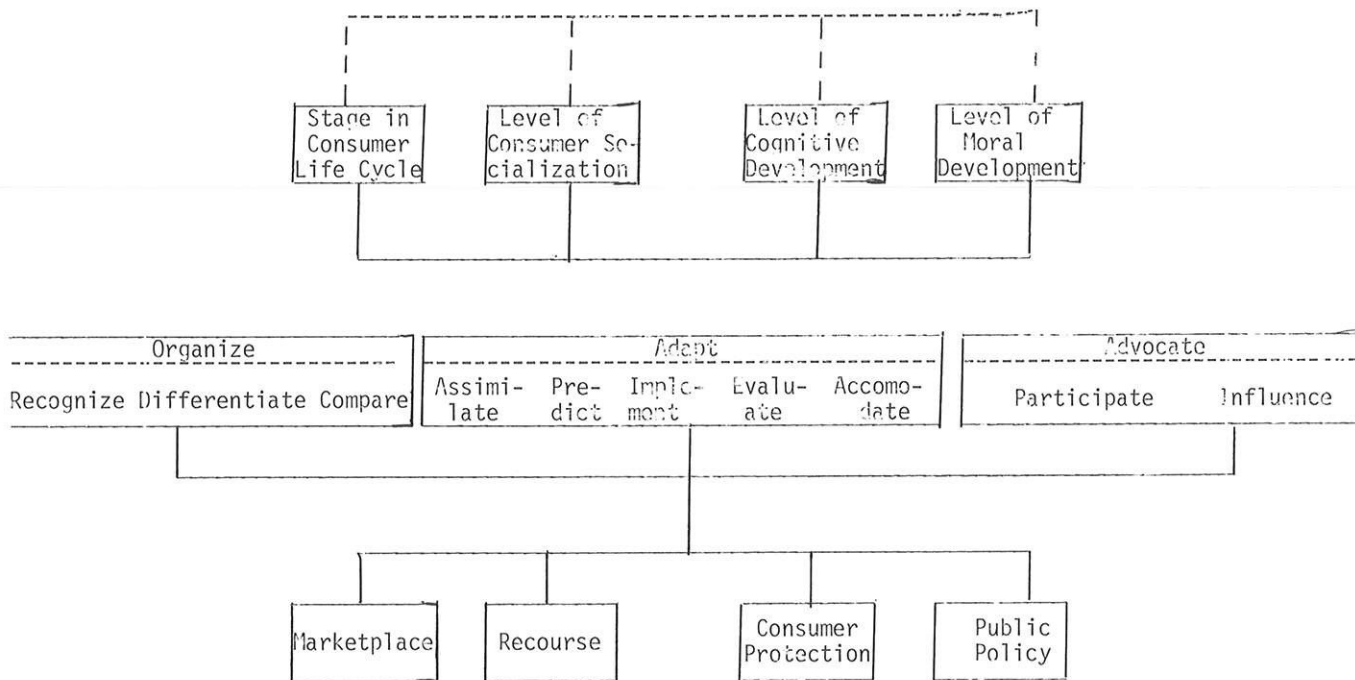


Figure 6: Consumer Education: Developmental Model

CONSUMER EDUCATION: A PUBLIC POLICY APPROACH

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The position of this paper is that public policy-making, or societal decision-making as it has been termed by some (1), should be the primary focus of consumer education programs. That position is, however, modified slightly by my conviction that this focus must build on a foundation of micro-economic orientation toward what Sandra Willette (4) has called the coping level in her pyramid of consumer education objectives. At the coping level, consumer education places an emphasis on informing the consumer on an individual basis, and is directed toward increasing the basic skills developed by individual and family consuming units for making wise consumer decisions and for functioning in the marketplace and in their own homes as they choose and use goods and services.

In making this modification in my basic approach to the issue, however, I do not see the relationship between this basic coping level in the micro-environment as a developmental one with the macro or policy-making approach. I see them as parallel pyramids or hierarchies of development which should be addressed simultaneously by consumer educators, consumers, and consumer education programs. This alternative pyramid would offer as its first level of development what I am going to call basic citizenship skills. From the consumer education viewpoint, the orientation will be toward these basic skills as they impact on the legitimate concerns of the citizenry in their role as consumers both individually and collectively as a functioning, legitimate sector of the economy and society.

Beyond this basic citizenship skill level, the policy-making pyramid would have subsequent levels of understanding, questioning, participating, and influencing at a more sophisticated level. I see these basic levels of activity in the Willett model as strengthening and supporting the basic coping behavior of individuals focusing on decision-making at the micro level, while these activity levels in the public-policy model are oriented toward strengthening and supporting consumers and citizens in their citizenship role. This may be a tenuous and somewhat meaningless distinction to some of you, but underscores what I see as a basic flaw in current American society, its citizens, and our own consumer education efforts. From the policy-making viewpoint, consumer concerns are integrated with each and every aspect of citizenship concern. The unified, step-wise developmental approach to consumer education embodied in the Willett model promotes, in my view, the fragmentation and isolation of consumer concerns from the mainstream of citizenship concerns in the minds of individuals and institutions in our society.

What I am suggesting then, is that increased attention be given to the macro-economic nature of the interaction between the consumer sector and its environment--both with the government and the business sectors--in our consumer education programs, and

that we either emphasize that approach and give it top priority, or at least an equal emphasis relative to the private decision-making content. To substantiate the need for this, let me list nine basic changes in society which have taken place in recent years and which have particular relevance to consumer education, identified by Wilcox and Richardson (3):

1. We are living in a global society.
2. We are living in a rapidly changing economy.
3. People seem to be getting less satisfaction from buying.
4. Information about consumer goods and services is increasing rapidly.
5. Goods and services are now being provided by public and private sectors alike.
6. Employment and consumption are increasingly taking place in the area of services.
7. A new politics is emerging within the consumer movement.
8. As the economy and political scene change, the consumer is increasingly oppressed.
9. Women are working in ever greater numbers. (3, p. 35)

I would like to add one other change to this list which consumer educators appear to recognize, but which I do not feel that we have really internalized--

10. Employment (or production) and consumption for the individual consumer is increasingly becoming two sides of the same coin as our economy is increasingly monetized.

We are still treating our production and consumption roles in an old-fashioned "barter" framework as far as education and action are concerned, while "out there", people are opting in support of their production role over their consumption role whenever these two come into conflict. Good examples are environmental issues like the Geneva Division of U. S. Steel vs. Environmental Protection Agency issue which has been prominent in the news in my own area over the past two years or so, and the energy issues that have affected the automobile industry in the United States. As consumer concerns are more definitively cast in an adversary role relative to the legitimate concerns, objectives, and frustrations of the business sector, they become increasingly difficult to pursue on an appeal basis oriented toward personal consumer self-interest. Without income, people cannot consume. The confusion between consumer role and its legitimate concerns and producer role and its legitimate concerns in the minds of individual citizens increases as business effectively exploits their fear about loss of employment and their frustration with government presence in daily living experiences. An increasing role for and presence of government is negatively valued as a general principle in our society. In specific ways, such government involvement is, by its very nature, visible and binding--

that is, it represents an obvious reduction in opportunity for individual decision-making. Further, the consumer believes him or herself to have had no real input into the making of the policy decision which brought about that reduction. Consumers have lost sight of their citizenship role in general and of their consumer role in a more limited sense, and have been forced through these changes which have been occurring in the national and world economic-political environment to increasingly focus on their producer role. The result is that we find ourselves subjected to intense manipulation toward defending, without reasoning, logic, and a balanced discussion of the impact on us in each role, the policies of the business sector which bring about limitation of freedom of choice or individual decision-making in other, less obvious ways. This result is coupled with the attendant limitation of our performance as an informed citizenry. An informed, interested, and involved citizenry is essential in the effective functioning of the checks and balances in our political and economic systems which were recognized and deliberately created and/or fostered among those who wrote the Constitution of the United States.

This active participation and influence in the political and economic systems I am advocating is not synonymous with consumer advocacy as we have come to know it. Consumer advocacy, as I am defining it for the purpose of this Workshop paper, implies activity and influence by a few articulate, informed, and capable persons on behalf of a large, relatively unintelligible, uninformed, uninterested, and incompetent constituency. Implicit in this advocacy concept is a recognition and acceptance of the elitist philosophy that the "rabble" don't know how, or cannot be trusted to, take care of themselves. Therefore, the responsibility should be taken from them and assumed by those whose loftier view and greater intelligence fit them for the leadership and caretaker position. It also seems to me that there is some element of that philosophy inherent in the notion of a hierarchical approach to consumer involvement which does not address the participating/influencing behaviors right from the beginning while people are becoming involved with coping.

The policy-making, or socially-conscious consumer (2), approach to the content and teaching of consumer education rejects the advocacy philosophy and proposes that the individual is capable of fulfilling a responsible role in the democratic system. As consumers learn more about the system and their social, psychological, economic, and political influences on it, they will increasingly fulfill their obligations to participate whole-heartedly and with reason in policy making. We are seeing a breakdown in the effective functioning of society and the economy as fewer and fewer speak for and make decisions affecting more and more. This letting go of responsibility and involvement places increasing number of people in a critical observer role, with no personal commitment to society's objectives, goals, and actions. Such a society becomes increasingly difficult and powerless to move toward goal achievement, since those whose behavior has to change in order for achievement to occur have less

and less incentive to change. Motivation to change comes from within, and the basis of that motivation is personal involvement in established objectives and goals, along with personal commitment to the ideals and purposes represented by those objectives and goals.

The policy-making approach to consumer education is basically a citizenship approach. It also requires a recognition of, or faith in, one's role in the functioning of the system, idealized as that may be. Without that recognition or faith, no first step toward full citizenship status will be taken. This system does not provide for a "gearing up" period; it assumes immediate involvement on the part of everyone. On-job learning is the primary tool used to shape the neophyte into an astute and accomplished citizen-consumer, but responsibility to function does not wait for that refining process to occur. It begins immediately.

What does this mean in terms of specific content in consumer education programs? It means the development of written and verbal communication skills; knowledge of political science and government functioning; awareness of international relationships in political and economic life; understanding of basic concepts and principles of macro-economic behavior; and last, but not least, a well-defined, intentional, and powerful exposure to the underlying values upon which our political and economic systems were based as they pertain to the world in which we now live. As educators, consumers or otherwise, our most significant failure has been the abdication of our responsibility to teach the values of this society to our students, whether they are young, middle-aged, or elderly, and in whatever educational context we meet them. I believe an emphasis on the policy-making approach in consumer education can help us change this direction and make our contribution to a stable and viable society and economy.

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PATTERNS OF HOUSEHOLD ENERGY CONSERVATION BEHAVIOR: A CLUSTER ANALYSIS

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Abstract

The energy conservation actions of a sample of Pennsylvanians were cluster analyzed in an effort to determine whether patterns of conservation behavior exist. Five distinct types of conservers emerged from the analysis and some of the demographic, socioeconomic, and attitudinal characteristics of these groups were examined. The number and type of conservation actions taken by consumers were clearly related to these characteristics which appear to constrain household's ability and willingness to conserve.

The last two decades of the twentieth century will be remembered, in part, as a period of adjustment to rapidly escalating energy prices and potential and actual shortages of fuels. This process of adjustment has resulted in changes in the lifestyles of Americans which vary from sweeping to subtle. The changes range from downsizing the American automobile, involving years of work and billions of dollars for retooling the industry, to households taking vacations closer to home or turning down their thermostats.

Perhaps because they are not as dramatic as the adjustments made by large industry, the changes made by households are less well understood and only recently have become topics of research interest. Much of past conservation policy has assumed individuals and households are able to conserve if they want to. Recent work has disputed this assumption. Tienda and Aborampah (1979), for example, indicate house and household characteristics constrain the conservation options available to people and are important determinants of the actions taken. Other work has linked income (Murray, 1974), education and age (reviewed by Olsen, 1978), and family life-cycle (Morrison and Gladhart, 1976) to individuals' willingness to conserve and to actions taken.

Reported below are the results of a research project which sought to answer questions about the kinds of adjustments individuals and households have made to tightened energy supplies. We have extended recent work which notes the importance of household constraints by examining energy actions for patterns of conservation behavior. We then examined the relationship of these patterns of action to the constraints imposed by respondents' demographic and socioeconomic characteristics.

The Survey

In early 1980 a mail survey entitled Pennsylvania: The Citizens' Viewpoint was developed by the Department of Agricultural Economics and Rural Sociology of the Pennsylvania State University. In addition to energy issues, questions focused on people's assessment of current local and state problems, their priorities for change, and their outlook for the future. The 20,000 households which received the questionnaire were a stratified random sample from Pennsylvania drivers' license registration lists. About 14,300 individuals returned completed questionnaires,³ yielding a response rate of over 70 percent.

One group of items in the questionnaire asked about specific ways the respondents had reacted to energy problems. The respondents were asked to indicate actions which they or members of their household currently were taking or had taken.

- 88 percent reported turning down the heat in their homes,
- 79 percent reported using their car less often,
- 64 percent reported installing weatherstripping and/or insulation,
- 43 percent bought a car which got better mileage,
- 36 percent shut off heat in part of their house,
- 36 percent took a vacation closer to home,
- 16 percent purchased wood stoves, and
- 3 percent used alternative energy sources (solar, etc.).

These results are generally in agreement with the findings of several national studies conducted between 1973 and 1978 and reviewed by Farhar, et al. (1979), and by Olsen (1978). Their reviews indicate a majority of people take both residential and driving reduction conservation actions and the actions which are most popular are those which cause the least inconvenience. However, respondents to the Pennsylvania survey appear to have been more likely to engage in automobile oriented actions than respondents to the earlier studies. This result may have occurred because respondents selected from drivers' license lists are more likely to have cars or because of changes in conditions, e.g., increases in the relative price of gasoline, between the 1980 study and those conducted previously.

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³Details of the sampling procedure and a description of the total survey results are in Moore and Ishler (1980).

Sampling and Method of Analysis

For this analysis, a random sample of 857 people was drawn from the survey respondents. Sampling was necessary because the computer technique used in the analysis can deal with only a limited number of observations. Respondents included in the sample were limited to those who owned houses and automobiles. This restriction was imposed to keep respondents' opportunities and incentives to conserve as equal as possible.

The overall percentages of individuals in this sample reporting the eight energy-conservation behaviors were similar to those in the larger survey population except that the sample was more likely to have installed weatherstripping or insulation to prevent heat loss. This difference was anticipated since the sample included only homeowners who would presumably have more incentive to insulate than would renters. The percentage of those in the sample who took each of the eight actions is indicated in the last column of Table 1.

In order to determine whether there were patterns in the energy-conservation measures taken by respondents, the sample of car and homeowners was analyzed using Clustan, a cluster analysis computer package. Cluster analysis is a technique for classifying individuals or objects into groups based on their similarity on a set of variables of interest. In this analysis, individuals were clustered based on similarities in their responses to the eight energy-action questions. Clustan's Relocate procedure was used for assigning cases to clusters. This procedure started with a random assignment of cases to an initial cluster solution. Next, cases were shifted from one cluster to another if the reassignment resulted in a decrease in error sum of squares. If we define

M = number of variables

X_{ij} = i th observation on variable j

N_p = number of observations in the p th cluster

μ_{jp} = mean of j th variable within cluster p

The centroid of the p th cluster is the vector

$$\mu_p = \begin{bmatrix} \mu_{1p} \\ \vdots \\ \mu_{Mp} \end{bmatrix}$$

Where each $\mu_{jp} = \frac{1}{N_p} \sum_{i=1}^{N_p} X_{ij}$.

The error sum of squares for the p th cluster is then defined as

$$E_p = \frac{1}{M} \sum_{i=1}^{N_p} \sum_{j=1}^M (X_{ij} - \mu_{jp})^2$$

and the total error sum of squares is

$$E = \sum_{p=1}^R E_p \text{ for } R \text{ Clusters (Wishart, 1978).}$$

The process was continued until further reassignments would not reduce error sum of squares. The result was the optimal allocation of cases to clusters for the number of clusters specified. This process was used to produce cluster solutions which yielded from two to nine clusters.

Using this procedure, five clusters with distinctive patterns of energy-conservation behavior emerged from the analysis. These five groups and the percentage of the members of each group which reported specific energy-conservation actions are shown in Table 1.

Energy-Conservation Groups

The first group identified was labeled Aggressive Conservers and consisted of individuals who were above average on all energy-conservation behaviors. At least half had bought cars with better mileage, vacationed closer to home, and closed off parts of the house in order to save energy. Over 90 percent had insulated their houses, used cars less often, and turned down their heat. However, this group was distinguished by the fact that all of its members had installed woodburning stoves. In addition, these people were the most likely to use alternative sources such as solar energy.

The second group was the Car-Oriented Conservers. Like the first group, they were above average in taking most of the energy actions. The distinguishing characteristic of this group was the extent to which they tended to concentrate on actions that involved cars. Nearly all reported using their cars less often, more than half had taken a vacation closer to home, and all had bought cars with better gas mileage. This group differs from the first in that none had installed a wood stove, and in that they were less likely to have closed off parts of their houses.

The last three groups were less active in energy conservation than the first two. The Defensive Conservers group was composed of people who tended to do things the majority of people reported doing. Most had turned down their heat, and all reported having used their cars less often and having insulated and weatherstripped. However, none of the people in this group had bought cars with better mileage, installed wood stoves, or used solar or other alternative energy sources. The group had taken actions which were defensive reactions to energy problems rather than active measures to change their lives to conserve.

The Low-Cost Conservers group fell below the sample average on most of the energy-conservation actions. The actions reported by a majority of this group (turning down the heat and using the car less often) represent actions which cost little. On the other hand, none of this group had insulated, and only a few had bought wood stoves, had bought cars with better mileage, or had invested in alternative energy sources - energy actions which

can involve moderate to substantial monetary investments. These people seemed to have concentrated on those conservation actions which were least expensive.

The last group fell below average on all of the energy-conservation actions and was labeled the Limited-Action Conservers. In sharp contrast to the other four groups, none reported using their cars less often. Only two actions were taken by a majority of this group. Most had turned down their heat and most had insulated or weatherstripped.

The results indicate clearly that energy-conservation actions fall into patterns. Conservation is not simply a single yes or no decision. Only the group labeled Aggressive Conservers took all of the conservation actions measured in the survey while the remaining groups concentrated on some actions but failed to take others. In order to understand the reasons for these patterns, demographic and socioeconomic characteristics of each of the groups were examined.

Demographic Characteristics of the Energy-Action Groups

The study examined the income (Table 2), age (Table 3), place of residence (Table 4), and size of household (Table 5) of the members of each of the groups. We also explored the extent to which group members participated in a range of community activities. Individuals were classed as either high, medium, or low, on an index of community involvement based on participation in such activities as working with others on community problems, joining organizations that take positions on public issues, and serving on local government commissions or boards, Table 6. Finally, we noted the priority which respondents were willing to assign to altering their "way of life so that increased energy will not be required." Table 7 separates those people who assigned a high priority from those who did not.

The Aggressive Conservers group is best distinguished by its rural residence. While only 44 percent of the sample lived in rural areas of Pennsylvania, 66 percent of this group lived in rural areas.⁴ In addition, a larger than average portion of the group was middle-aged (45 to 60), and a larger than average portion was in the \$9000 - \$18,000 income range. However, the other characteristics of this group were similar to those of the sample as a whole.

The Aggressive Conservers appear to be unusual. They take actions to conserve which require investments of time, energy, and money. They were not only the most likely people to take unconventional approaches to conservation, they were also among the most likely to take the usual approaches. A majority strongly believed lifestyles must be altered if energy is to be

⁴Rural was defined using the census definition. All residents who live in incorporated places (boroughs) of under 2500 or in unincorporated areas (townships) were considered rural.

conserved and they appear to be personally changing the way they live. This group of rural, middle income, energy activists is not represented in previous literature we have seen. They seem to represent a new breed of energy-conscious consumers.

The Car-Oriented Conservers group which was above average on all but one of the conservation actions included a high proportion of individuals in the higher-income brackets. Nearly two-thirds reported incomes of over \$18,000 a year. The only other distinguishing characteristic of this group was their tendency to be active in their communities. Over half were classified as high on the index of community involvement. The literature, e.g., Olsen (1978), suggests the individuals most likely to adopt energy-conservation practices are those of high socioeconomic status. The Car-Oriented Conservers group seems to consist of people the literature indicates will be active conservers.

The Defensive Conservers group tended to contain the highest proportion of older respondents of the five groups. Approximately two-thirds were 45 or older compared to 57 percent of the entire sample. Members of this group typically belonged to smaller households, had smaller incomes, and were somewhat more active in their communities than the average respondent, but were average on all other characteristics. Members of this group appear to be middle-aged and older Pennsylvania citizens whose families are small or whose children have left home. It may have been more feasible for this group with their smaller households and lower incomes to reduce their driving, close off rooms, turn down the heat, and insulate and weatherstrip, than to purchase cars, wood stoves, or use alternative energy sources.

The characteristics of the Low-Cost Conservers group were similar to those of the Defensive Conservers group. They had the highest proportion of people with low incomes, the most people over 60 and the smallest households. Unlike the Defensive Conservers group, however, they indicated little involvement in their communities. This group was the most income constrained and primarily engaged in actions which cost little, i.e., they turned down the heat and used their cars less often.

While there are some differences between the Low-Cost Conservers and the Defensive Conservers, the conservation patterns and demographic characteristics of the two groups were quite similar. Both groups tended to conserve energy in the easiest and most inexpensive ways.

The characteristics of the last group, the Limited-Action Conservers, were quite different from all the other energy-conservation groups. The people in this group typically had the highest incomes and the largest households. They also were the youngest group; 62 percent of them were under 45, compared with 43 percent of total the sample. Further, members of this group were the least willing to assign a high priority to altering lifestyles to save energy and were the least involved in their communities. Although all of this group's conservation actions were below the sample average,

perhaps the most remarkable finding was that none of the members of this group reported having reduced his driving while nearly 80 percent of the sample as a whole had done so.

There may be several reasons for the meager conservation efforts of this group. Because of their larger and younger families, it may be more difficult for them to reduce their driving or close off rooms. Others in this group may be able to continue to live as they did in the past because they have enough money to pay for higher energy costs.

Summary and Implications

It is clear all individuals do not conserve energy in the same ways. The results of this study indicate energy-conservation actions fall into patterns. We have described five groups of energy conservers based on their patterns of conservation behavior. Only one of these groups, the Aggressive Conservers, engaged in all eight of the conservation behaviors we measured. The four remaining groups specialized in one or more of the types of action while ignoring the others.

Demographic characteristics appear to have a strong relationship with what people are willing and able to do. People are responding in ways which are most feasible for them. Those with smaller families appear to be able to reduce their driving more easily than those with larger families. Those with lower incomes seem to be less able to buy cars with better gas mileage or invest in alternative-energy sources than those with higher incomes. Those in rural areas may find it easier to install woodburning stoves and to obtain and store wood than those in urban areas. Younger, affluent people seem to be less willing or able to change their lifestyles than older, middle- and lower- income people.

The findings of this study should serve to remind policy makers that differences in attitudes and demographic characteristics do and will affect individual and family responses to energy-conservation policy. Because people have responded in ways which are most feasible and least expensive, further changes may be increasingly difficult, especially for some groups of people.

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TABLE 1
Percent of Energy Conserving Groups by Type of Action

Type of Action	Groups					Average
	Aggressive Conservers	Car-Oriented Conservers	Defensive Conservers	Low-Cost Conservers	Limited-Action Conservers	
	-Percent-					
Turned down the heat	93	93	91	82	83	89
Used the car less often	91	98	100	100	0	79
Insulated, weatherstripped	96	92	100	0	59	72
Bought a car with better gas mileage	50	100	0	30	38	42
Took a vacation closer to home	54	53	42	16	27	39
Shut off heat in part of the house	51	39	42	30	23	37
Installed a wood stove	100	0	0	8	5	16
Used solar, wind, or other alternative energy source	8	3	0	1	0	2
Percent of sample	14	23	27	17	19	100

TABLE 2
Percent of Energy Conserving Groups by Income

Income	Groups					Average Percent (total row number)
	Aggressive Conservers	Car-Oriented Conservers	Defensive Conservers	Low-Cost Conservers	Limited-Action Conservers	
	-Percent-					
Less than \$9,000	13.1	12.1	21.2	26.5	10.7	16.9 (132)
\$9,000 to 17,999	37.4	26.0	31.0	30.2	20.8	28.7 (225)
\$18,000 to 24,999	25.2	29.3	26.6	19.8	28.2	26.1 (205)
\$25,000 and greater	24.3	32.6	21.2	23.5	40.3	28.3 (222)
Column total: Percent (Number)	100 (115)	100 (181)	100 (203)	100 (136)	100 (149)	100 (784)

Chi square = 39.97 with 12 d.f. $p < .001$

TABLE 3
Percent of Energy Conserving Groups by Age Category

Age	Groups					Average Percent (total row numbers)
	Aggressive Conservers	Car-Oriented Conservers	Defensive Conservers	Low-Cost Conservers	Limited-Action Conservers	
			-Percent-			
Under 25	3.4	12.7	5.5	12.1	17.7	10.3 (86)
25 to 44	35.9	34.4	27.7	25.5	43.6	33.2 (276)
45 to 60	42.8	33.9	38.2	30.5	24.8	33.9 (282)
Over 60	17.9	19.0	28.6	31.9	13.9	22.6 (188)
Column Total:						
Percent (Number)	100 (117)	100 (189)	100 (220)	100 (141)	100 (165)	100 (832)

Chi square = 55.49 with 12 d.f. $p < .001$

TABLE 4
Percent of Energy Conserving Groups by Place of Residence

Residence	Groups					Average Percent (total row numbers)
	Aggressive Conservers	Car-Oriented Conservers	Defensive Conservers	Low-Cost Conservers	Limited-Action Conservers	
			-Percent-			
Rural	65.5	40.1	42.0	37.5	41.6	43.9 (364)
Urban	34.5	59.9	58.0	62.5	58.4	56.1 (465)
Column Total:						
Percent (Number)	100 (113)	100 (192)	100 (219)	100 (144)	100 (161)	100 (829)

Chi square = 25.56 with 4 d.f. $p < .001$

TABLE 5
Percent of Energy Conserving Groups by Size of Household

Household Size	Groups					Average Percent (total row numbers)
	Aggressive Conservers	Car-Oriented Conservers	Defensive Conservers	Low-Cost Conservers	Limited-Action Conservers	
			-Percent-			
One or two persons	35.4	34.9	45.9	47.2	26.9	38.5 (314)
Three or four persons	44.2	42.5	36.2	40.8	47.5	41.7 (340)
Five or more persons	20.4	22.6	17.9	12.0	25.6	19.8 (161)
Column Total:						
Percent (Number)	100 (113)	100 (186)	100 (218)	100 (142)	100 (156)	100 (815)

Chi square = 23.43 with 8 d.f. $p < .002$

TABLE 6
Percent of Energy Conserving Groups by Community Involvement

Community Involvement	Groups					Average Percent (total row numbers)
	Aggressive Conservers	Car-Oriented Conservers	Defensive Conservers	Low-Cost Conservers	Limited-Action Conservers	
	-Percent-					
Low	27.1	13.3	16.7	29.5	31.7	22.5 (193)
Medium	31.4	34.4	37.7	45.6	40.7	38.0 (326)
High	41.5	52.3	45.6	24.8	27.5	39.5 (338)
Column Total: Percent (Number)	100 (118)	100 (195)	100 (228)	100 (149)	100 (167)	100 (857)

Chi square = 50.67 with 8 d.f. $p < .001$

TABLE 7
Percent of Energy Conserving Groups by Priority for Lifestyle Change

Priority	Groups					Average Percent (total row numbers)
	Aggressive Conservers	Car-Oriented Conservers	Defensive Conservers	Low-Cost Conservers	Limited-Action Conservers	
	-Percent-					
Assign a high priority for changing life- style to save energy	51.7	44.0	40.7	45.8	31.5	42.1 (352)
Didn't assign high priority	48.3	56.0	59.3	54.2	68.5	57.9 (484)
Column Total: Percent (Number)	100 (118)	100 (193)	100 (221)	100 (142)	100 (162)	100 (836)

Chi square = 13.21 with 4 d.f. $p < .01$

THE KENTUCKY CONSUMER HOT LINE:
AN EXAMPLE OF GOVERNMENT-UNIVERSITY
COOPERATION

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Abstract

A cooperative venture between the University of Kentucky and the Consumer Protection Division of the Kentucky Attorney General's Office has resulted in expanded educational opportunities. The project focuses on the needs of Kentucky consumers and university students, as well as the objectives of the University and the government agency. An innovative characteristic of this cooperative effort was the transfer of the state consumer hot line to the University campus to be staffed by trained consumer education students. Data from this service are available for research studies and for Cooperative Extension programs.

Introduction

The involvement of college students in governmental activity has long been a characteristic of academic programs in higher education. Many graduate and undergraduate students spend summers and vacations as interns in federal, state and local government offices and agencies. Students work as clerks and pages in the executive, legislative and judicial branches of government. Such involvement and experience has been invaluable in preparing many students for successful careers in public service and business.

The field of consumer protection is not without its educational opportunities for college students. Consumer protection is a mandated responsibility of the Office of the Attorney General (OAG) in forty-eight of the fifty states [2, p.321]. Therefore, many educational opportunities are available in the State Offices of Attorney General. Law students often serve as interns and clerks who research cases and write opinions. Student workers receive, investigate, and mediate complaints from consumers. In some states students staff hot lines. They register consumer complaints, answer requests for information and make referrals to appropriate agencies or organizations. In addition, the

consumer education programs of many Offices of the Attorney General are based in part on input from college students.⁴

When consumer educators attempt to establish programs involving their students in governmental consumer protection efforts, the emphasis and major rationale usually focus on the needs of students. This focus is important of course, but it alone may be insufficient to generate adequate support from the university administration or the governmental agency. Each has priorities in addition to providing educational opportunities for college students. For example, state consumer protection agencies are often understaffed and underfunded, and may not have adequate resources to provide appropriate training or supervision for students. University faculties usually have research and extension responsibilities which compete with teaching for increasingly scarce resources.

The key to establishing a program which involves students in governmental consumer protection programs is an understanding of the needs, resources, and limitations of the parties involved. Such an understanding can assist in the design and implementation of the program and particularly in obtaining approval from the relevant decision makers. The result can be a truly symbiotic relationship of benefit to students, resident and extension faculty, the university administration, and the staff of the government agency.

Scope and Description of the Project

This paper describes a holistic approach to consumer education and protection involving the Department of Family Studies in the College of Home Economics at the University of Kentucky and the Consumer Protection Division (CPD) of the Office of the Kentucky Attorney General. The program involves the use of students to staff a toll-free consumer hot line which is uniquely located on a university campus. Further, the program makes use of the faculty's research skills and ability to deliver consumer information through the Cooperative Extension Service.

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- 1 Assistant Professor, Department of Family Studies
 - 2 Assistant Professor, Department of Family Studies
 - 3 Assistant Professor of Extension, State Specialist in Family Resource Management

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- 4 Personal conversation with R. Blau, Public Information Director, National Association of Attorneys General.

Background

The Consumer Protection Division of the Office of the Attorney General in Kentucky was established in 1972. Among its responsibilities has been responsibility for fraud litigation, mediation of consumer complaints, consumer education, and intervention in utility rate proceedings. In conjunction with these efforts a state-wide, toll-free consumer hot line was established in 1976. The purpose of the hot line was to provide citizens with a quick, inexpensive way to register a complaint or obtain information about consumer rights. A further purpose of the hot line has been to assist the CPD to carry out its mandated responsibility to "provide a central clearing house of information. . . by collecting and compiling consumer complaints and inquiries and forwarding them to the proper governmental agencies" [2, p.37].

In the spring of 1980 the CPD found itself unable to continue to staff the hot line. As a result, the hot line was being answered with a recording which requested that the caller put his/her request or complaint in writing. The reason for this change was that the staff of the CPD had found it impossible to answer the hot line and keep up with the rest of their normal work load.

While the hot line was being answered by the recording, one of the authors called the hot line number to verify it for an extension publication. Surprised by the recorded message, the author contacted the CPD to determine why it was being used and to express his view that the recording was defeating the intended purpose of the hot line. During discussions with the Assistant Attorney General, Director of the CPD and other staff members, possibilities for having students provide assistance to the CPD were explored. An initial idea expressed by resident and extension faculty was to have students travel to the state capitol to staff the hot line. However, the logistics of providing for such travel and for reimbursement seemed to make such a proposal unworkable. A subsequent proposal was to move the hot line telephone to the university campus. After much discussion, this proposal was approved.

Developmental Stages

The development of the hot line project occurred in a series of distinct stages. These stages were negotiation, approval, and implementation.

Negotiation. The first stage of the project consisted of negotiations among the University faculty and administration, and the CPD staff. Thorough discussions focused on the logistics of moving the hot line, the benefits to the parties involved and the possibilities for improving the hot line system. A key to success in this negotiation stage was the willingness of all parties to consider the needs of the others, and a concern that all possible alternatives be

considered before implementing any plan.

Approval. The second stage in the development of the program consisted of obtaining approval for moving the hot line to campus and staffing it with students. Decision makers within the University and the Attorney General's Office were kept informed as to the negotiations which were taking place. When the time came for approval of the project, the decision makers were fully aware of why the proposal was developed and why it warranted approval.

The approved proposal outlined specific duties and responsibilities for the CPD staff and the University faculty. The CPD staff agreed to pay all telephone expenses, to provide a part-time administrator responsible for supervising the work performed by the students, to take full responsibility for acting on and mediating complaints registered via the hot line, to provide all procedural information, materials and training needed by the students, and to provide technical assistance as needed. The University faculty agreed to provide space for the hot line telephone and storage space for the materials needed to operate the hot line. The University further agreed to provide students to staff the hot line for a minimum of forty hours per week during the school year, and to confer college credits for successful completion of the program. The agreement was then formally approved by the Dean of the College of Home Economics, the Vice-president of the University for Academic Affairs, and the Director of the Consumer Protection Division.

Implementation. The third stage in the development of the project was the implementation of the program. The first problem was to find a location for the hot line. This was a particularly troublesome concern because of space problems on campus. Two rooms were allocated for the hot line in a building some distance from the faculty offices. The fact that the hot line could not be located in the same building as the offices of the supervising faculty was a blessing in disguise. Students were forced to act independently of faculty input and this has enhanced their learning.

The next step was to recruit staff for the project. Ultimately ten students who were enrolled in or who had previously taken consumer affairs courses were selected for the first semester of operation.

An important step in the implementation stage was the development of the following educational objectives to:

- (1) provide students with first-hand experiences in dealing with consumer problems,
- (2) provide students with an overview of the types and complexity of complaints registered by consumers,

- (3) expose students to the various agencies to which consumers may be referred to voice their complaints,
- (4) assist students in the development of those oral and written communications skills needed for professionals in the area of consumer affairs,
- (5) expose students to the limitations of government consumer protection efforts and the need for individual consumer vigilance and consumer education, and to
- (6) provide graduate students with research opportunities related to consumer affairs.

In order to help achieve these objectives a training program was developed. The initial emphasis was to orient the students to the function of the CPD and to explain the telephone procedures which should be used. This segment of the training was conducted by the CPD staff prior to the beginning of the project.

Later, the emphasis of the training shifted to topics which could best be discussed with students who had some experience answering the hot line calls. The first area of concern was the vast array of referral sources from which the students could draw to help callers with specific problems. These referral sources included other government agencies, private consumer agencies, legal services, and the courts. The pros and cons as well as the appropriateness of the various referral agencies were also addressed. A referral manual developed by the CPD helped students choose appropriate referral agencies efficiently.

The second concern related to advice the students might give callers. The students were cautioned against providing specific legal advice. However, lessons covered the various laws which might apply to specific complaints. Where applicable, students were encouraged to inform callers only that there was a law covering the problem that they were having, but they were discouraged from interpreting the law.

The training also included discussion of factors which contribute to consumer problems. Students were made aware that many consumer problems arise from misunderstandings on the part of consumers or a lack of consumer sophistication and assertiveness, as well as from specific business practices.

Benefits of the Project

The holistic approach employed in this project has made it possible to go beyond the traditional benefits provided to students. Major benefits

also accrued to the Consumer Protection Division, the University and its faculty, and ultimately, the consumers.

Consumer Protection Division

One benefit to the Consumer Protection Division was that the student staff provided the CPD with the equivalent of at least an extra full-time staff member. This allowed the CPD to handle more complaints and to focus their attention on mediation. The CPD was also able to reduce the basic telephone costs of providing the hot line. The reduction in expenses for the hot line has made funds available for evaluating and improving the service. These funds supported evaluative questions included in the state-wide poll regularly conducted the University of Kentucky Survey Research Center. The data from this will be subjected to longitudinal analysis to determine changes that occur in the public's level of satisfaction with the services afforded by the hot line. The ultimate result should be improved and expanded services.

The University and its Faculty

The benefits to the University and its faculty were numerous. The teaching mission of the University was enhanced by providing a means for motivating students and for applying the knowledge gained in the classroom. The Family Studies Department of the College of Home Economics also benefitted from increased publicity for its new program and in recruitment of students. Students have expressed heightened motivation to develop their skills as consumer affairs professionals.

The research function of the University was enhanced by moving the hot line to campus. The data gathered from each of the callers will provide the basis for many research studies. Information being collected from the callers includes the nature of the call (complaint, information request, etc.), the product or service involved, any contacts the caller had made prior to contacting the hot line, and the referrals made by the student. By obtaining the phone number of the caller it will be possible to follow-up the calls and conduct studies related to the level of satisfaction with the response which the caller obtained from the CPD and from the various agencies to which the caller may have been referred. These studies will assist in improving the hot line service and help the University meet its public service responsibilities.

The extension function of the University was enhanced by moving the hot line to campus. The data received from the callers will provide the Cooperative Extension Service with detailed information on the types of problems experienced by consumers in Kentucky. This will help determine the types of information consumers need

to obtain satisfaction in the marketplace and will help focus Cooperative Extension programs and publications.

Summary

The consumer hot line project has been in operation since the fall of 1980. Considerable success has been achieved in overcoming logistical problems and in providing consistent, quality assistance to hot line callers. While much room for improvement and further development exists, the success achieved thus far suggests that persons who develop projects of this nature should pay close attention to several factors. First, and from the beginning, efforts must be made to understand the needs of each of the parties involved. Special emphasis must be given to conflicting needs to ensure they are resolved. Second, university and government agency support may be enhanced if these units realize that they will receive benefits not directly related to the teaching function. These benefits can provide important selling points for the project. A third factor must be a clear identification of the responsibilities of each of the parties involved. The resulting division of labor will allow the members of the partnership to focus

their efforts where their expertise is greatest. The last and possibly most important key to the success of any similar project is the willingness and dedication of each of the parties to keeping the channels of communication open.

While more might be done to extend the potential of the present project, the important foundations of mutual understanding, a concern for the needs of the entire University and the governmental agency involved, a clear division of labor, and open communications will promote continued expansion and improvement.

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PROFESSIONAL DEVELOPMENT AND THE AMERICAN PSYCHOLOGICAL ASSOCIATION:
SOME ORGANIZATIONAL PROGRAMS AND THEIR RELEVANCE TO THE AMERICAN COUNCIL ON CONSUMER INTERESTS

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The American Psychological Association (APA) is the national professional organization for psychologists. Its more than 50,000 members are affiliated with one or more of APA's 40 divisions which include such applied areas as consumer psychology, industrial psychology and clinical psychology, as well as the basic areas of experimental psychology and physiological psychology. With membership of \$69 annually, the association has been able to assemble a substantial Washington staff to support a variety of professional development activities.

In what follows, some of these activities are briefly described and discussed. Next, we look at what can be learned from these experiences which would be useful to the American Council on Consumer Interests (ACCI).

Before looking at APA's professional development activities, it should be noted that these efforts are in addition to the many individual efforts of the APA divisions. For example, Division 9, The Society for the Psychological Study of Social Issues, has its own small research grants program, as well as an academic journal, the Journal of Social Issues, and several academic books on social science topics published under its auspices.

APA's Professional Development Activities

Many of the APA's professional activities have been formally subsumed under a Continuing Education program which was established in the late seventies to "offer psychologists opportunities to broaden their knowledge and keep pace professionally through its three major components: the Continuing Education Sponsor Approval System, the Advanced Workshop, and the Master Lecture Series." Let us look briefly at each of the components.

The Continuing Education Sponsor Approval System

This system was established in response to the sharp increases in formalized continuing education programs for psychologists and the accompanying need for criteria for identifying qualified providers. The sponsor approval system, which was established in 1979, serves three functions:

1. Evaluation of sponsor applications according to established criteria and standards. (Of 114 applications reviewed in the first year of system operation, 84 were approved.)
2. Establishment of a Continuing Education Registry which enables psychologists to maintain a centralized file of continuing education credits earned in activities by APA-approved sponsors.

3. Quarterly publication in the APA Newsletter of a Continuing Education Calendar which lists continuing education activities to be offered by APA-approved sponsors.

The Advanced Workshop Program

This program sponsors a series of Advanced Workshops at the annual convention for which continuing education credit may be earned. At the 1980 APA convention, approximately 30 skill-oriented workshops were offered on a wide range of topics. The choice of workshops to be offered was based on the needs and interests of APA members as determined by surveys of APA groups.

The Master Lecture Series

This series of five lectures is presented each year at the APA convention. Each lecture is delivered by a recognized authority in a particular area of psychology who focuses on recent advances in the area. Continuing education credit may be earned by attending the lectures.

In addition to its new Continuing Education activity, APA operates other programs to help its membership develop professionally. These include the Congressional Fellowship Program, to acquaint young psychologists with the day-to-day workings of congressional offices, and a computerized information retrieval system to help researchers conduct reviews of selected scholarly literatures of psychology.

ACCI Lessons To Be Learned From The APA Experience

While it is easy to become enthused about the possibility of transplanting some of the APA seeds into ACCI soil, a word of caution seems in order, considering the enormous differences in membership sizes and staff supports for the two organizations. Nonetheless it would appear that some of the APA developments are worth exploring by ACCI members.

Perhaps most promising in this regard is the idea of workshops and master lectures on topics of interest to the ACCI membership. APA often schedules these activities just before or after the annual convention, and ACCI might find these times especially convenient for its members. Master lectures usually last several hours and workshops may be scheduled for as long as several days. Candidates for these activities are too numerous to mention but some likely possibilities are new developments in such fields as survey research, data analysis, test development, program evaluation and instructional technology.

¹Professor of Psychology

A second professional development activity which would seem worthy of pursuing is the publication of a Continuing Education Calendar in the ACCI Newsletter. This action would provide a "bulletin board" in the mail which consumer affairs professionals could scan each month for news of upcoming workshops or other professional development activities.

A third professional development activity which seems promising for ACCI concerns an ACCI-sponsored Federal Fellowship Program. If modeled after similar programs in Washington it would permit young academics to become familiar with consumer legislative and regulatory processes by working in a congressional office or a regulatory agency. Outside funding would, of course, be required for such a program but if only one Fellow was sponsored each year, commitments for the amount required might be attainable.

In summary, APA has generated a number of programs which it would appear could be adopted by ACCI in a form which is appropriate to ACCI's size and objectives. The pursual of these possibilities would appear to be a worthwhile undertaking for interested ACCI members.

Colston E. Marne Lecture

Communicating Consumerism*

by

Betty Furness, NBC Television

Betty Furness delivered the Colston E. Marne Lecture. She focused on her role in communicating consumerism to audiences that may not be interested or may not know they are interested. In her words, she attempts to "reach the unreachable" and help them learn about their rights and responsibilities. Mass media provides the opportunity to reach people who are uneducated, are low income, or may not have access to other sources of information such as Consumer Reports.

In her role on a news program for NBC, she has the right to say or do anything as long as she is right. This allows her to name corporations or companies. The attorneys for the television station handle any resulting complaints so that she is not restricted in future programs. She noted that presentations on other programs are more restricted. Fear of irritating a current or future sponsor may dictate deletions of names or products. News programs are not so restricted.

Although she is on the news, show business and station ratings still have a major role in presentation and selection of topics to be discussed. Items which can be easily visualized are the best choices. They attract attention and interest. The time frame in which she must operate limits some areas from consideration. Items which are all data - numbers, percents are difficult for an audience to comprehend in a short time. Most of her news items are about 2 1/2 minutes.

Betty Furness highlighted some of her success stories as well as major attention receiving stories. Some of the items she mentioned were marketing orders for oranges, flame retardency of fabrics, formaldehyde insulation problems, service contracts, gold purchases, utility company problems, store complaints, and product recalls. These were all topics of past programs some of which resulted in major changes of company policy or practice. For example, major utility developed a new type of bill.

In conclusion, Betty Furness answered questions from the audience. She noted that indepth programs on consumer topics may be most effective when developed and presented locally. The special needs and situations of the community can be considered then.

*Highlights of presentation prepared by the editor.

PROFESSIONAL DEVELOPMENT AND THE AMERICAN
AGRICULTURAL ECONOMICS ASSOCIATION

Loren V. Geistfeld, The Ohio State University¹

Overview

The American Agricultural Economics Association (AAEA) was founded in 1919 as the American Farm Economics Association. The Association started publishing the Journal of Farm Economics soon after its inception. In 1968 the name of the Association was changed to the AAEA and the journal's name to the American Journal of Agricultural Economics (AJAE).

The AAEA currently has about 6500 members and subscribers. Annual membership is \$25. The AAEA Business Office and the Secretary-Treasurer are located at Iowa State University. In addition to the AJAE, the AAEA publishes a newsletter. The AAEA holds its annual meeting in late summer and sponsors several sessions at the annual Allied Social Sciences meetings.

The AAEA has been quite active in professional development activities. This short paper will not attempt to catalog all of these, but will highlight several activities which, I believe, are of interest to ACCI.

Postwar Literature Review

In 1968 the AAEA established a committee to initiate a review of the postwar agricultural economics literature. The way to accomplish this was left to the committee with two possibilities being a special issue of the AJAE or a series of review articles to be published in the AJAE.

The stimuli for undertaking this task centered on three points. First, the need for an efficient means to bring and keep professionals up to date in the literature. Second, the successful collaboration between the American Economics Association and the Royal Economics Society to produce a series of review articles. Third, the perceived need to improve the professional identity of the AAEA.

The Postwar Literature Review Committee, after extensive deliberation, decided to publish a volume containing a series of reviews. After developing the content in greater detail, it was decided to expand the review to a series of three volumes--which has since become four. The first volume was published in 1976. All of the review papers for the last volume have not been completed yet. It should be noted that the papers commissioned were original works authored by recognized leaders.

In a discussion with the individual who has lead this massive effort for more than 13 years, it

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was noted that in retrospect it may have been better to publish the reviews as a series of journal articles. The AAEA did not pay the authors to write the papers which did reduce the amount of leverage editors could apply to authors; however, the advantage of this was that the papers, which are of excellent quality, were an "act of love" by the authors and indicates their willingness to make a contribution to posterity. The AAEA is publishing the four volumes in cooperation with the University of Minnesota Press. Members of the AAEA receive the volumes at a reduced price.

Teaching Workshops

The AAEA has supported a series of resident instruction related workshops. The first of these was held in 1963. Subsequent workshops have been held in 1966, 1972, and 1980. These workshops are self supporting and occur prior to or just after the AAEA annual meeting. The proceedings from the 1966 and 1972 workshops were published as a second part to the annual proceedings issue of the AJAE. Abstracts from the 1980 workshop were published in the regular proceedings issue of the AJAE. (In years when no workshop was held, it has been common for a session at the annual meeting to focus on resident instruction.)

The general objective of these workshops has been to improve education in agricultural economics with emphasis on undergraduate education. Reaction by participants to these workshops has been very positive. Evidence of this is the desire by the AAEA Resident Instruction Committee to conduct these workshops on a triannual basis.

Other Activities

Visiting Lecturer. This program was intended to help agricultural economics departments without a Ph.D. program to attract leaders in the field to their campuses. The program has existed for nearly 15 years with limited success. The problem appears to be related to the funding needed to cover the costs of the visiting lecturers.

Travel Grants. The AAEA has provided travel grants to young professionals attending the International Association of Agricultural Economists meetings. These grants have been awarded on a competitive basis and usually go to individuals participating in the program.

Lessons for ACCI

1. Efforts to systematically collect and synthesize the literature may be useful and important, but the scope must be controlled. It may be appropriate to commission a series of well defined review articles for publication in the JCA. This could help clarify the image of ACCI.

2. Workshops relating to specific topics may be worth considering. However to be successful, the workshop must be attractive to a sufficiently large number of individuals to be self supporting. It is useful to have a dedicated core of individuals to plan these workshops.

3. National associations can meet with limited success when trying to serve in a coordinating or facilitating role between academic units. The problem appears to be one of a lack of a clear perspective as to where any financial responsibility lies.

MEASUREMENT OF INFORMATIONAL ADEQUACIES AND
IMPERFECTIONS IN LOCAL CONSUMER MARKETS

Loren V. Geistfeld, The Ohio State University¹

Abstract

Consumer information is basic to consumers' ability to make optimal use of resources when making purchase decisions. Five studies are summarized here which suggest informational imperfections may be significant, are dependent upon product type and vary from city-to-city. An implication of these findings is that it may pay for consumers to engage in search.

The primary objective of this paper is to assess and draw inferences from existing research about the informational imperfections in local consumer markets. In pursuit of this goal this paper is divided into four sections. In the first section is examined the rationale for studying informational imperfections in local consumer markets; in the second section three methodologies have been used to assess informational imperfections are examined; in the third section existing published and unpublished research is summarized; and in the last section implications are drawn.

Why Examine Informational Imperfections?

The concept of consumer efficiency introduced by Sproules, Geistfeld and Badenhop (8, p. 89-90) is

basic to understanding the need for research examining informational imperfections in local consumer markets. Consumer efficiency describes the state in which consumers use their limited financial, material, time and human resources in a way such that the greatest bundle of goods possible is obtained through a purchase decision. Consumers are said to be inefficient when a suboptimal purchase decision is made. A Lancaster-type analysis is a useful tool to describe the concept of consumer efficiency. Figure 1 depicts a possible situation faced by a consumer who prefers more to less. Points A, B, and C represent those quantities of characteristics X and Y which can be had by a consumer if all income is spent on each of the three goods respectively. Suppose the consumer, who is not fully informed with respect to products available in a given market, does not know that product B exists. This consumer will purchase a bundle which lies somewhere along the line AC. However, if the consumer had been aware of the existence of product B, this product variety would have been the only one purchased since it provides more of both characteristics. What has happened is that through ignorance the consumer did not get as much of the two characteristics as could have been had had he/she been fully informed.

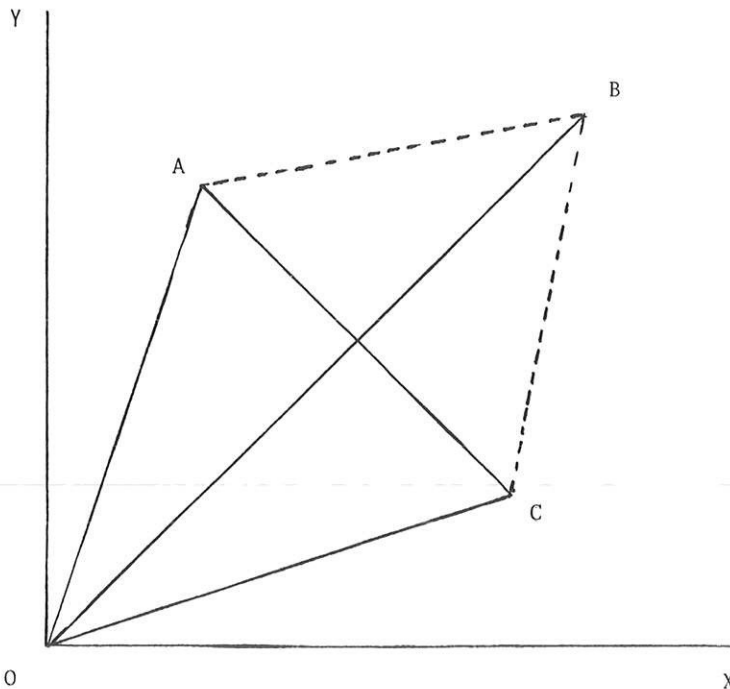


FIGURE 1. Consumer Efficiency

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Consumer ignorance is a major factor contributing to inefficient consumption by consumers. If consumer ignorance is great, the likelihood of consumer efficiency obtaining is reduced. Consumer inefficiency results when consumers do not use resources to the extent possible, thereby denying themselves other consumption opportunities.

An outward manifestation of consumer ignorance is a poor association between price and quality. The next section discusses ways in which this can be measured.

Ways to Assess Informational Imperfections

There are three methods which have been used to assess informational imperfection in local consumer markets. The first makes use of the perfect information frontier which describes those product variants which a consumer would purchase if he/she were fully informed with respect to price and quality. The last method examines the degree of price dispersion for specific product variants. Each of these methods accounts for product quality either by holding it constant or by specifically incorporating it into the analysis.

Perfect Information Frontier

The concept of the perfect information frontier (PIF) was developed by Maynes (5). He defined the PIF as "the positively sloped line segments connecting those points, representing price and quality, for which a given quality may be purchased for the lowest price" (p. 65). Maynes has argued

that the fully informed consumer will select only product variants which lie on the PIF.

The "dots" in Figure 2 denote the price and quality associated with specific product variants. To appreciate how this can reflect consumer ignorance, juxtapose the points labeled x_1 and x_2 . The product variants represented by these points reflect the same quality level by x_2 , clearly costs much more than x_1 . The degree of informational inadequacy in a market is related to the number of price-quality points such as x_2 which lie off the PIF and the distance these points are from the PIF since consumers will purchase product variants off the PIF only through ignorance.

For the PIF method to be empirically valid, several assumptions must hold (6, p. 78):

1. The product varieties and retailers selected depict the choices available to a representative consumer.
2. The prices quoted are the lowest prices for which sellers would willingly sell a product to a large number of buyers.
3. The measure of quality used reflects the quality assessment of fully informed consumers.

In addition to these assumptions, the method possesses several limitations:

4. Seller characteristics are not usually included in the assessment of quality used in the method.

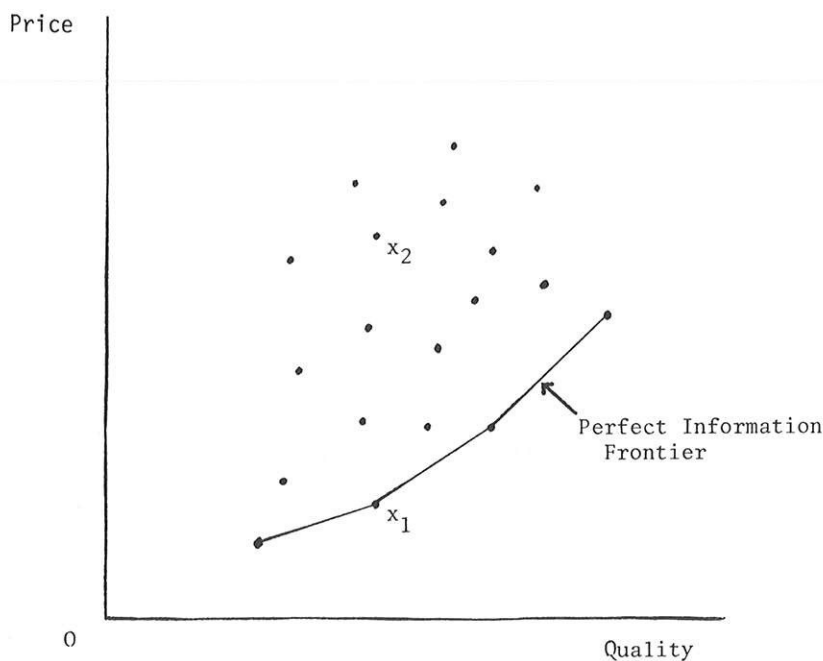


FIGURE 2. Perfect Information Frontier

5. Subjective characteristics such as beauty are not included in the measure of quality.

The assumptions appear to have been met and the limitations have not been restrictive for studies using the PIF method to date. (These assumptions and limitations are relevant to the two remaining methods as well.)

Correlation Analysis

Correlation analysis seeks to evaluate the degree of association between price and quality. A large, positive correlation suggests that informational imperfections are minimal since high quality products have high prices. The lower the correlation, the greater the degree of informational imperfection since the incidence of paying higher prices for lower quality product variants increases. Spearman Rank Order Correlation Coefficients are used most often since quality measures are usually available as orderings. When quantitative measures of quality are available, Pearson Correlation Coefficients can be computed.

The major limitations of rank order correlation coefficients have been well documented by Sproles (7, p. 75) and will not be discussed here. Duncan (1) has noted that Pearson Coefficients may not accurately reflect the degree of informational imperfection since the ideal relationship between price and quality need not be linear.

Price Differences

The last method used to assess informational imperfection is the difference between the highest and lowest prices for which a specific product variant is sold in the market. By using a specific variant, product quality is held constant. The difference is often expressed as a percent of some base price--either the average market price or the lowest market price. These measures give a clue as to the potential monetary loss which consumers could incur through careless shopping, i.e., not acquiring information. The larger the difference or ratio, the greater the degree of informational imperfection.

Existing Research

The studies summarized here use one or more of the methods discussed in the previous section. It should be noted that the summaries of the various articles do not necessarily focus on the main points of the respective articles but on the points related to this paper.

In a paper focusing on the conceptual and methodological underpinnings of the PIF, Maynes (6) reported an assessment of informational imperfection for the Ann Arbor, Michigan, term life insurance and Kodachrome 126 markets, and on informational imperfection for pocket cameras for the Ann Arbor, Michigan, Ithaca, New York, and

Minneapolis/St. Paul, Minnesota, markets. Term life insurance and Kodachrome 126 film were considered to be homogeneous products, i.e., quality constant. The price-quality points in this situation become a series of points denoting different prices for which the same quality is sold. The PIF degenerates to a point which reflects the lowest price for which that product can be purchased. (It should be noted that in this unique situation the PIF method and price difference method are essentially the same.) Maynes reported extensive price dispersion for both of these products in Ann Arbor with the highest priced film being 65% more costly than the lowest priced film. The analysis relating to pocket cameras for the three markets was based on price data collected in each of the three cities. The required quality measures came from Consumer Reports (CR) where actual quality scores were published which permitted the use of the PIF for a non-homogeneous product. Examination of the price-quality points and their relationship to the PIF suggests the Ithaca market, which has the fewest sellers, is informationally more perfect than the other two. However, the price level is also higher for Ithaca.

Duncan's (1) paper focused on the changes occurring in the structure of a local consumer market over time. He used single lens reflex (SLR) cameras and pocket cameras as the products for which he collected price data over a period of months. The quality information needed for the analysis was obtained from CR where actual quality scores were published which made possible the calculation of Pearson correlation coefficients between price and quality. Duncan reported that the price-quality relationship for pocket cameras was much stronger than the relationship for SLR cameras based on an analysis of the data using the PIF method where it was found that the price-quality points were scattered further above the PIF for SLR cameras than for pocket cameras. This finding was supported when the price-quality correlation for SLR cameras was found to be 0.106 while that for pocket cameras was 0.679.

Geistfeld (2) used Spearman correlation coefficients to examine the degree of association between price and quality. The rank order quality measures were obtained from CR while prices were obtained from retailers in Indianapolis and Lafayette, Indiana. Examination of the data summarized in Table 1 suggests that there is extensive ignorance in markets for products which are technically complex. The Spearman coefficient for color and monochrome televisions, and microwave ovens are all negative and statistically significant at the 10% level. Given the relatively large cost of these items, this finding is of even greater significance. There is also evidence that the level of ignorance for "novel" products is high since the coefficient for hot lather dispensers is negative and significant. It is interesting to observe that products which are primarily mechanical rather than electronic or electro-mechanical in nature are generally associated with positive coefficients. This suggests that consumers can more readily understand how these products operate and hence can more easily assess quality.

TABLE 1. Spearman Coefficients for Selected Products and Cities

Product	Indianapolis	Lafayette
Air conditioners	-.16 (.34) ^a	
Color television		
<u>CR</u>	.20 (.13)	-.14 (.30)
<u>CRM</u>	-.35 (.02)	-.82 (.00)
Dishwashers	.80 (.00)	.79 (.01)
Electric typewriters	.38 (.03)	.02 (.47)
Hot lather dispensers		-.20 (.08)
Microwave ovens	-.33 (.05)	-.50 (.03)
Monochrome television		
<u>CR-1</u>	-.75 (.01)	
<u>CR-2</u>	-.36 (.01)	-.31 (.08)
Picnic bottles and jugs		.52 (.06)
Pocket cameras		
<u>CR</u>	.55 (.00)	.62 (.00)
<u>CRM</u>		.76 (.02)
Portable clothes washer	.83 (.00)	
Table radios		
<u>CR</u>	.38 (.08)	
<u>CRM</u>	.36 (.04)	.50 (.02)
35 mm cameras		
<u>CR</u>	.38 (.08)	
<u>CRM</u>	.36 (.04)	.50 (.02)
Washing machines	.54 (.00)	.35 (.12)
Women's electric shavers		.12 (.28)

^aLevel of significance

Source: Geistfeld (2)

Geistfeld, Maynes and Duncan (3) reported that the difference between highest and lowest prices vary with product type and can be quite large. This study used a variable called relative range to analyze the degree of price variation in three markets--Ann Arbor, Ithaca and Minneapolis/St. Paul--for six products--blankets, dishwashers, microwave ovens, pocket cameras, porch/deck paints and ten-speed bicycles. In this study price differences for specific product varieties were determined by comparing the price charged by the least expensive seller to that of the most expensive seller for a given brand model. This facilitated the computation of an average relative range for each product in each market. As reported in Table 2, the authors found the difference between the highest and the lowest price to be less than 10% of the lowest price for porch/deck paints and ten-speed bicycles. The difference was between 10% and 20% for blankets and dishwashers, while it was in excess of 20% for microwave ovens and pocket cameras.

17-18 cubic foot refrigerators--Frigidaire, General Electric and Whirlpool, he collected price data in eleven cities. In his article he presents the difference between highest and lowest prices for only five of the eleven cities, but analysis of this provides interesting results which are summarized in Table 3. The data in the difference/average column was found by dividing the price difference by the average price for which refrigerators were sold in a given market. These values suggest that the difference between highest and lowest price is between 11% and 28% of the average price. This indicates large informational imperfections for the refrigerator markets studied. Jung noted that "The largest cities did not systematically offer lower prices than those with less population" (p. 115) and concluded that consumers can benefit from shopping (reducing ignorance) for refrigerators.

Jung (4) reported a study in which price variations for refrigerators among retail store types and cities was examined. Using three national brands

TABLE 2. Average Relative Price Range for Selected Products and Markets

Product	Ann Arbor	Ithaca	Minneapolis/St. Paul	Average
Blankets	.20	.09	.25	.18
Dishwashers	.16	.25	.16	.19
Microwave ovens	.24	.24	.22	.23
Pocket cameras	.31	.14	.31	.25
Porch/Deck paint	.06	---	.02	.04
Ten-speed bicycles	.03	.08	.06	.06

Source: Geistfeld, Maynes and Duncan (3), Tables 1-6.

TABLE 3. Price Differences for Refrigerators in Selected Markets

City	Difference	Difference/Average
Kansas City	\$49	.11
Tulsa	51	.12
Cincinnati	61	.15
St. Louis	95	.22
Philadelphia	119	.28

Source: Jung (4).