

**The National Survey on the Status of
Consumer Education in US Schools Grades K-12**

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The National Survey on the Status of Consumer Education in US Schools Grades K-12 is a compilation of data on how consumer education is addressed in the curricula in all 50 states plus the District of Columbia. Sponsored by the National Coalition for Consumer Education (NCCE), the survey was conducted through its network of state coordinators. State school chiefs provided information as to the status of consumer education mandates, policies, and informal practices in their respective states.

**The National Coalition
for Consumer Education**

The content and quality of education in America's schools have become major topics of concern. While education has been put high on the list of national priorities, the National Coalition for Consumer Education (NCCE) is concerned that the importance of consumer education in school curricula has not been sufficiently addressed.

The NCCE, celebrating its tenth year of advocating consumer education in our nations schools, communities, and work places, acts as a catalyst to promote and encourage the development of life long consumer skills. Leaders from business, government, education, consumer groups, and the media work through the Coalition to maximize and share resources. Through a network of state and regional coordinators, NCCE tailors educational efforts and projects to meet local needs.

Several current projects of NCCE include a four year million dollar consumer credit education fund with AT&T, an annual consumer education materials contest with the US Food and Drug Administration, and other local programs focusing on personal financial management and environmental issues.

Methodology of the National Survey

The National Survey was conducted to better understand how and if consumer education is addressed in school curricula. Current research focuses on economic education, while little has focused on consumer education. NCCE intended to update information gathered in a 1981 study "State Consumer Education Policies: An Update."

A written questionnaire was sent to state school chiefs in all 50 states and the District of Columbia. The state and regional coordinators of the NCCE then conducted interviews with these school chiefs to gather perceptions and specific information about issues within each of the states.

The school chiefs were asked to describe consumer education in grades K-8 and grades 9-12 in both general and vocational area.

In this survey, consumer education was defined as four major areas:

- economic decision making
- economics
- personal finance
- consumer rights and responsibilities.

The questionnaire sought to determine: is there is a state-wide policy regarding consumer education; what does the policy cover; is it mandatory or voluntary; who established the policy; is the policy law, resolution or a policy statement; is consumer education elective, optional or integrated; and does their student assessment program, is any, include consumer related subject matter?

All responses were tabulated and analyzed by Dr. Charlotte Scott of the University of Virginia McIntire School of Commerce.

Key Findings

Most respondents noted that more emphasis should be placed on personal financial management. Issues related to health, safety, environment, and marketing practices are seen as sorely lacking in consumer education today.

Barriers noted to including consumer education in the curriculum were many. Most responded that there is a lack of time to teach consumer education because more curricula focus on basic skills. Deficiency in teacher knowledge of consumer education and the lack of good materials were also noted as crucial barriers to including consumer education in the curricula. Many responded that consumer education is seen as vocationally focused, rather than skill focused.

Asked what would happen if budget were not a constraint, many responded that they would first make consumer education required in elementary and secondary schools. The development of realistic materials that support the existing curricula were also noted as important along with the need for more cooperation from state consumer agencies in educational initiatives.

Implications for the Future

All respondents said that consumer education should be at or near the top of the agenda for revitalizing education. While business leaders and teachers were noted as most likely to discuss consumer education initiatives, there is a need for a united effort involving students, teachers, parents, community leaders, business, and government agencies.

Summary

While consumer education is represented in school curricular to some extent, there is a pressing need and interest to develop more comprehensive strategies for preparing students to face tomorrow's challenges. The National Coalition for Consumer Education encourages all people to review this important document and to use the information to promote and encourage consumer education in local areas.

The NCCE will continue to serve as a catalyst to address these needs, especially in the areas of teacher and materials development for main streamed, disenfranchised, and culturally diverse students. This study challenges all business leaders, educators, government officials, and consumer advocates, to work with NCCE and others to address these critical needs. In times of limited resources, we need creative solutions. We must all be active players as partners in education.

Copies of the 90 page survey can be obtained for \$25 from:

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THE BENEFITS OF CONSUMER EDUCATION

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In 1990 a survey conducted by the Michigan Consumer Education Center asked a select group of consumer education professionals to identify the benefits of consumer education. Their responses, which are the basis of a 1991 publication of the Center titled "The Benefits of Consumer Education," can be categorized under five headings summarized by the following words that appear throughout the survey--*confidence, skepticism, knowledge, longevity and satisfaction.*

When consumer educators get together for hallway discussions and after-dinner conversations at ACCI, one question that sometimes comes up is how to encourage consumer education in a variety of settings. The evidence is strong, as we've just heard, that American consumers are much in need of education, and yet the work of expanding its importance has never been easy. Still, consumer education has a constituency of supporters and advocates, consisting not only of educators, but also corporate leaders and government officials. They recognize that it's exciting, it's interesting, it's needed, it's relevant and the general public has positive opinions of it. And yet consumer education is under-appreciated and its benefits too often overlooked.

Such puzzlements as these can be seen as a backdrop to activities that have been taking place in Michigan under the name The Michigan Agenda for Consumer Education. The Agenda was a three-year plan to strengthen consumer education and promote its importance. It was funded by a partnership between education and business and located at Eastern Michigan University. The Michigan Consumer Education Center managed and coordinated its activities and I helped with that work.

From the beginning, the Agenda's leaders felt that promoting consumer education meant publicizing its positive aspects and its solid achievements. One component of this was a project to gather information about the benefits of consumer education and to publish it in formats that would be easily accessible and broadly available.

The Survey

In order to address this objective, it was decided to poll leaders in the field to see what could be gleaned from those who had devoted their professional lives to the education of consumers. Accordingly, an open-ended survey was devised. In early 1990 it was sent to a group of 30 consumer education leaders from across the nation, persons with distinction in either academic or applied specializations. Included were authors of consumer education textbooks, administrators of government consumer affairs programs, corporate executives responsible for consumer

education, and elementary and secondary teachers recognized for developing outstanding programs.

The purpose was to solicit individual opinions from acknowledged experts. This method, actually, has classical roots. In the Platonic dialogue called Meno, Socrates asks Meno, "if we wanted [to instruct someone] to be a good cobbler, would we not send him to the cobblers?" Or if we wanted to learn about medicine, wouldn't we go to physicians. Well, we wanted to learn about consumer education so we went to the educators.

A tally of the returns showed a 60% response rate, that is, 18 surveys were filled out and sent back. The survey required more than yes/no answers since all four questions called for essay-type responses. Responses ranged in length from bulleted items to paragraphs of several hundred words to a two-page outline. In order to provide respondents with the chance of expressing themselves in a different setting, there was a follow-up session in the form of a round-table discussion at last year's ACCI meeting. The information was used as a starting point for an article I contributed to the current issue of *Advancing the Consumer Interest*, (ACI). In a shortened and revised form, the same information was published just this week as a brochure. The ACI article, the brochure, and my remarks this morning are all based on survey responses, comments recorded at the follow-up meeting, or published research that I reviewed.

Not surprisingly, many of the benefits as set forth by the experts were articulated in very broad, inclusive terms. For example, one respondent said that consumer education helps individuals to understand their role in the marketplace, while another said consumer education gives people a more inclusive view of the economic system. According to another respondent, consumer education improves the quality of life, a view which seems reasonable in a society as strongly oriented to a market economy as ours is. Finally, consumer education was said to benefit people because it helps them meet their goals.

Though couched in unspecific language, these benefits are realistic enough. Their significance is that they seem to represent an effort on the part of educators to show that the boundaries of consumer education are wider than most people think. Certainly, the scope of consumer education has broadened well beyond the concerns of so-called "buymanship." It now includes instruction in consumer rights and responsibilities, participation in the economic and political systems, and an exploration of the costs and benefits of consumer decisions.

One survey question asked respondents to list the benefits of consumer education to individuals. In poring over their answers, I realized that some of the same words and phrases kept re-appearing. One way of categorizing the ideas expressed in response to the question of individual benefits is to cite five of these abstract nouns around which several responses clustered. The five words are *confidence*, *skepticism*, *knowledge*, *longevity*, and *satisfaction*.

Confidence

The first of these, *confidence*, appeared along with its causal word, *empowerment*, in at least half the surveys. It refers to feelings of certainty, optimism, and self-reliance in consumers who were less certain of themselves before their exposure to consumer education in whatever form. As expressed in the survey, "one of the individual benefits is that consumers have the experience of being in control of their fate, of possessing the ability to function well on a daily basis, of being independent." "Their understanding of the system," said another respondent, "and their knowledge of how to deal with it can give them enhanced perception of their managerial abilities." A state law enforcement official said that consumers who are well-versed in their marketplace rights, and thus self confident, assist law enforcement since there's less need for government regulation and subsequent enforcement. An official of a different state, whose agency hears consumer comments every day, said that the self-confidence resulting from consumer education makes people more comfortable in voicing their opinions, when necessary.

And finally, these words from an elementary school teacher who achieved renown for making consumer education the major focus in her classes. "Students gain self-confidence, pride, and independence when they make wise choices and when they are treated with respect--as they are when the teacher respects them enough to allow them to make their own choices. Or, when they spot undesirable practices or situations and are able to correct them. My students have forced a lake clean-up, gotten sidewalks, installed planter boxes, gotten a traffic light, and affected company policy through their letter writing. A student who can make a change in people's lives becomes a very proud, confident student, committed to participating and helping."

Skepticism

Skepticism is the next word. In consumer terms it refers to withheld judgment or a doubting disposition in regard to commerce. As one survey respondent wrote, "For the individual, consumer ed should, ideally, spark a lifelong skepticism about the messages being received from the commercial world and instill a need to be cautious." In many survey responses, the term *analytical thinking* was almost synonymous with skepticism in that both share the same reluctance to embrace received opinion. The skeptic waits to be convinced while requiring all ideas and issues to pass through the filter of skepticism, while the

analytic thinker hopes to arrive at a better understanding by dividing issues or ideas into their component parts according to some logical basis of division. A major benefit to individuals, according to one respondent, is that "consumer education builds analytical skills for the analysis of everyday problems including acquisition of difficult information and understanding of personal priorities and values."

Analytical thinking, or a skeptical attitude, will teach a person to question time-honored precepts and rules of thumb such as "You only get what you pay for" which recent research has shown to be questionable, and sometimes dead wrong. Finally, in considering the dominant role played by advertising, especially on TV, a healthy skepticism can help consumers make the vital distinction between appearance and reality, between what seems to be and what actually is, so that advertising can be seen in truer perspective.

Knowledge

The next word is *knowledge*. The quality which respondents described under this term is the readiness or capacity exhibited by students of consumer education to absorb the collection of information, facts, laws, procedures and so forth which form its usual subject matter. A more common, though longer, term might be acquisition of consumer life skills. These skills are one of the undoubted benefits of consumer education and they were mentioned by more than half the respondents, using one term or another. In the words of one person, "consumer education attempts to inform buyers, to strengthen life skills, and to increase knowledge." These life skills are what give consumer education the practicality and relevance that make it so useful to young consumers who are inexperienced buyers and so extolled by their parents or guardians who are preparing them for the future.

One of the chief skills to be learned is the careful use of scarce resources with a focus on informed rather than haphazard purchasing. Consumers who start the buying process by distinguishing between needs and wants and proceed to take advantage of shopping tips, product and service evaluations, and other relevant consumer information will save money. Research by Cude shows that informed buying decisions can bring about dramatic gains for consumers, especially with low-cost, repetitive purchases. This may have been the intent of the respondent who wrote that "Consumer education gives rise to increased skill in gathering information and preparing for first-time consumer decisions."

Longevity

Longevity is the next word. It appeared in its adjective form, *long-lasting*, referring to the fact that the lessons of consumer education, if learned well, can last a life time. Because consumer education results in understanding principles which apply in the long term, they are independent of changes. To quote a respondent, "Consumer education is the process of imparting concepts and capabilities. Concepts have lasting value,

being transferable to other situations and points of time." Another respondent was more to the point. "Consumer education has lasting benefits because it is for life."

Of course, this is said of many kinds of education: Teachers of science and arithmetic, for example, say the same thing and illustrate their point by citing applications of their subject which occur from childhood to maturity. That doesn't invalidate the claim of consumer education, however, and it must be included among academic subjects that have daily usefulness and that last as long as the person functions as a consumer, even though vast changes occur.

One caveat when talking about life long benefits of consumer education is the difficulty of measuring them over the span of a person's existence. In 1970 Joseph N. Uhl noted that there had been little or no effort to calculate the value of consumer education over a lifetime. Unfortunately, the situation is much the same in 1991.

Satisfaction

The last word, *satisfaction*, refers to the contentment or well-being that consumers feel in controlling their own economic destiny, in handling their affairs adroitly. Some examples from the survey follow:

- a) According to one respondent, "consumers maximize their satisfaction when they employ decision-making skills and appropriate resource allocation and usage. Individuals can enjoy a fulfilled existence as they benefit from wise consumer practices and as they realize the personal rewards involved."
- b) "In helping a person to reach more nearly his/her individual goals, consumer education also assists in maximizing the amount of satisfaction that comes from the resources which the individual controls."
- c) "One important benefit of consumer education is increased satisfaction with the use of one's personal resources. If consumers pay attention to matching their values and ideas about a high-quality of life with the way they use their resources, a closer match is likely and the potential for personal satisfaction increases."

According to these responses, and several parallel observations not quoted, satisfaction is a concomitant of certain practices that sound almost Biblical in their probity--good judgment, responsibility and self-awareness. These are the values which have consumer satisfaction as a by-product.

Under these five key words, *confidence*, *skepticism*, *knowledge*, *longevity*, and *satisfaction*, can be categorized the benefits of consumer education to individuals. Obviously, the categories are not absolute in any sense, but for purposes of today's panel they are, I hope, at least illustrative of the survey. In this presentation which has accentuated survey procedures and individual survey responses as much as survey conclusions, I've tried to give due regard to the rationale used by ACCI in bringing the three of us presenters together on the same platform. We've all "conducted" surveys,

though they were vastly different from each other in scope, purpose and methodology. This may suggest their divergent uses.

By spotlighting the benefits of consumer education to *individuals*, I didn't intend to de-emphasize its benefits to society and to business. They are very real and of no small significance. In fact, I was provided with fresh evidence of the benefits to business by Mary Levy of the Consumer Information Center in Washington who reports that over the last ten years, more than 50 consumer education publications have been co-produced by a corporation or trade association and a consumer group. The corporation supplies the funds, the consumer group provides the expertise and the Consumer Information Center is the intermediary. Consumer names like National Consumers League, Consumer Federation of America, and Environmental Protection Agency on one side and business names such as American Express, Goodyear, Pennzoil and National Futures Association on the other. It's common enough to be a trend. The point is that if business is prepared to fund consumer information and education, there must be some measurable benefit.

For anyone curious about additional benefits of consumer education to society and business, I can only refer you to the previously mentioned publication of mine. Thank you.

Thoughts on Using Consumer Expenditure Survey Data

Jeanne M. Hogarth, Cornell University¹

My work with the Consumer Expenditure Survey (CEX) data started with my Master's thesis, using the 1972-73 data to construct income elasticities for household energy expenditures. That was back in 1979; the next time I worked with the data was 10 years later while on sabbatic at the Bureau of Labor Statistics, Division of Price and Index Number Research. At that time, I was interested in studying the relationships between income sources, assets, and expenditures in older households. My interests fit in with a project BLS was doing on data comparability among federal household surveys.

We chose to set up "parallel" data files using the 1983 CEX and the 1983 SCF to begin to see if matching or merging of the data was possible. A more complete description of this work can be found in the proceedings from the conference on "Enhancing Consumer Choice" (Garner et al., 1991). At BLS, I was able to work with the proprietary data sets and had access to consultants who were intimately familiar with the data, the data management system, and the computer system.

Back at Cornell, I set about to reproduce the parallel files we created at BLS, using the public use tapes for CEX. As I worked with these data, some issues arose which could be placed on a "wish list" for BLS.

1) File management. I know that Census and the Bureau do not know how researchers will be using these data, so they set up "generic" files. However, my experience is that I can only link the files with the help of a computer consultant. Having files in a SAS format would allow me to access the files and create the data set I need without hiring a consultant.

2) Variables. While we all understand the need for confidentiality, and thus the top coding and suppression of some variables, there are some variables that would enrich our research if included in the public use data. For example:

Credit variables. For younger families especially, it would be interesting to know how much of their income goes to servicing credit agreements and the effects of recent tax law changes on household credit arrangements and use.

Rural information. For those of us in land grant institutions with access to Hatch formula funds for our research, social science research needs to justify how it will improve the lives and livelihood of rural residents. While we appreciate the need to maintain the confidentiality of rural respondents, we need to be able to incorporate appropriate variables in our analyses. The Bureau should continue to collect data from rural residents and make regional and urban/rural information available on the public use tapes.

3) Additional data. Recognizing the major purpose of the survey (i.e., data for constructing the CPI) and issues of respondent burden involved in a survey of this magnitude, I would encourage the Bureau to continue to review the relevance of the questions asked and the data collected, keeping in mind the need to have comparable data with previous survey years. As times change, questions may need revision to reflect current household structures, incomes, and expenditures. For example, it may be time to include a "remarried" category in the marital status variable.

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Estimating Price Effects in the Absence of Price Data:
A Comparison of Elderly and Non-Elderly Households*

Jane Kolodinsky, Ph.D.
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This research derives estimates of price effects under less than ideal conditions. Though restrictive, the approach appears allows comparisons to be made across groups. Seven commodity groups are analyzed: health care, apparel, entertainment, food, housing, transportation, and other expenditures. Estimates for elderly and non-elderly households are compared and suggest differences.

Do elderly households fare differently from younger households when prices of goods and services change? Information about the effects of price changes have implications for addressing level-of-living. By applying a modified linear expenditure system to cross-section micro data, price elasticities are calculated in the absence of abundant price data. Combined with information on budget shares, these elasticities identify how price changes affect the elderly in various socio-economic categories differently from the younger population.

Review Of Literature

Consumption

The life cycle hypothesis (Ando and Modigliani 1957) forms the foundation for examining the spending practices of the aged. While the majority of studies have focused on dissaving behavior vs. consumption in the aggregate (e.g., Hammerness 1984; Danziger, et al. 1978), some have addressed individual expenditure categories within the broad allocation of consumption. In the latter case, the most common method used to examine consumption patterns of the elderly, given a dearth of price data, has been to estimate income effects only. Chen and Chu (1982) and McConnell and Deljavan (1983) estimated Engel curves for various age groups using 1973 Consumer Expenditure Survey data. Various demographic variables were regressed on budget shares, leading to similar results: aged consumers differ in their budget allocations and income elasticities of demand than do younger persons.

Income and Prices

Per capita income of persons over the age of 65 is about 30 percent lower than that of ages 55-64 and many of the retired elderly live on fixed incomes. Older persons do, however, have access to several discounts, tax incentives, and transfers. In addition, elders have larger values of total wealth (Fuchs 1983). Nonetheless, 11.8 percent of elderly women and 6.1 percent of elderly men live below the poverty level and 12.4 percent of elderly households make less than \$5,000 per year (U.S. Bureau of the Census 1988). And, although the

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number of elderly poor has decreased since 1980, many elderly have trouble meeting daily expenses (Duncan 1984). This is due in part to the differences in income distribution among the elderly and the illiquidity of wealth compared to income.

Little research on consumption patterns of older Americans has addressed the impact of price changes. Deak and Smith (1974) noted that because persons over age 65 allocate a greater percentage of their income to medical care, food, and housing than do younger individuals, they are more adversely affected when prices of goods and services in these expenditure categories rise faster than the general rate of inflation. Some work has focused on whether a general consumer price index (CPI) is an adequate (or appropriate) measure of the cost of living of the elderly. Bridges and Packard (1981) reviewed various estimates of a price index for the elderly and found the CPI for the elderly has risen faster than for the general population.

Virtually no research on expenditures of aged Americans has included prices in analysis of budgets. The explanation of choice is that most studies use cross-section data in which prices are assumed to be constant. However, this is not the case.

Advances in estimation methods improve the ability to measure price as well as income effects when studying consumption patterns. Specifically, Frisch's (1959) money flexibility parameter used in conjunction with data on wage rates allows the calculation of price elasticities when abundant price data is unavailable (Betancourt 1971).

Methodology

Theoretical Framework

We use a modified version of the linear expenditure system to estimate one labor supply and seven expenditure functions for three income categories of younger and older Americans. Though statistically this method is quite restrictive, it shows promise in allowing comparison of groups¹. Specifically, it can be ascertained whether price elasticities differ based on demographic characteristics.

Following Betancourt (1971), a consumer's utility function can be written:

$$U = (1-b) \sum_{i=1}^N b_i \ln(q_i - c_i) + b \ln(L-l) \quad (1)$$

where

¹The specification of the utility function imposes strong separability and the assumption of two-stage budgeting. All goods are normal. All goods are net substitutes (Johnson et al. 1983). Though additivity is a restrictive assumption, for broadly defined categories of goods and services it is not an unreasonable description of consumer behavior.

b_i = marginal propensity to consume out of income for the i th commodity ($i=1,2,\dots,N$).
 q_i = quantity of the i th commodity.
 c_i = minimum required quantity of the i th commodity.
 b = the marginal propensity to consume leisure.
 L = the quantity of leisure in hours.
 ℓ = the minimum required quantity of leisure.

This utility function is maximized subject to time and income constraints.

$$T = L + M \quad (2)$$

where

T = total time available
 M = total hours of labor supply.

$$wM + v = \sum_{i=1}^N p_i q_i \quad (3)$$

where

w = the wage rate
 v = income from non wage sources.
 p_i = the price of commodity q_i , ($i=1,2,\dots,N$).

The two constraints can be collapsed into a single constraint

$$w(H-\ell) + v - \sum_{i=1}^N p_i q_i = 0. \quad (4)$$

Maximization of (1) subject to (4) yields the demand equations:

$$q_i = c_i + p_i^{-1} b_i (Y' - \sum_{i=1}^N p_i c_i) \quad (5)$$

where $Y' = wM + v$
and

$$Y' = w(h-\ell)(1-b) + (1-b)v + b \sum_{i=1}^N p_i c_i. \quad (6)$$

The parameters of the model are b_i , c_i , and ℓ where

$$\begin{aligned}
 0 < b < 1 \\
 0 < b_i < 1 \quad (i=1,2,\dots,N) \\
 \sum b_i = 1. \\
 0 < c_i \quad (i=1,2,\dots,N)
 \end{aligned}$$

Given information on total income, the wage rate, and non-wage income, equation (6) can be estimated:

$$Y' = \alpha_0 + \alpha_1 w + \alpha_2 v. \quad (7)$$

where

$$\alpha_0 = b \sum_{i=1}^N p_i c_i$$

$$\alpha_1 = (1-b)M$$

$$\alpha_2 = (1-b)$$

and

$$b = 1 - \alpha_2$$

$$\ell = T - \alpha_1 / \alpha_2$$

$$\sum_{i=1}^N p_i c_i = \alpha_0 / (1 - \alpha_2).$$

Given this information, the income elasticity of the marginal utility of income w^* and its reciprocal, the money flexibility of income (ϕ) can be computed:

$$w^* = -Y'(Y' - \sum_{i=1}^N p_i c_i)^{-1}. \quad (8)$$

The advantage of the model is that it allows all price elasticities and the income elasticity of demand to be derived from expenditure equations estimated using data

available on income and one price only. Use of the "money flexibility" parameter, describing how the marginal utility of money changes in relation to its rate of change with the level of money income held in a household, provides the basis for the estimation of price effects (Frisch 1959). Since the wage rate of individuals, or price of leisure varies in cross-section, it can be used as the varying price.

Empirical Framework. The empirical forms of the equations to be estimated are:

$$p_i q_i = p_i c_i + b_i (Y' - \sum_{i=1}^N p_i c_i) + e_i \quad (9)$$

where the demand equation derived in (5) has been multiplied through by the price of the i th commodity and e_i is a stochastic error term, and

$$M = (1-b)(T - \ell) + (b \sum_{i=1}^N p_i c_i)(1/w) + -b(v/w) + u \quad (10)$$

where equation (6) has been rewritten in terms of labor supply and u is a stochastic error term.

Seven expenditure equations and a labor hours equation are estimated. Commodity groups include Apparel, Entertainment, Food, Health care, Housing, Transportation, and Other.

Equations (11) and (12) represent in general form each of the seven expenditure equations and labor supply equation to be estimated.

$$p_i q_i = \beta_0 + \beta_i Y' + \epsilon_i \quad (11)$$

$$M = \alpha_0 + \alpha_1 (1/w) + \alpha_2 (v/w) + u \quad (12)$$

The estimated coefficients are related to the structural parameters in the following way:

$$\beta_0 = p_i c_i - b_i \sum_{i=1}^N p_i c_i \quad (13)$$

$$\beta_i = b_i \quad (14)$$

$$\alpha_0 = (1-b)(T-\ell) \quad (15)$$

$$\alpha_1 = b \sum_{i=1}^N p_i c_i \quad (16)$$

$$\alpha_2 = -b \quad (17)$$

The seven equations implied by (11) break off from (12), given the assumption of two stage budgeting. These seven equations are fitted one by one using Tobit to correct for censored sample bias since some households reported zero expenditures in certain commodity groups.

Note that the wage rate enters explicitly into equation (12). However, for many persons, the elderly especially, there are many persons not employed in the labor force, making the observed market wage equal to zero. If the system were estimated using only persons who work, sample selection bias would ensue (See Heckman 1974). Therefore, the entire sample is used to estimate the probability of entering the labor market and the sample selection factor, λ , obtained. Then, (12) is estimated using only those persons who are employed. Ordinary Least Squares regression analysis is used, including λ as an independent variable.

The variables included in the equation are those which are assumed to be associated with home and labor market productivity (Heckman 1979; Zick and Bryant 1983; Gerner and Zick 1983). Because we include an elderly sample in our estimation, a variable measuring health status is included. We construct a 0-1 dummy variable for health. If health was cited as the reason an individual was not working, the variable received a one. If any other reason was cited, or if the individual was working, the variable received a zero. Thus, the measure assumes that if individuals are employed, their health is good. The seven expenditure and hours of work equations are estimated after correcting for sample selection bias.

Data

We refer to two samples: the elderly and younger counterparts of male headed, two adult households. Sample sizes of 1123 and 2495, respectively, were drawn. Three categories, low, moderate, and high, were formed by dividing the entire sample into three equal groups based on annual income available to the households²: under \$15,000, between \$15001 and \$30075, and over \$35075.

Criteria for selection of the aged sample included:

1. The age of the head of household is 55 years or older and age did not change during the three quarter periods being reported;
2. the household is a "complete" income reporter³;
3. if a member of the household was employed, enough information was provided to compute a wage rate (salary, hours worked per week, weeks worked per year);
4. the household reported expenditures in at least one of the seven categories included in the research;
5. the following information is reported: household size; number of rooms; region of the country and/or rural/urban place of residence; and race, sex and employment status of the of the reference person are reported;
6. Income or expenditures were "topcoded" (i.e., incomes over \$100,000 were topcoded as \$100,000);
7. deletion of those with negative total income and/or hourly wage rates less than \$2 or greater than \$100.

²Critics of this approach indicate it results in a loss in variation of the income variable. Suggestions have been to divide the sample by other characteristics related to income (Betancourt 1971). Initial, unsuccessful, estimates used race, presence of children, and rural/urban designations.

³The Bureau of Labor Statistics defines a "complete" income reporter as one who has provided values for at least one of the major sources of income, such as wages and salaries, self-employment income, and social security income (U. S. Department of Labor 1987, p.7).

Expenditure data required special treatment. They were averaged per quarter and annualized for consistency with income. In addition, regression diagnostics were performed, and extreme values (defined by studentized residuals) were omitted. Total expenditures were used as a proxy for income for three reasons. First, some CEX respondents reported negative or zero before-tax income. Second, income reported in a given year may be an inaccurate representation of income over time. Third, total expenditures may be a better indicator of permanent income--a factor which not only has precedence by other researchers using the CEX (e.g., Chen and Chu 1982), but also, has implications for estimation of consumption coefficients. Table 1 provides summary statistics.

Table 1. Definitions and Summary Statistics

Variable	Definition	ALL	<55	>55
BLURS	Region of residence ¹	.876 (.329)	.885 (.319)	.856 (.350)
AGER	Age of reference person	46.10 (16.33)	36.80 (8.90)	66.74 (8.05)
EDUC1	Not completed high school	.258 (.437)	.168 (.374)	.457 (.498)
EDUC3	Completed beyond college	.235 (.424)	.273 (.445)	.152 (.359)
CUTEN	Homeowner	.742 (.437)	.695 (.460)	.845 (.361)
ROOM	Number of rooms	5.965 (1.702)	6.02 (1.743)	5.843 (1.602)
NUMAUTO	Number of automobiles	1.648 (.984)	1.704 (.964)	1.524 (1.016)
NWINC	Non-wage income ²	3309 (6581)	2541 (5591)	5015 (8118)
PENSINC	Pension Income ³	2941 (6008)	5062 (2254)	8352 (7910)
RACE1	Percent Black	.080 (.271)	.078 (.269)	.083 (.277)
UNEMP	Unemployment rate ⁴	7.221 (.571)	7.239 (.564)	7.180 (.585)
FAMSIZE	Family size	3.323 (1.327)	3.637 (1.264)	2.623 (1.191)
RACE2	Percent Asian	.037 (.190)	.042 (.200)	.027 (.163)
KID1	Percent w/children under 18	.420 (.493)	.585 (.492)	.055 (.228)
KID1A	Oldest child <6 ⁴	.149 (.356)	.212 (.409)	.008 (.093)
KID1B	Oldest child 6-17 ⁴	.271 (.444)	.372 (.483)	.046 (.210)
KID2	Oldest child 18+ ⁴	.168 (.374)	.154 (.361)	.198 (.399)
HEALTH	Health status ⁶	.031 (.175)	.014 (.120)	.069 (.254)
WAGE	Wage rate	9.398 (8.426)	11.27 (7.376)	5.229 (9.095)
WAGESP	Wage of spouse	4.800 (13.28)	5.939 (15.56)	2.269 (4.559)
INCL	Hours of work	34.66 (19.69)	42.90 (12.36)	16.37 (20.60)
WK1	Weeks worked	37.88 (21.19)	46.48 (12.74)	18.77 (23.58)
INCST1	Percent employed	.765 (.423)	.936 (.243)	.384 (.486)
TEXP	Total expenditures ⁷	33.7 (.189)	36.5 (.183)	27.5 (.188)
N	-	3618	2495	1123

¹ 0 if rural; 1 if urban.

² All income earned from non-wage sources, other than pensions and social security.

³ All pension and social security income.

⁴ Refers to children living at home.

⁵ Specific for region if urban; otherwise, rural.

⁶ 0 if healthy; 1 if not healthy.

⁷ In thousands

Budget Shares

Figures 1a-1 depict the share of the budget allocated to the seven expenditure categories. Older and younger households spent similar amounts for Housing. However, older households spent 19 percent more on Food and 243 percent more on Health. Older households spent 25 percent less on Entertainment, 20 percent less on Apparel, and 11 percent less on Transportation than the younger households.

When income groups are considered, the differences are less severe between age groups, but more severe among income groups. Low-income households over age 55 spent 168 percent more on Housing than high-income households

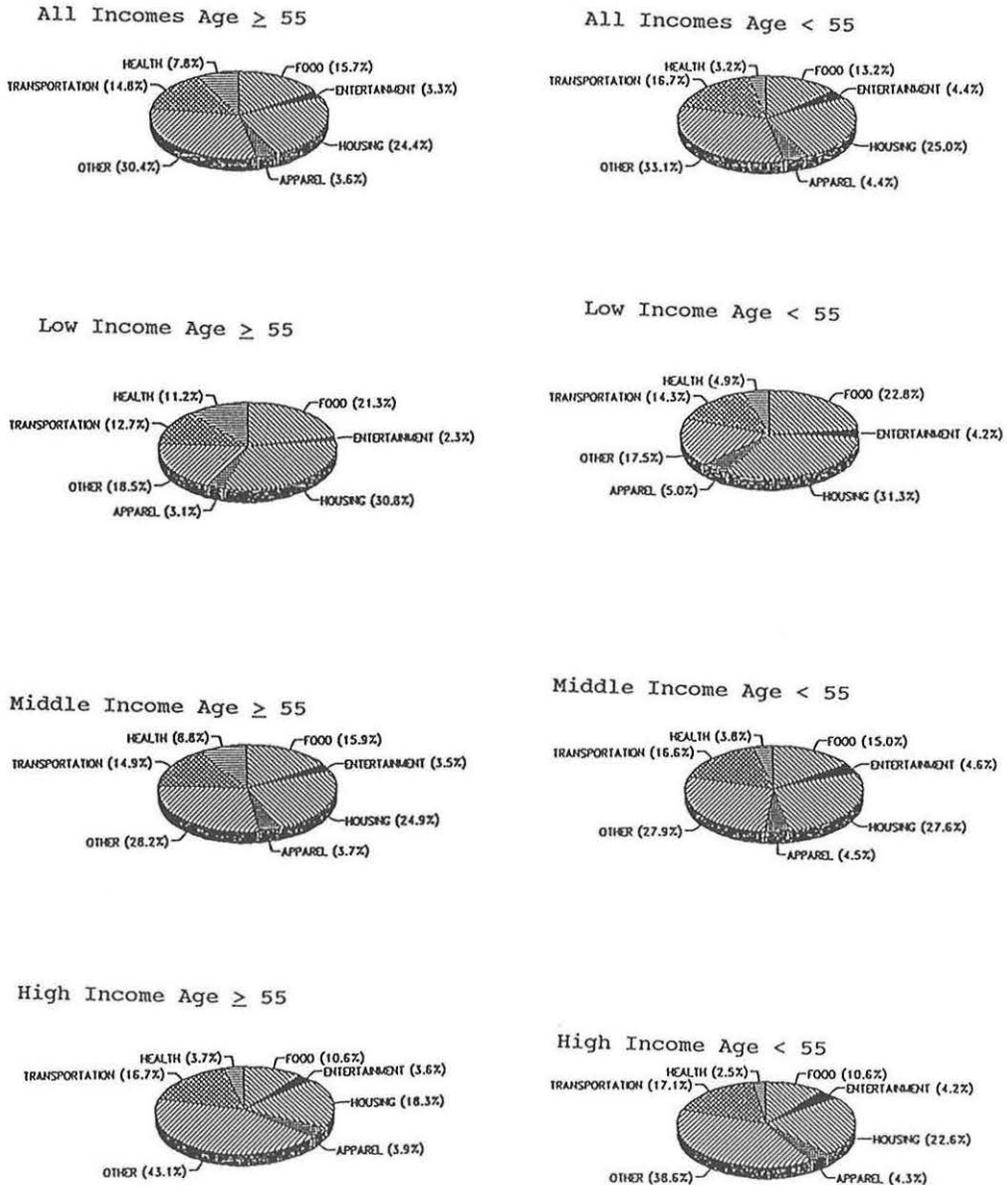
Engel's law holds for the food category. As income increases, the share allocated to Food decreases. Younger households in low-income households spent 215 percent more on

Food than those in high-income households. For older households, those in low-income households spent 200 percent more on Food.

As expected, older households spend more on health care. However, while the share spent on Health falls by about 32 percent as income increases for younger households, it falls 28 percent as one moves from low to middle-income, and by 60 percent as one moves from middle- to high-income.

As income increases, expenditures on Transportation increase for both age groups. Apparel expenditures increase by 25 percent as older households move from low- to high- income and decrease by 10 percent as younger households move from low- to high-income.

Figures 1a-1h. Budget Shares



Results

Hours-of-Work Estimates

Tables 2a and 2b identify results of hours of work estimates. Most coefficients are of the expected sign and most are highly significant. As the wage rate increases, one substitutes out of leisure into labor. As non-wage income increases, one chooses to take more leisure--a normal good. The importance of correcting for sample selection bias is underscored by the fact that the coefficients on lambda, the sample selection bias correction factor, are significant in many cases. The explanatory power of the equations is higher for low- and middle-income groups, and lower for higher-income groups.

Income Effects

Income elasticities are derived from the coefficient, β_i , on the independent variable, non-wage income (Y'/w), from equation (11):

$$P_i q_i = \beta_{i0} + \beta_i Y' + \epsilon_i$$

The equation necessary to calculate the elasticities is

$$\eta_i = \beta_i / s_i$$

where

η_i = the income elasticity, $i=1,2,\dots,7$

β_i = the estimated coefficient on Y'

s_i = the average budget share, $i=1,2,\dots,7$

Regression results in tables 3a and 3b are used to obtain the parameters of the structural equations, presented in Tables 4a and 4b. These are used to calculate income elasticities in Tables 5a and 5b.

Results of the estimated expenditure functions are robust. However, insignificance of the income coefficient in the Health equation was found for older persons in low-middle- and high-income categories. The most obvious explanation is that because health care is a necessity for older persons, income indeed has an insignificant effect on its consumption.

Summarizing:

o For all income groups, the higher elasticities for elderly are in Apparel, Entertainment, Transportation and Other, while they appear in Food, Health and Housing for the younger sample.

o For low-income, higher elasticities for elderly are in Apparel, Entertainment, Food and Housing, and for younger households in Health, Transportation and Other.

o For middle-income, higher elasticities exist for the elderly in Apparel, Entertainment, Food and Transportation, while they appear in Health, Housing and Other for younger households.

o For high-income, higher elasticities are shown for older households in Apparel and Transportation, but in Health for younger households, with no difference between the two samples in Housing and Other.

Price Elasticities

To calculate all uncompensated own- and cross-price elasticities, four pieces of information are necessary: income elasticities, the share of expenditures

Table 2a
Regression Coefficients for the Labor Supply Function

Income Group	< Age 55 Coefficients					
	(1-b) (T-L)- α_0	$b \cdot \sum_i P_i c_i - \alpha_1$	-b- α_2	Lambda	R ²	No. of observations
Low	627.18 (126.67)	7962.24 (597.00)	-.701 (.059)	-485.63 (129.72)	.56	179
Middle	1250.23 (51.12)	9194.59 (440.97)	-.417 (.021)	-285.78 (109.28)	.39	736
High	1916.38 (35.85)	7116.82 (530.21)	-.164 (.014)	330.06 (231.05)	.12	1420
All	2246.88*** (28.77)	470.15*** (232.44)	-.022*** (.011)	-1036.23*** (93.78)	.03	2234

Table 2b
Regression Coefficients for the Labor Supply Function

Income Group	≥ Age 55 Coefficients					
	(1-b) (T-L)- α_0	$b \cdot \sum_i P_i c_i - \alpha_1$	-b- α_2	Lambda	R ²	No. of observations
Low	220.39 (173.38)	9137.28*** (872.17)	-.630*** (.086)	-85.04 (127.89)	.72	50
Middle	778.63*** (144.29)	12780.1*** (1372.09)	-.544*** (.061)	-301.24*** (102.32)	.56	125
High	2067.09*** (72.39)	4299.69*** (1071.76)	-.102*** (.024)	-700.98*** (70.63)	.24	257
All	2148.49 (67.78)	669.54 (511.65)	-.048*** (.019)	-647.88*** (56.90)	.22	422

Table 3a

Regression Coefficients for the Expenditure Functions
< Age 55

APPAREL (Income Group)	$P_1c_1 - b_1 \sum_{i=1}^n P_i c_i - \beta_{01}$	Coefficients		Sigma	No. of observations
		$b_1 - \beta_1$	$b_1 - \beta_1$		
Low	-107.024* (59.842)	.049*** (.006)	453.029*** (14.8772)		520
Middle	450.968** (223.925)	.016* (.010)	908.794*** (30.3865)		462
High	658.384** (302.118)	.020*** (.006)	1486.38*** (64.2664)		273
All	56.31 (47.41)	.033*** (.002)	949.27*** (19.41)		1264
ENTERTAINMENT (Income Group)					
Low	-413.706*** (99.7073)	.074*** (.010)	696.428*** (25.5980)		520
Middle	25.8758 (271.396)	.042*** (.012)	1098.83*** (36.8893)		462
High	601.587** (259.201)	.019*** (.005)	1276.04*** (55.3147)		273
All	18.14 (53.22)	.035*** (.002)	1039.82*** (.002)		1264
FOOD (Income Group)					
Low	570.912*** (110.198)	.119*** (.011)	846.183*** (26.2396)		520
Middle	1719.13*** (345.501)	.044*** (.015)	1404.44*** (46.2027)		462
High	1553.86*** (339.069)	.050*** (.007)	1671.48*** (71.5328)		273
All	1229.34.*** (63.65)	.059*** (.002)	1286.72*** (25.52)		1264
HOUSING (Income Group)					
Low	395.613*** (177.804)	.262*** (.018)	1365.31*** (42.3364)		520
Middle	1723.69*** (663.989)	.175*** (.029)	2698.71*** (88.7809)		462
High	3341.84*** (983.971)	.132*** (.021)	4850.60*** (207.587)		273
All	1442.73*** (145.54)	.177*** (.006)	2942.13*** (58.51)		1264
HEALTH (Income Group)					
	$P_1c_1 - b_1 \sum_{i=1}^n P_i c_i - \beta_{01}$	Coefficients			
		$b_1 - \beta_1$	$b_1 - \beta_1$	Sigma	No. of observations
Low	215.710*** (72.3701)	.013* (.007)	555.710*** (17.2318)		520
Middle	562.734** (278.052)	.002 (.012)	1130.27*** (37.1830)		462
High	299.765 (245.149)	.125** (.005)	1208.49*** (51.7187)		273
All	238.28*** (47.21)	.014*** (.002)	954.49*** (18.98)		1264
TRANSPORTATION (Income Group)					
Low	-651.266*** (175.056)	.202*** (.017)	1297.67*** (42.5662)		520
Middle	-1120.85 (890.659)	.205*** (.039)	3617.76*** (119.883)		462
High	3378.09** (1726.50)	.091** (.038)	8511.00*** (364.238)		273
All	-400.19* (236.38)	.171*** (.009)	4717.39*** (95.93)		1264
OTHER (Income Group)					
Low	-721.990*** (247.767)	.332*** (.025)	1900.99*** (59.0893)		520
Middle	-3454.36*** (1192.25)	.515*** (.053)	4846.43*** (159.436)		462
High	-9873.09*** (2020.48)	.672*** (.044)	9960.21*** (426.259)		273
All	-3510.22*** (283.97)	.526*** (.011)	5737.17 (114.19)		1264

Table 3b

Regression Coefficients for the Expenditure Functions
≥ Age 55

(Income Group)	$P_1c_1 - b_1 \sum_{i=1}^n P_i c_i - \beta_{01}$	Coefficients		Sigma	No. of observations
		$b_1 - \beta_1$	$b_1 - \beta_1$		
Low	-124.928 (85.217)	.049*** (.007)	460.814*** (31.988)		568
Middle	-31.2121 (123.726)	.043*** (.005)	803.917*** (16.6640)		1201
High	-20.7412 (114.441)	.042*** (.002)	1536.89*** (25.3843)		1847
All	062.82 (41.45)	.043*** (.001)	1215.24*** (14.48)		3618
ENTERTAINMENT (Income Group)					
Low	-363.970*** (96.0134)	.059*** (.008)	495.157*** (16.7932)		568
Middle	-125.702 (173.981)	.047*** (.007)	125.19*** (23.6578)		1201
High	500.335*** (143.242)	.029*** (.002)	1923.26*** (31.7935)		1847
All	-17.57 (53.94)	.039*** (.002)	1566.72 (18.96)		3618
FOOD (Income Group)					
Low	996.452*** (174.154)	.123*** (.015)	958.123*** (28.4271)		568
Middle	1542.94*** (216.753)	.081*** (.009)	1412.36*** (28.8178)		1201
High	2748.51*** (138.970)	.044*** (.002)	1867.18*** (30.7212)		1847
All	2050.67*** (55.01)	.057*** (.001)	1622.82*** (19.07)		3618
HOUSING (Income Group)					
Low	400.928* (248.209)	.270*** (.021)	1365.54*** (40.5150)		568
Middle	1659.80*** (410.996)	.190*** (.017)	2678.05*** (54.6427)		1201
High	2518.12*** (388.175)	.160*** (.007)	5215.46*** (85.8112)		1847
All	1923.92*** (138.21)	.172*** (.003)	4076.58*** (67.92)		3618
HEALTH (Income Group)					
	$P_1c_1 - b_1 \sum_{i=1}^n P_i c_i - \beta_{01}$	Coefficients			
		$b_1 - \beta_1$	$b_1 - \beta_1$	Sigma	No. of observations
Low	131.588 (179.972)	.073*** (.015)	990.128*** (29.3766)		568
Middle	1366.08*** (199.170)	.008 (.008)	1297.79*** (24.4801)		1201
High	912.645*** (90.3920)	.007*** (.001)	1214.49*** (19.9823)		1847
All	967.83*** (41.16)	.006*** (.001)	1214.05*** (14.27)		3618
TRANSPORTATION (Income Group)					
Low	-688.378*** (226.942)	.196*** (.019)	1232.74*** (37.8441)		568
Middle	-639.172 (477.523)	.189*** (.020)	3109.95*** (63.5236)		1201
High	2073.09*** (600.192)	.124*** (.011)	8064.09*** (132.680)		1847
All	119.97 (207.51)	.160*** (.005)	6100.2*** (72.04)		3618
OTHER (Income Group)					
Low	-841.581*** (317.253)	.260*** (.027)	1744.21*** (51.9432)		568
Middle	-3963.31*** (672.262)	.462*** (.029)	4379.54*** (89.4088)		1201
High	-8757.10*** (767.678)	.591*** (.015)	10314.4*** (169.705)		1847
All	-5308.15*** (267.66)	.528*** (.007)	7891.80*** (92.80)		3618

Table 4a

Structural Coefficients from the Labor Supply Function

Income	Coefficients < Age 55			
	b	$\sum_i P_i c_i$	\hat{w}	ϕ
Low	.706 (.059)	11282.4 (823.55)	-60.49 (836.58)	-.107 (.229)
Middle	.417 (.021)	22,030.1 (652.23)	-21.05 (83.38)	-.048 (.188)
High	.164 (.014)	43523. (2239.82)	-11.47 (.089)	-.090 (.327)
All	.026 (.011)	25660.6 (9749)	-3.36 (6.67)	-.297 (.589)

Table 4b

Structural Coefficients from the Labor Supply Function

Income	Coefficients ≥ Age 55			
	b	$\sum_i P_i c_i$	\hat{w}	ϕ
Low	.630 (.086)	14499.4 (1411.19)	2.97 (2.59)	.346 (.294)
Middle	.544 (.061)	23,480.4 (1141.42)	10.60 (22.65)	.094 (.201)
High	.102 (.023)	42,018.7 (5760.36)	-7.34 (20.23)	-.137 (.376)
All	.026 (.017)	21415 (15700)	-4.46 (18.02)	-.224 (.903)

Table 5a

Derived Coefficients for the Expenditure Functions: Income Elasticities
Coefficients

Income Group	Coefficients < Age 55						
	η_1 Apparel	η_2 Entertainment	η_3 Food	η_4 Health	η_5 Housing	η_6 Transportation	η_7 Other
Low	.914 (.88)	.969 (1.02)	.389 (.207)	1.709 (2.17)	.802 (.338)	1.52 (1.19)	1.62 (1.37)
Middle	.731 (.551)	.831 (.856)	.504 (.225)	2.09 (2.38)	.697 (.299)	1.01 (.799)	1.74 (1.14)
High	.996 (.706)	.849 (.776)	.415 (.174)	.352 (.365)	.772 (.361)	.671 (.625)	1.50 (.798)
All	.96 (.72)	.85 (.79)	.43 (.22)	.39 (.47)	.71 (.32)	.92 (.81)	1.58 (.97)

Table 5b

Derived Coefficients for the Expenditure Functions: Income Elasticities
Coefficients

Income Group	Coefficients ≥ Age 55						
	η_1 Apparel	η_2 Entertainment	η_3 Food	η_4 Health	η_5 Housing	η_6 Transportation	η_7 Other
Low	1.37 (1.40)	2.63 (3.83)	.645 (.259)	.801 (.721)	.901 (.372)	1.38 (1.04)	1.37 (1.11)
Middle	1.48 (1.52)	1.31 (1.93)	.646 (.292)	.237 (.304)	.564 (.304)	1.44 (1.33)	1.52 (1.22)
High	1.006 (.893)	.626 (.994)	.315 (.156)	.088 (.140)	.777 (.476)	.746 (.782)	1.48 (.807)
All	1.16 (1.12)	1.19 (1.19)	.36 (.18)	.06 (.07)	.58 (.30)	1.10 (1.04)	1.85 (1.36)

allocated to the good in question (for own-price elasticity), the share of expenditures allocated to another good (for cross-price elasticity), and the money flexibility parameter. The uncompensated own- and cross-price elasticities are calculated using the following formulae:

$$\eta_{ii} = -\eta_i [s_i - \phi(1-s_i\eta_i)] \quad (12)$$

$$\eta_{ij} = -\eta_i s_j (1 + \phi\eta_j) \quad (13)$$

where η_{ii} is the Cournot uncompensated own-price elasticity and η_{ij} is the Cournot uncompensated cross-price elasticity. The own-price elasticity must be negative, given all goods in the system are normal. The direction of the cross price elasticity can not be predicted.

Calculated own- and cross-price elasticities are presented in Tables 6a and 6b.

Once again, differences are apparent in the estimated elasticities for younger and older households. The most apparent differences in own-price elasticities are found in the magnitudes of the elasticities for Food, Health, and Housing, compared with Apparel and Entertainment. Older households tend to have more elastic responses to price changes for Apparel and Entertainment and less elastic responses to changes in prices in Food, Health, and Housing. One explanation is that the latter group of goods can be considered to be necessities, while the former group can be considered somewhat to be luxuries, assuming a current stock of clothing. Needs may also influence these results. The elderly need a higher level of health care, thus changes in

Table 6a
Derived Coefficients for the Expenditure Functions:
Uncompensated Price Elasticities, η_{ij}

		< Age 55						
Income Group	j-	1 Apparel	2 Entertainment	3 Food	4 Health	5 Housing	6 Trans- portation	7 Other
All								
i-	1	-1.829	.029	-.016	-.0001	.094	.189	.695
	2	.028	-1.791	-.015	-.0001	.092	.185	.81
	3	.014	.014	-.883	-.00008	.044	.089	.328
	4	.015	.016	-.008	-.994	.050	.101	.372
	5	.022	.022	-.012	-.0001	-1.329	.142	.524
	6	.038	.039	-.021	-.0002	.125	-2.217	.924
	7	.054	.055	-.029	-.0003	.175	.353	-2.174
Low								
i-	1	-.225	-.037	-.218	-.046	-.340	-.126	-.242
	2	-.058	-.324	-.318	-.066	-.496	-.185	-.353
	3	-.020	-.019	-.200	-.023	-.169	-.063	-.120
	4	-.011	-.010	-.057	-.061	-.089	-.035	-.064
	5	-.027	-.025	-.147	-.031	-.354	-.085	-.163
	6	-.050	-.046	-.270	-.056	-.420	-.385	-.299
	7	-.044	-.041	-.239	-.050	-.372	-.138	-.467
Middle								
i-	1	-.061	-.017	-.052	-.012	-.101	-.056	-.126
	2	-.035	-.140	-.116	-.027	-.226	-.125	-.282
	3	-.013	-.014	-.081	-.010	-.085	-.047	-.106
	4	-.002	-.002	-.007	-.008	-.014	-.008	-.018
	5	-.025	-.027	-.083	-.019	-.236	-.090	-.203
	6	-.049	-.054	-.163	-.038	-.319	-.320	-.398
	7	-.053	-.059	-.178	-.041	-.349	-.191	-.592
High								
i-	1	.017	-.021	-.051	-.012	-.126	-.101	-.266
	2	-.022	.018	-.052	-.012	-.126	-.101	-.268
	3	-.022	-.021	-.013	-.012	-.127	-.102	-.270
	4	-.024	-.023	-.058	.030	-.141	-.113	-.301
	5	-.024	-.023	-.057	-.013	-.096	-.111	-.295
	6	-.020	-.019	-.048	-.011	-.118	-.058	-.251
	7	-.060	-.057	-.144	-.032	-.035	-.281	-.638

Table 6b
Derived Coefficients for the Expenditure Functions:
Uncompensated Price Elasticities, η_{ij}

		≥ Age 55						
Income Group	j-	1 Apparel	2 Entertainment	3 Food	4 Health	5 Housing	6 Trans- portation	7 Other
All								
i-	1	-.219	-.035	-.135	-.047	-.227	-.138	-.240
	2	-.033	-.206	-.127	-.044	-.214	-.131	-.226
	3	-.014	-.014	-.126	-.018	-.090	-.055	-.094
	4	-.005	-.005	-.018	-.031	-.031	-.019	-.032
	5	-.024	-.023	-.090	-.031	-.273	-.092	-.160
	6	-.034	-.033	-.129	-.045	-.216	-.307	-.228
	7	-.056	-.054	-.216	-.073	-.356	-.217	-.664
Low								
i-	1	-.063	-.047	-.289	-.117	-.420	-.191	-.257
	2	-.083	-.108	-.436	-.176	-.633	-.287	-.387
	3	-.025	-.021	-.077	-.052	-.189	-.086	-.116
	4	-.037	-.032	-.198	-.001	-.287	-.130	-.176
	5	-.038	-.032	-.202	-.081	-.210	-.133	-.180
	6	-.064	-.055	-.339	-.137	-.492	-.085	-.301
	7	-.063	-.054	-.333	-.134	-.484	-.220	-.160
Middle								
i-	1	-.040	-.044	-.157	-.056	-.274	-.164	-.288
	2	-.047	-.044	-.169	-.060	-.295	-.177	-.310
	3	-.023	-.023	-.081	-.029	-.143	-.086	-.151
	4	.006	.006	.023	.008	.040	.024	.042
	5	-.030	-.031	-.109	-.039	-.189	-.115	-.201
	6	-.050	-.051	-.181	-.065	-.316	-.187	-.333
	7	-.070	-.070	-.252	-.090	-.441	-.265	-.460
High								
i-	1	-.123	-.039	-.104	-.028	-.206	-.161	-.348
	2	-.028	-.088	-.074	-.020	-.147	-.115	-.250
	3	-.016	-.016	-.077	-.011	-.085	-.066	-.143
	4	-.010	-.010	-.026	-.029	-.053	-.041	-.089
	5	-.028	-.028	-.076	-.020	-.212	-.118	-.255
	6	-.028	-.028	-.076	-.020	-.149	-.178	-.252
	7	-.058	-.058	-.154	-.041	-.306	-.240	-.643

consumption may vary less with changes in the price of health care. The elderly may also be on special diets more often than the non-elderly, and their choice of food limited. Finally, preferences may play a role. The elderly may be unwilling or unable to relocate to different housing if prices change. Or, they may be more set in their food patterns, unwilling to change them as prices change. It should be noted that such interpretations are made with caution due to the fact that the expenditure classifications contain, in some cases, hundreds of individual products and services. Without disaggregation of the data, it cannot be assumed what specific components contribute to price elasticities.

It is also important to recognize that 7 of the 56 own-price elasticities calculated were of the wrong sign, positive instead of negative, all for the older group. These results are found mostly for the lower income categories. These results are not unexpected, as they are calculated using the computed money flexibility parameter, ϕ , which was found to be the wrong sign most often for low-income groups.

In the system estimated, most of the calculated cross-price elasticities are negative, indicating that the goods are gross complements. Almost without exception, the calculated cross-price elasticities are higher for the older groups. This simply indicates that a change in the price of a good affects spending on other goods to a greater extent for older versus younger households.

Discussion

Methodology

Given virtually no access to price information in cross section micro data implies that in order to estimate price elasticities at all, the methodology is the only one available at this time. In evaluating the methodology used, several strengths and weaknesses can be identified. First, in the absence of abundant price data, price elasticities for all commodities in the system can be derived. However, because the elasticities are calculated using parameters other than those for actual prices and income, calculation of standard errors of the estimates are difficult and overstate the true size of the error. To the extent that significant results are found using upwardly biased standard errors, one can be assured the results are truly significant.

Second, the methodology is fairly simple. We did introduce two complications into the system to improve the results: correction for sample selection and censored sample biases. Because each of the commodities is entered into the utility function additively, the system could be estimated equation by equation. However, the approach only works for aggregated commodities.

Third, comparison of groups is easy. Though it may be argued that the system does not adequately address price elasticity estimates because they are derived from estimated parameters, it does allow comparison across groups. Estimated price elasticities

appear to be similar to some others estimated using an additive system, but are smaller than those estimated using non-additive systems (Abbot and Aschenfelder 1978).

Fourth, the methodology works well for many groups. The money flexibility parameter was negative for six of eight groups. Forty-seven of fifty-four own price elasticities were negative. Estimates with the wrong sign are suspect since they rely on money flexibility estimates which were of the wrong sign.

Expenditures

While this paper emphasizes improvements on a methodology used to estimate price effects, the results suggest policy implications. Examination of income elasticities reveals they are lower for high-income groups. This suggests that no additional consumption is desired, and an increase in income may be allocated to savings. Second, elasticities tend to decrease from low- to high-income groups; however, several middle-income groups have higher elasticities than low-income groups.⁴

As for responsiveness to price changes, our estimates strongly suggest that older persons have less flexibility in their consumption of necessities (Housing, Health and Food) than do younger persons. And, their consumption of any commodity is affected by a change in price to a greater extent than that of younger persons. We suggest policy considerations for housing and health.

The problem of housing affordability among young couples at moderate-income levels is well documented. One frequently quoted statistic is that whereas half of middle-income couples were able to finance a home purchase in 1965, only one-third were able to do so in 1985. If this trend continues to the extent that this group is excluded from homeownership, a greater percentage of older renters will force expenditures on housing to larger proportions of budgets for older persons, as mortgages will not be paid off. Some creative programs in existence at the state and community levels offer subsidies for home mortgage financing and organize community land trusts. These show promise for ameliorating the housing affordability problem. Nonetheless, a view toward long-term ramifications of homeownership limited to the upper-income, in terms of its impact on future older citizens, underscores the need for expanding these programs as well as devising new solutions to the housing crisis.

The difference in size of the income elasticities for Health indicates that since the elderly share of income is already higher towards Health, as income increases there is less likely to be substitution into Health expenditures. In a study based on the 1972-73 Consumer Expenditure Survey, Schrimper and Clark (1985) examined how budget shares vary among elderly households when increases in

⁴Betancourt's (1971) explanation for this latter outcome is that consumers substitute for better quality within the commodity group.

Health Care outlays are introduced into the expenditure system. Their results suggested that readjustments would occur in consumption of food, housing and transportation, noting that the effect would have serious negative consequences on most sectors of the economy. They also note an effect that has important implications for the elderly per se--i.e., the potential of reductions in expenditures for food and housing to, in fact, result in a deterioration of physical well-being in terms of meeting adequate nutritional levels, comfort and shelter. We analyzed household composition and income levels as variables to find wide variations in Health Care allocations (1.7 percent for one-adult male households under age 55 at mid- and high-income levels, and 12 percent for two-adult households age 55 and over at the low-income level). These results lend credence to the concern that these categories have little flexibility in budgets of elders and support the findings of others.

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Gender Differences in Coping Styles

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In this rural sample of 423 adults, there were no differences in scores for perceived stress by gender. The number of stressors and scores for coping styles were significantly different for men and women. Gender bias was detected in one instrument which has been extensively used in the assessment of coping styles. Applications for the study of stress and coping in a consumer behavior context are recommended.

Introduction

Women have been gainfully employed in a variety of situations throughout time. In this century they have been drawn into the labor force by three contingencies: economic need, the availability of work, and the freedom to work. For many women, employment roles have enabled them to develop increased self confidence and economic freedom. On the other hand, women sometimes find that employment is an economic burden they cannot give up --- the rising cost of living in the United States has created a need for both spouses in a family to work in order to purchase the basic necessities of life.

Although married women's labor force participation and approval of it have increased rapidly, the household division of labor has changed slowly (Ross, Mirowsky & Huber 1983). For women with children, the strain of being a mother, housewife, purchasing agent, and breadwinner may be manifest in increased levels of stress. In some situations, families can hire help to alleviate some of the role strain experienced by the multiple roles of both spouses. However, many families do not have the economic resources needed to hire outside help. As occupational commitments increase, both men and women experience a time deficit (McKitric 1984).

Stress and Coping

Multiple roles and a time deficit can produce stress which influences the entire family system (Kingston & Nock 1985). In order to maintain productive and satisfying lives, men and women need to improve stress management by identifying and using effective coping styles (Billings & Moos 1981).

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Men and women are stressed by different situations. Researchers Billings and Moos (1981,1984) found that men were most likely to say that economic factors, work and dissatisfaction with spouse were associated with stress. A negative home environment, family strains and illness of children were stressors for women. Fram & Axelrod (1990) found that shopping (the purchasing agent role) is an increasing source of stress for wives in dual earner families since women are still responsible for most of the shopping and are the main buyers of services.

Assessment of Coping Styles

Gender differences in coping responses to stressors have also been reported (Billings & Moos 1984; Crawford 1990; Folkman & Lazarus 1980; Haldeman & Crawford 1990; Holahan & Moos 1985). In the studies of Billings and Moos (1981,1984) it was reported that stress levels and coping styles differ between men and women and that men were more likely than women to use the coping styles which are believed to be most effective. The researchers reported that men used more problem focused coping and women used more emotion focused coping. Other researchers have reported that men have been taught to emphasize instrumental, analytic problem solving skills, while women have been socialized to be more emotionally sensitive, expressive, and dependent than men (Folkman & Lazarus cf. Bakan 1966; Bem 1974; Parsons & Bales 1955).

Although it has been assumed that rational consumers use effective coping styles to combat the stressors of the market place, recent research provides evidence that this may not be the case. Fram and Axelrod 1990 reported that many people shop where it is convenient and fast (avoidance techniques) rather than planning ahead, making lists, shopping for lower prices or greater selection (problem solving strategies).

Although there is no clear consensus on the conceptualization and measurement of the components of coping, the Coping Responses Indices developed by Billings and Moos (1981; 1984a) have been widely used in research studies of coping responses in both clinical and community populations (e.g., Billings & Moos 1985; Cooper, Russell, & George 1988; Holahan & Moos 1987; Koenig, George, & Siegler 1988; O'Neill & Zeichner 1985; Thompson,

Gallagher, & Steinmetz Breckenridge 1987). No studies of coping styles associated with consumer behavior were found.

In developing their coping scale, Billings and Moos drew on theoretical analyses and a critical review of existing empirical literature. They reported (Billings & Moos 1984 p. 879) that they preferred using that approach rather than psychometrics.

Haldeman and Hilton (1987) used the Billings and Moos scale in their study of

stress and coping in nonmetropolitan areas of Nevada. Since the scale had been developed initially for an urban, clinical population, the researchers ran a factor analysis using the data from the rural Nevada study to verify the validity of the instrument. Three factors were identified by the empirical analysis: Internal Problem Solving Coping, External Interactive Coping, and Avoidance Coping. The factors were similar to the constructs identified by Billings & Moos (Table 1), but the differences (including the number of items included in each factor) warranted further investigation.

TABLE 1
A Comparison of Two Coping Indices

ITEM	BILLINGS - MOOS TYPOLOGY	HILTON - HALDEMAN MARTIN TYPOLOGY
1. Prayed for guidance and/or strength	ACC ¹	Did not load
2. Prepared for the worst	ACC	Did not load
3. Tried to see the positive side of the situation	ACC	IPSC ²
4. Considered several alternatives	ACC	IPSC
5. Drew on my past experiences	ACC	IPSC
6. Took things a day at a time	ACC	IPSC
7. Tried to be more objective	ACC	IPSC
8. Went over the situation in my mind to try to understand it	ACC	IPSC
9. Told myself things that helped me feel better	ACC	IPSC
10. Made a promise to myself that things would be different next time	ACC	AC ³
11. Accepted it -- nothing could be done	ACC	Did not load
12. Tried to find out more about the situation	ABC ⁴	EIC ⁵
13. Talked with spouse or other relative about the problem	ABC	EIC
14. Talked with friend about the problem	ABC	EIC
15. Talked with professional person (e.g., doctor, lawyer, clergy)	ABC	EIC
16. Got busy with other things to keep my mind off the problem	ABC	IPSC
17. Made a plan of action and followed it	ABC	IPSC
18. Tried not to act too hastily or follow my first hunch	ABC	IPSC
19. Got away from things for a while	ABC	IPSC
20. I knew what had to be done and tried harder to make things work	ABC	Did not load
21. Let my feelings out somehow	ABC	EIC
22. Sought help from persons with similar experiences	ABC	EIC
23. Compromised to get something positive from the situation	ABC	Did not load
24. Tried to reduce tension by exercising more	ABC	Did not load
25. Took it out on other people when I felt angry or depressed	AC	AC
26. Kept my feelings to myself	AC	Did not load
27. Avoided being with people in general	AC	AC
28. Refused to believe that it happened	AC	AC
29. Tried to reduce tension by drinking more	AC	AC
30. Tried to reduce tension by eating more	AC	AC
31. Tried to reduce tension by smoking more	AC	Did not load
32. Tried to reduce tension by taking more tranquilizing drugs	AC	Did not load

- ¹ Active Cognitive Coping
² Internal Problem Solving Coping
³ Avoidance Coping
⁴ Active Behavioral Coping
⁵ External Interactive Coping

The coping style typology derived by Hilton, Haldeman and Martin (1990) is analogous to the hierarchy of consumer participation (Hyman 1990). The use of avoidance coping strategies could identify individuals as dependent consumers who let others (e.g. sellers) make their purchase decisions for them, or as nondecision makers who may go without a product or service rather than take action.

Those who use internal problem solving coping strategies could be identified as active consumers. They make their own decisions based on information from one or more sources. And, those who use the external interactive coping style could be identified as consumer influentials or those who have learned to use previous marketplace experiences of themselves and others to solve current consumer problems.

Methodology

The presence of gender differences in stress and coping has been identified in previous research (Billings & Moos 1984; Holahan & Moos 1985; Folkman & Lazarus 1980; Crawford 1990; Haldeman & Crawford 1990). The purpose of this study was to examine gender differences in the use of coping responses using Billings and Moos Coping Response Indices and Hilton, Haldeman, and Martin's (1990) factor analyzed indices.

Data for this study were taken from the Nevada portion of the Agricultural Experiment Station Regional Research Project W-167, "Coping with Stress: Adaptation of non-metropolitan families to socioeconomic change". Telephone directories from eleven rural communities were used to select a random sample of 881 households. Using the Dillman method of survey research (Dillman 1978) data were collected using a fifteen-page, nine-part questionnaire. Of the 881 questionnaires mailed, 423 were returned and usable for a response rate of 49 percent. This study used questions from four of the nine sections of the questionnaire.

Instrumentation

The section titled "How You Feel" was used to establish a stress score for each subject. Respondents were asked to indicate how often in the past month they had experienced each feeling described on the questionnaire. Response categories and scoring for each category were: Never (0), Almost Never (1), Sometimes (2), Fairly Often (3), or Very Often (4). Responses to the fourteen items were summed to produce a stress score.

The "Facing Problems" section was the Moos Coping Scale and assessed the coping styles used by the respondents. Subjects were asked to think about the problems they had dealt with in the past year and then to indicate how frequently they had used each of the 32 listed actions in dealing with their problems. A Likert-type scale was used with NEVER scored as 0; YES, Once or Twice scored as 1; YES, Sometimes scored as 2; and YES, Fairly Often scored as 3. Responses for items identified with each coping style were scored and the calculated sum for each style was used in the analyses.

For the Billings & Moos configuration, the total possible score for Active Cognitive Coping was 11; for Active Behavioral Coping was 13; and for Avoidance Coping was 8. For the Hilton, Haldeman, and Martin configuration, the total possible score for Internal Problem Solving Coping was 11; for External Interactive Coping was 6; and for Avoidance Coping was 6.

The section titled, "Recent Events" was adapted by the technical committee from similar instruments used in previous research. From a list of 23 life events, subjects indicated whether or not each event had occurred within the previous 12 months. The total number of events experienced in the past year was the Recent Events score. For this analysis, the 22 stressful events were conceptually grouped into six sets. The first set included problems related to death; another set included problems within the family; the third set included social problems; the problems in the fourth set dealt with illness; problems in set five related to changes in family membership; and the sixth set of problems were financial in nature (Table 2).

In the section titled "You and Your Family", respondents gave demographic information. Information included gender, level of income, level of education, marital status, and the number of years they had lived in the community.

Description of the Sample

A total of 423 respondents were included in this study. Of the 423, 226 were male and 195 were female (two respondents failed to indicate their gender). Respondents had lived in their community for a mean of 19.2 years. The mean age of the respondents was 49.5 years of age, and the median age was 48.8 years of age.

Household income ranged from less than \$14,999 to over \$40,000. There were four income strata. There were 79 people (23 percent) who reported an annual before tax income of less than \$14,999;

71 (21 percent) reported that their household income was between \$15,000 and \$24,999; 94 (28 percent) reported it to be between \$25,000 and \$39,999; and 63 (18 percent) reported an annual before tax income of over \$40,000 or more.

Table 2

Identification of Sets of Events

Events	Name
I	
1. Spouse/Partner Died	I
2. Child Died	Death
3. Other Family Member Died	
4. A Close Friend Died	
II	
1. Divorce	II
2. Separation	
3. Difficult Arguments with Spouse	Family
4. Difficult Arguments with Children	Problems
5. Family Moved When All Did Not Want to Move	
III	
1. Court or Jail for Self or Family Member	III
2. Difficult to Resolve Social Arguments with Others (Not Family)	
3. Victim of Violence	
IV	
1. Serious Illness or Injury - Self	IV
2. Serious Illness or Injury - Family Member	Illness
3. Mental Illness or Substance Abuse	
V	
1. Married	Family
2. Reconciliation	Status
3. New Family Member	
VI	
1. Lost Job	VI
2. Retired	Finance
3. Serious Financial Problems	
4. Changed Jobs	

Of the 256 who were married, 187 (55 percent) reported that their current marriage was their first marriage. The mean length of marriage was 22.13 years and the median length of marriage was 18.39.

Of the 423 respondents 56 (13.2 percent) had not attended high school; 102 (24.1 percent) had finished high school; 175 (41.4 percent) had completed some education beyond high school; and 82 (19 percent) had a bachelor's or advanced degree. Eight individuals (1.9 percent) did not respond to the question regarding educational level.

Results of the Statistical Analyses

Gender Differences in Stress and Stressful Events

The mean score for perceived stress for males was 20.51 and for females it was 22.20. The difference was not statistically significant ($F = 3.808$; 1 and 419 d.f.; $p = .0517$).

There were 86 men and 97 women in the study who had experienced stressful events. The men had experienced fewer stressful events in the previous year than the women. The mean number of events experienced by the men was 1.4651 and for women the mean number was 1.7938. In a oneway analysis of variance, the difference was found to be significant ($F = 5.029$; 1 and 181 d.f.; $p = .0261$).

Gender Differences in Use of Coping Styles (Moos Indices)

Of the 226 men in the study, 214 (94.2 percent) used the Active Cognitive Coping style (ACC) as assessed by the Moos Coping Indices. The mean score for ACC for men was 18.3 (possible range = 0-33). One hundred eighty-six of the 195 women in the study (95.4 percent) used this coping style and had a mean score for ACC of 19.36. There was no significant difference in the use of ACC by men and women ($F = 3.211$; 1 and 419 d.f.; $p = .0739$).

Two hundred sixteen men (95.6 percent) and 182 women (93.3 percent) used the Active Behavioral Coping style (ABC). Although the percentage of men using the ABC style was higher than the percentage of women using the style, men's scores on this scale were lower than those for women (mean score for men = 18.20; mean score for women = 19.96; possible range = 0 - 39). The difference in the use of the Active Behavioral Coping Style by gender was statistically significant ($F = 5.681$; 1 and 419 d.f.; $p = .0176$).

Of those who used Avoidance Coping (Moos indices), 216 were men (95.6 percent) and 186 were women (95.4 percent). The possible range in scores was 0 - 24. Men had a mean score of 4.78 and the mean score for women was 4.71. The difference in use of Avoidance Coping was not statistically significant ($F = .051$; 1 and 419 d.f.; $p = .8211$).

When the Moos indices were used to assess use of coping styles, only one style was found to be significantly different for men and women: Active Behavioral Coping. Although a greater proportion of the men used this coping style, the mean score for women was higher than for men, indicating that women used this coping style more frequently than men.

Gender Differences in Use of Coping Styles (HHM Indices)

When the Hilton, Haldeman and Martin (HHM) indices were used to assess differences in the use of coping styles by men and women, there were significant differences for two out of the three styles.

Of all respondents, 211 men (93.4 percent) and 181 women (92.9 percent) used the Internal Problem Solving Coping (IPSC) style. The possible range in scores was 0 - 33. Men had a mean score of 21.92 and the mean score for women was 22.45. There was no statistically significant difference in the use of the IPSC style by gender ($F = .419$; 1 and 419 d.f.; $p = .5178$).

The External Interactive Coping style was used by 218 men (96.5 percent) and 187 women (95.9 percent). The possible range in scores was 0 - 18. Although proportionately fewer women use the EIC style, their scores are higher than those of the men (mean EIC scores for men = 9.23; women = 10.96). The difference in use of EIC by gender is statistically significant ($F = 14.871$; 1 & 419 d.f.; $p = .0001$).

There were 217 men (96.4 percent) and 189 women (96.9) women who used Avoidance Coping (AC) as measured by the HHM indices. The possible range in scores was 0 - 18. Although nearly the same proportion of men and women used this coping style, scores for men were lower than those for women (mean scores for men = 4.33; women = 4.96). For this study, the difference in the use of AC is significant by gender ($F = 4.39$; 1 and 419 d.f.; $p = .0367$).

Since the number and nature of problems experienced by men and women differ, a hierarchical multiple regression analysis was run with the set of coping scores entered first in a stepwise manner, and the set of scores for types of problems entered next. A separate analysis was run for each coping typology.

When the Billings and Moos indices were used for men, only avoidance coping had a beta that was statistically significant. Of the six sets of stressful events, two (family problems and family status) did not enter into the full regression model. Avoidance coping alone explained 20.22 percent of the variance in coping scores (Table 3).

For women, avoidance coping, family problems and financial problems had statistically significant betas. These variables combined to explain 20.56 percent of the variance in women's stress

scores when the Billings and Moos Coping indices were used (Table 4).

Table 3

Hierarchical Multiple Regression Analysis of Coping Style and Type of Problem on Stress (Billings & Moos/Men)

Variable	Beta	F/Sig	R ²	R ² Change
AC*	1.054	40.954/.000	.2022	.2022
ACC	- 0.167	1.511/.221	.2141	.0120
ABC	0.002	.004/.984	.2142	.0001

Illness	2.323	3.231/.074	.2300	.0158
Death	- 0.728	0.232/.630	.2310	.0010
So. Pr.	0.757	0.185/.668	.2315	.0006
Fin	- 0.337	0.077/.781	.2319	.0003
(Constant)	17.158	104.600/.000		

$F = 7.59$; $p = .000$

* Significant at $p = .05$

Table 4

Hierarchical Multiple Regression Analysis of Coping Style and Type Problem on Stress (Billings & Moos/Women)

Variable	Beta	F/Sig	R ²	R ² Change
AC*	1.005	26.129/.000	.1437	.1437
ACC	- 0.254	2.285/.133	.1764	.0327
ABC	- 0.154	1.060/.305	.1767	.0003

F. Prob.*	4.073	6.109/.015	.2292	.0525
Illness	2.468	3.660/.058	.2600	.0308
Death	2.99	3.560/.061	.2819	.0220
Finance*	2.427	4.039/.047	.3013	.0194
So. Prb.-	1.404	0.503/.479	.3041	.0028
Fm. Sts.-	0.359	0.026/.871	.3043	.0001
(Constant)	22.107	81.866/.000		

$F = 6.22$; $p = .000$

* Significant at $p = .05$

Using the HHM indices for men, avoidance coping (AC), internal problem solving coping (IPSC) and illness all had statistically significant betas, however finance and death did not enter the full regression model. For men, avoidance coping, and IPSC combined to explain 21.80 percent of the variance in stress scores (Table 5).

When the analysis was run using the data for women, AC, IPSC, and family problems had statistically significant betas. These three variables explained 28.25 percent of the variance in women's stress scores (Table 6).

Table 5
Hierarchical Multiple Regression Analysis
of Coping Style and Type Problem on
Stress (HHM/Men)

Variable	Beta	F/Sig	R ²	R ² Change
Avoid*	1.253	42.470/.000	.1795	.1795
IPSC*	- 0.270	9.003/.003	.2180	.0386
EIC	0.092	0.264/.608	.2207	.0026
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Illness	2.399	3.854/.051	.2401	.0194
So. Prob.	1.223	0.278/.599	.2406	.0004
F. Prob.-	0.551	0.148/.701	.2412	.0006
Fm. Sts.-	0.401	0.042/.839	.2414	.0002
(Constant)	19.066	136.444/.000		

F = 7.999; p = .000

* Significant at p = .05

Table 6
Hierarchical Multiple Regression Analysis
of Coping Style and Type Problem on
Stress (HHM/Women)

Variable	Beta	F/Sig	R ²	R ² Change
Avoid*	1.234	31.843/.000	.1712	.1712
IPSC*	- 0.421	12.878/.000	.2515	.0803
EIC	0.027	0.016/.899	.2574	.0059
-----	-----	-----	-----	-----
F. Prob.*	3.477	4.729/.032	.2883	.0309
Death	2.706	3.102/.081	.3111	.0229
Finance	2.036	3.063/.082	.3266	.0155
Illness	1.737	1.835/.178	.3358	.0091
So. Prb.	-1.212	0.394/.531	.3379	.0021
Fm. Stat.	-0.796	0.136/.731	.3386	.0007
(Constant)	23.170	93.614/.000		

F = 7.27; p = .000

* Significant at p = .05

Conclusions

In this rural community sample, there is evidence that for both men and women, the Hilton, Haldeman and Martin coping indices (which were empirically derived) are more effective than the original indices in the prediction of stress scores. The differences in the percent of variance explained by coping styles are the greatest for women which provides some evidence of a gender bias in the conceptually derived indices.

Increases in scores for Avoidance Coping for both sets of indices were associated with increases in stress scores for both men and women. The major difference in the two sets of indices is that when the HHM indices are used to analyze differences in the use of coping styles by gender, a significant difference in the use of avoidance coping by gender is identified. The HHM indices narrow the definition of avoidance coping making the behaviors easier to identify.

Although not statistically significant in predicting stress scores, increases in scores for External Interactive Coping were associated with increases in stress. In this study proportionally more men than women used the EIC style, although coping scores indicated that women use the style more frequently than men. Other researchers have indicated that women are more likely than men to use an interactive coping style, however, those reports did not indicate that it was the frequency of use that was greater.

Contrary to previous research, this study found no significant difference by gender in the use of a problem solving coping style. This difference in findings could be an artifact of the differences between rural and urban samples. As in previous research, increased use of problem solving coping strategies was associated with decreases in stress scores.

Increases in scores for AC and EIC are associated with increases in stress scores, and scores for IPSC are associated with decreases in stress scores. Individuals in more stressful situations (such as dual earner families) may be unable to rely solely on internal resources and may be using additional strategies in an attempt to cope with their problems. Although there is an inverse association between IPSC and coping scores, it may be the stressful situation that is controlling the coping style rather than a particular coping style resulting in increases or decreases in stress.

This research provides evidence that the associations among types of stressful events, stress, and coping need further investigation. Of prime importance would be to factor analyze the stressful events to provide empirically derived sets of problems. Stressful situations faced by consumers in the market should also be included in any analysis including stressful events. Since shopping has been found to be an increasing source of stress for wives (Fram & Axelrod, 1990), this could be a missing factor which may explain more of the variance in stress scores.

Recommendations for Future Research

As the pace of life accelerates and as shopping moves from a social activity to a stressful event, individuals need to acquire coping strategies that help them become efficient and effective consumers. Researchers can contribute to the body of knowledge of consumer behavior by using tested instruments that are free (as far as possible) of gender bias to assess coping strategies in association with

consumer efficiency and satisfaction. The evidence from this study provides indication that the Moos Coping Scale, when revised as defined by the Hilton, Haldeman, and Martin empirical study, could be used effectively in testing Hyman's (1990) conceptualization of consumer coping styles. When it can be shown that styles of coping carry over from personal life to the market place, the results of this study will contribute to evidence of a need for individuals to learn to use coping styles that will be efficacious throughout their lives.

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A TEST OF THE RISK-VULNERABILITY HYPOTHESIS

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Abstract

Univariate and multivariate analyses were used to test the risk-vulnerability hypothesis first proposed by Bashshur and Metzner (1970). The risk-vulnerability hypothesis consolidates economic and medical considerations to posit that those who feel themselves to be more vulnerable, either economically or medically, are the ones most likely to enroll in a health maintenance organization (HMO) (Berki et al. 1978). Based on the univariate analysis, One-Way Anovas, the risk-vulnerability hypothesis was rejected, while the logistic regression analysis supported it.

Introduction

In recent years, growing concern over rising health care costs has led to the exploration of a variety of options to control spending for health care (Varner and Christy 1986). In the United States, there has been an increased reliance on market forces to contain health care costs. One approach concentrates on increasing competition among health care plans (Enthoven 1980; McClure 1980) and increasing consumer choice employers are offering employees revised, flexible, "innovative" health plans. As a result, most employees can choose between at least two health care plans (Garland et al. 1989).

Purpose

The purpose of this research was to replicate previous studies concerning consumer decision-making when individuals are faced with several comprehensive health insurance alternatives. The replicated studies include those conducted by Bashshur and Metzner (1970); Bice (1975); Tessler and Mechanic (1975); Berki, Penschansky, Fortus, and Ashcraft (1987); Scitovsky, McCall, and Benham (1978); Juba, Lave, and Shaddy (1980); Grazier, Richardson, Martin, and Diehr (1986); Merrill, Jackson, and Reuter (1985); and Welch and Frank (1985). The risk-vulnerability hypothesis, first proposed by Bashshur and Metzner

(1970), was tested in Part A of the present study. In Part B, an expanded model was used including explanatory variables identified by research building on Bashshur & Metzner's (1970) work.

Literature Review

The premise underlying the medical marketplace is that consumers make rational choices among alternatives (Mechanic 1989). Enrollees are assumed to select insurance plans according to the best interest of themselves and their families, ranking the available options (perhaps implicitly) according to their own financial circumstances, expected need for medical care, uncertainty regarding medical expenditures, aversion to risk of financial loss, and their beliefs about medical practice (Schuttinga, Falik, and Steinwald 1986; Berki and Ashcraft 1980).

When the choice includes health maintenance organizations (HMOs), the financial characteristics change. Traditionally, HMO premiums are higher, coverage is more extensive, and copayments for services are nominal. In addition, features of the delivery system are affected. HMO members are required to use plan physicians and facilities, and access to special care is controlled through a referral process. The family's attitude toward preferences for different delivery system characteristics now enter into the decision process. In recent years, with the entry of preferred provider organizations (PPOs) into the health care market, studies of consumer choice have included the PPO as an option as well.

Studies of enrollment choice attempt to determine individual and family characteristics that differentiate those who select one plan (an HMO for example) from those who don't. Two excellent reviews of the literature on the correlates of the health insurance enrollment decision have been done by Acito (1978) and Berki and Ashcraft (1980). An area of research that has evolved from initial studies of the enrollment choice is that of patient self-selection (i.e., selection bias). Wilensky and Rossiter

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(1986) and Mechanic (1989) provide a good overview of the work done in this area.

The risk-vulnerability hypothesis consolidates economic & medical considerations to posit that those who feel themselves to be more vulnerable, either economically or medically, are the ones most likely to enroll in an HMO (Berki et al. 1978), rather than the traditional fee-for-service plan. In Bashshur & Metzner's (1970) hypothesis, economic risk entails having assets or income at risk to medical bills. Following this logic, households with higher asset or incomes would be more likely to select a comprehensive HMO plan.

The evidence on the tenability of the risk-vulnerability hypothesis has been mixed (Berki et al. 1978). Some studies confirm that enrollees in HMO-type plans tend to be married, older, sicker, and higher users of health services (Metzner and Bashshur 1967; Moustafa, Hopkins, and Klein 1971). Other studies, however, find no support, equivocal support, or tend to contradict the hypothesis (Bice 1975; Tessler and Mechanic 1975; Berki et al. 1978; Juba, Lave, and Shaddy 1980; Merrill, Jackson, and Reuter 1986).

Most of this research has investigated determinants of choice in terms of demographic characteristics and/or scope of services and cost (i.e., features) of the plans but it was not until 1978 that any studies concerning the choice of health insurance using multivariate analysis appeared (Strevel 1980; Welch and Frank 1986).

Methodology

In April 1989, a random sample of two thousand employees of a large midwestern university were surveyed about their November, 1988 enrollment decision among four comprehensive health insurance plans: a self-insured fee-for-service plan, a PPO, and two HMOs. Eight hundred and fifty of the 1,348 returned surveys had complete information for eligible respondents who enrolled in one of the health insurance plans resulting in a useable response rate of 42.55%. The sample was representative of the entire employee population based on job status.

In Part A, One-Way Anovas were performed to determine if enrollees of HMOs were significantly different from the fee-for-service or PPO enrollees along the vulnerability characteristics

proposed by Bashshur & Metzner (1970). Logistic regression was used in Part B to accommodate dichotomous dependent variables and both continuous and categorical explanatory variables. The dependent variable for Part B was the probability of joining either an HMO, a fee-for-service plan, or a PPO. To interpret more easily the statistical results, measures of proportional effect were computed from the logistic coefficients (Peterson 1985).

Results

Part A - Univariate Analysis

Part A of the present research study is the univariate analysis of the risk-vulnerability hypothesis (Table 1). All means were significantly different between HMO enrollees and fee-for-service enrollees. Of the four items making up the health status measure (perceived health status of the respondent, perceived family health status, evidence of chronicity in family member, and evidence of chronicity in respondent) HMO enrollees were significantly healthier than the fee-for-service group on all four measures. The fee-for-service enrollees had a significantly higher family income than the HMO group. Finally, HMO enrollees were at a significantly higher mean family life stage risk than the fee-for-service group. Family life stage composition was assessed using a family life stage risk variable constructed by criteria set forth by Berki and Ashcraft (1978). Berki and Ashcraft proposed that family life stage risk increased from 1 (lowest risk) to 10 (highest risk). For example, The enrollee in the risk category of 1 was married, had no children, and was less than 40 years of age.

Only two of the mean comparisons were significant when comparing the risk-vulnerability hypothesis measures between HMO enrollees and PPO enrollees: evidence of chronic condition in the respondent and family income levels. The HMO enrollees had a significantly higher respondent chronic condition mean than the PPO group (e.g., the HMO group was healthier by this measure.). And the PPO group was found to have a significantly higher family income than the HMO enrollee group. Because only two of the measures of the risk-vulnerability hypothesis were found to be significantly different and both favored the HMO plan, the risk-vulnerability hypothesis can be rejected when comparing the HMO enrollee group and the PPO enrollee group.

Part B - Logit Analysis

Table 2 shows the beta coefficients and the significance of the independent variables on the explanation of choice in the health insurance decision when the dependent variable was the probability of joining either an HMO, a fee-for-service plan, or a PPO. Perceived family health status, prior utilization, family income levels, education, physical access, and spatial access were important predictors in the selection decision when the enrollee chose the health maintenance organization. Perceived family health status, prior utilization, existence of relationship with a physician, physical access, and spatial access were the significant independent variables when the fee-for-service plan was the dependent variable. Only two variables, physical and spatial access, were significant for the PPO enrollee group. Five of the individual variables used in the multivariate analysis of the risk-vulnerability hypothesis were not found to be significant predictors for any of the health insurance plans: perceived health status of the respondent, chronicity, family chronicity, family life stage, and integration into the medical care system.

The predicted change in the probability of belonging to a category of the dependent variables (e.g., health insurance plan) resulting from a change in an explanatory variable (e.g., a unit change) for Part B can be found in Table 3. A change in the probability of enrolling in a plan depends on the initial probability of enrolling in that plan. It is a non-linear relationship (Hibbard and Weeks, 1987). To calculate the proportional effect:

$$\text{change } P_i \approx \beta_x [P_i(1-P_i)]$$

where: P_i = probability of initial enrollment
 β_x = beta coefficient of significant independent variable.

The effect of a one unit increase of each of the significant independent variables on the probability of choosing a health maintenance organization are as follows. The results suggest that as the respondent's perception of family health status increased, the probability of joining the HMO decreased by 3.96%. For each unit increase in prior utilization (1 unit=\$249), the probability of joining the HMO increased by 2.76%. With a one

unit increase in family income level (1 unit=\$9,999), the probability of joining the HMO increased by 5.09%. As education level (1 unit=1 year) increased, the probability of joining the HMO increased by 2.91%. Physical access was measured as the importance of the respondent's physician being close to his/her work or residence. Table 3 illustrates that with each one unit increase of importance in physical access, the probability of enrolling in the HMO decreased by 13.52%. Spatial access was measured as the importance of access to specialists and doctors of choice. As the importance on this dimension increased, the probability of enrolling in the HMO increased by 15.31%.

The results indicate that a one unit increase in perceived family health status increases the probability of joining the fee-for-service plan by 3.24%. An increase in one unit of out-of-pocket costs on medical care in 1988 decreased the probability of joining the fee-for-service plan by 2.22%. The independent variable measuring existence of relationship with physician measured the importance of the existence and maintenance of a relationship with a family physician. A one unit increase in the importance of this variable increased the probability of joining the fee-for-service plan by 3.57%. A one unit increase in the importance of the physical access variable increased the probability of joining the fee-for-service plan by 3.51%, while the importance of spatial access decreased the probability by 7.12%.

Of the two significant variables affecting the probability of joining the preferred provider organization, each had the opposite effect on the probability. The importance of physical access increased the probability of joining the preferred provider organization by 5.02%. The importance of spatial access decreased the probability by 5.51%.

Summary and Discussion

Part A

When comparing HMO and fee-for-service enrollees using univariate analysis, the risk-vulnerability hypothesis was rejected (see Table 1). For all four measures of health status, the HMO enrollee group was healthier, interpreted as, on average, medically less vulnerable than the fee-for-service group. And, the fee-for-service group had a significantly higher average household income than the HMO enrollee group, making them more economically vulnerable according

to the logic set forth by Bashshur and Metzner (1970). Both of these findings are inconsistent with Bashshur and Metzner's hypothesis.

Table 1
Part A. Test of Risk-Vulnerability Hypothesis - Univariate Analysis - Comparison of Means^a

Indicator	Condition ^b	
	HMO vs. Fee-for-Service	HMO vs. PPO
PERCEIVED HEALTH STATUS:		
How would you classify <u>your</u> health status? 1=poor 2=below average 3=average 4=good 5=very good	4.26 vs. 4.03*	4.26 vs. 4.26
How would you classify the rest of <u>your family's</u> health status (as a whole)? 1=poor 2=below average 3=average 4=good 5=very good	4.15 vs. 3.96*	4.15 vs. 4.18
EVIDENCE OF CHRONIC CONDITIONS:		
Does a <u>member of your family, besides your-self</u> , have a chronic health condition? 1=yes 2=no	1.79 vs. 1.66*	1.79 vs. 1.73
Do <u>you</u> have a chronic health condition? 1=yes 2=no	1.88 vs. 1.74*	1.88 vs. 1.81*

^aOne-Way Anova - Scheffe's test was used due to unequal cell sizes.

^bHMO mean is first mean given.

*Means significantly different at p = .05.

Table 1 continued.

Indicator	Condition ^b	
	HMO vs. Fee-for-Service	HMO vs. PPO
FAMILY INCOME LEVELS:		
1=less than \$10,000 2=\$10,001-\$14,999 3=\$15,000-\$19,999 4=\$20,000-\$29,999 5=\$30,000-\$39,999 6=\$40,000-\$74,999 7=greater than \$75,000	4.37 vs. 5.31*	4.37 vs. 5.07*
FAMILY LIFE STAGE: 1=lowest risk 10=highest risk	5.14 vs. 4.40*	5.14 vs. 4.93

^aOne-Way Anova - Scheffe's test was used due to unequal cell sizes.

^bHMO mean is first mean given.

*Means significantly different at p = .05.

When looking at family life stage risk, the HMO enrollee group was at a significantly higher mean risk stage than the fee-for-service group, making the HMO enrollee group more vulnerable along these lines. This relationship is consistent with Bashshur and Metzner's (1970) risk-vulnerability hypothesis.

Table 1 illustrates that only two of the mean comparisons were significant when comparing the risk-vulnerability hypothesis measures between the HMO enrollee group and the PPO enrollee group: evidence of chronic condition in the respondent and family income levels. On the medical measure, the HMO enrollee group was, on average, healthier. When looking at family income, the PPO enrollee group was found to have a significantly higher family income than the HMO enrollee group, making them more economically vulnerable according to Bashshur and Metzner (1970). Because only two of the measures of the risk-vulnerability hypothesis were found to be significantly different and that in both of them the HMO enrollee group was assessed to be less vulnerable, the risk vulnerability hypothesis was rejected when comparing the HMO enrollee group and the PPO enrollee group.

According to Hellinger (1987), if healthier people join an HMO, then the HMO enjoys favorable selection. If ailing people join the HMO, then the HMO experiences adverse selection. Based on the univariate analysis of the means in testing the risk-vulnerability hypothesis, the HMOs in this study were experiencing favorable selection on all four measures of health status when compared with fee-for-service enrollees. Only on family life stage did the HMO enrollees appear to be riskier. When comparing the HMO enrollee group with the PPO enrollee group, only one of the health measures was significant and it favored the HMO.

Part B

The logit analysis in Part B (see Table 2 and 3) found that six of the twelve independent variables were significant in explaining the enrollment decision when HMO enrollment was the dependent variable. One of the four measures of health status, perceived family health status, was significant as were prior utilization of health care services, family income level, education, and both measures of access - physical and spatial. Of the four variables measuring health status, three of the beta coefficient signs were in the anticipated direction while the sign on chronicity was incorrect. The family life stage risk variable was not significant, which was surprising. Future research might explore the testing of those variables which made up this family life stage risk measure (age of respondent, marital status, presence of children, and age of youngest child) to see the separate effect(s). The influence of the items

Table 2

Part B. Beta coefficients and standard errors of independent variables in the logit equation with selection of an HMO, a fee-for-service plan, or a PPO as the dependent variable. Effective n=603.

Variable	HMO	Fee-for-Service	PPO
Perceived Health Status	-.1607 (.1697)	.2391 (.1607)	.0068 (.1364)
Perceived Family Health Status	-.1586** (.0825)	.2052** (.0805)	-.0610 (.0669)
Chronicity	.1429 (.1935)	-.1060 (.1642)	.0838 (.1492)
Family Chronicity	-.1019 (.1542)	.1324 (.1403)	-.0479 (.1210)
Family Income Levels	.2038** (.0981)	-.1730 (.1095)	-.0087 (.0835)
Family Life Stage	-.0114 (.0478)	.0603 (.0514)	-.0050 (.0394)
Prior Utilization	.1105** (.0556)	-.1331** (.0587)	.0174 (.0470)
Education	.1163** (.0635)	-.0434 (.0664)	-.0437 (.0529)
Existence of Relationship with Physician	-.0922 (.1063)	.2136** (.1025)	-.1133 (.0854)
Integration into Medical Care System	.0191 (.0679)	-.1009 (.0725)	.0724 (.0570)
Physical Access (importance)	-.5409*** (.0974)	.2101** (.0998)	.2411*** (.0784)
Spatial Access (importance)	.6124*** (.0543)	-.4265*** (.0577)	-.2642*** (.0387)

*** Significant at $p \leq .01$
 ** Significant at $p \leq .05$
 * Significant at $p \leq .10$

making up the family life stage risk measure were subtly included by other variables in the present study (e.g., family income, existence of relationship with physician, and integration into the medical care system). Both measures of relation to provider were not significant, which was expected.

When looking at fee-for-service as the dependent variable, only one of the four health status measures was significant: perceived family health status. This same measure was significant in the HMO enrollee group decision. Prior utilization of health care services was significant in this equation, as it was when the dependent variable was an HMO plan. One measure of the relation to provider variable, existence of relationship with physician, was significant while Juba, Lave, and Shaddy's (1980) integration into the medical care delivery system was not. The relation to provider variable asked specifically whether the respondent deemed it important to stay with his/her family doctor while the integration in the medical care delivery system variable was

constructed using the number of years living within a 45 mile radius of the main campus area as the measure. The importance of being able to stay with the family physician and/or see specialists of choice has been found to be an important predictor of choice in previous studies. Both measures of access were found to be significant in the decision by the fee-for-service enrollee group, with physical access but not spatial access behaving in the expected direction. These independent variables were also found to be significant by the HMO enrollee group. Sociodemographic variables, family income, family life stage, and education, were not found to be significant when the dependent variable was the fee-for-service plan.

Table 3

Part B. Proportional effect of independent on the probability of selecting an HMO, a fee-for-service, or a PPO health insurance plan.

Variable	HMO	Fee-for-Service	PPO
Perceived Health Status	---	---	---
Perceived Family Health Status	-.0396	.0324	---
Chronicity	---	---	---
Family Chronicity	---	---	---
Family Income Levels	.0509	---	---
Family Life Stage	---	---	---
Prior Utilization	.0276	-.0222	---
Education	.0291	---	---
Existence of Relationship with Physician	---	.0357	---
Integration into Medical Care System	---	---	---
Physical Access (importance)	-.1352	.0351	.0502
Spatial Access (importance)	.1531	-.0712	-.0551

Only two of the twelve independent variables were found to be significant in predicting PPO enrollment: physical and spatial access. There has been little research conducted which includes the PPO plan as an option when employees have had a choice among comprehensive health insurance options. These results indicate that measures used in the risk-vulnerability hypothesis are not appropriate when looking at what explains the PPO enrollee decision.

Implications

The conflicting results of the univariate analysis versus multivariate

analysis found in this study confirmed the mixed results of previous research in this area. Univariate analysis examines significant differences without holding constant other variables being considered. An educator writing consumer literature for HMO members, for example, might want to rely upon the mean or median education level of that group. Policymakers, marketers, and educators who may be anticipating change or promoting change, may want to rely on unit effects resulting from more sophisticated multivariate analysis that controls for other factors being considered.

The expanded model, which included measures of prior utilization, education, relation to provider, and access to care as well as the risk-vulnerability measures proposed by Bashshur and Metzner (1970) provided a good explanation of choice for HMO enrollees. Because most of the work done in this area has focused on the HMO enrollee, this fact is not surprising. Only two of the independent variables in the expanded model were significant when PPO was the dependent variable, leading one to assess that these variables were not adequate in explaining the PPO enrollee decision. This fact demonstrates the differences of the preferred provider organization as compared to the two other market entries studied here.

In the rapidly changing health care marketplace of the 1980's, the growth of PPOs has been unparalleled (Gabel et al. 1987). Enrollment grew from only 1.3 million Americans in health plans eligible to use PPO services in December, 1984 to 16.5 million in July, 1986 (Gabel and Ermann 1985; de Lissovoy et al. 1987). A better explanation of the PPO enrollee needs to be formulated.

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UTILIZATION OF PHYSICIAN SERVICES BY CHILDREN OF SINGLE AND
MARRIED EMPLOYED MOTHERS

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This paper examines the determinants of children's utilization of physician services. The data used are the Health Interview Survey 1981 and its Children's Health Supplement. Household production theory is the theoretical basis of the model. Children from one and two parent families are examined separately. The results show that use of Medicaid benefits, mother's education, and presence of chronic conditions are positively associated with the use of physician services. The number of siblings, mother's employment, and maternal age have a negative effect on the use of physician services. Moreover, these effects were not consistent among children of two parent and mother-headed households.

INTRODUCTION

Concern has been raised about the health of children due to increases in the number of women in the labor force, single parent and dual earner families. These changes in family structure have affected the availability of time within families. When families face high demands on their time, they change the way they allocate their time among household activities, including time with their children. Family may substitute medical services for parent's time to maintain the health levels of their children.

A few researchers have examined the effects of maternal employment and marital status on the use of medical services by children. However, existing studies have examined the children of both married and non-married mothers as a homogeneous group (Alexander and Markowitz, 1986; Cafferata and Kasper, 1985; Colle and Grossman, 1978; Inman, 1976; Wolfe, 1980). The current study will examine and contrast the effects of maternal

employment status along with other factors on the use of medical services by children of one and two-parent families.

PREVIOUS STUDIES

Maternal Employment Status

Colle and Grossman (1978) investigated the determinants of utilization of pediatric care by employing household production theory. They used national data collected by the Center for Health Administration Studies and National Opinion Research Center of the University of Chicago. Demand functions for only preventive care and for both preventive and curative care were estimated for 839 sample children aged one to five. Employment status had no effect on physician visits. Even an interaction term, the time cost for the physician visit (wage rate) and employment status, was found insignificant.

Wolfe (1980) examined the effect of government health programs such as Medicaid and Neighborhood Health Centers on the use of pediatric care by using the 1975 Rochester Community Child Health Survey. In this study, 814 children age one to eleven were examined. The factors family income, race, health insurance, marital and employment status of the mother, age and sex of the child, parent's use of physician services, routine check-ups, number of hospitalization per year, number of days ill per year, and maternal age were examined. Using a logistic regression procedure, Wolfe (1980) observed no significant differences in the probability of physician visits among the children of working and non-working mothers.

Applying traditional demand theory, Inman (1976) estimated demand models for preventive and curative care with a sample that was stratified by the mother's employment status. Data from the National Academy of Science, 1971 Survey of Washington D.C. families were used. The sample was composed of 1694 children aged six months to 12 years.

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The children were from predominantly black families.

Using an ordinary least squares regression, Inman (1976) found family income, mother's education, and having three or more colds a year have a positive and significant influence on the use of physician services by children of working and non-working mothers. The fee for the physician visit affects the use of physician services for both preventive and curative care negatively, but only for the children of working mothers. Age of children is found to have a negative and significant effect on the use of preventive care for children of both working and non-working mothers. Working and married mothers are found to use more preventive care for their children than other mothers.

Alexander and Markowitz (1986) studied the relative importance of maternal employment as a determinant of pediatric care utilization. The sample was drawn from a medical record of all preschool children in a urban hospital. The data were collected from medical records and a telephone survey of mothers. In their study, 167 preschool children from low-income and working class families were investigated. Maternal employment was measured as a dummy variable, equal one if mother was employed. Using an ordinary least squares regression technique, children of working mothers were found to make fewer physician visits than those of non-working mothers.

The effect of maternal employment on the use of ambulatory physician services was studied by Cafferata and Kasper (1985). They used the data from the National Medical Care Expenditure Survey 1977. Sample children aged one to eleven were examined. Using logistic regression analysis, it is found that the children of full-time, employed mothers are less likely to have ambulatory physician visits than other children.

The current literature does not suggest clear effects of the mother's employment status on the demand for medical services. Colle and Grossman (1978) found an insignificant effect of mother's working status on the use of preventive and curative care. Mother's employment status also does not affect the probability of physician visits in Wolfe's study (1980). Using a stratified sample by maternal working status, Inman (1976) found inconsistent effects of time

cost on the use of preventive and curative care for the children of working and non-working mothers. On the other hand, a negative effect of maternal employment status on the use of physician services is found in Alexander and Markowitz (1986) and Cafferata and Kasper's study (1985).

Interpreting the results of these studies is difficult since the children of married and non-married mothers were not examined separately. The existing literature did not recognize that married and non-married mothers are dissimilar in their productivity in household production activities. The marginal effects of the explanatory variables are not the same for the children of married and non-married mothers. Home and child care production are affected by whether or not a second adult is present to contribute to the production process. The following model explains the unique differences in the child care decision when one- and two-parent households are compared.

THEORETICAL FRAMEWORK

Demand Model for Medical Services

Using Becker's (1965) framework for modeling household behavior, we will examine a mother's choices in the care of her children. Each mother's utility is hypothesized to be derived from the quality of her children, market purchased goods, and her leisure activities. The mother's preferences also affect her utility as expressed below:

$$U = u(\text{Quality of child}, Q_0, L; Z_1) \quad (1)$$

where Quality of child = $f(C)$

C = Child's health status

Q_0 = Quantity of all market goods

L = Time spent for leisure activities by mother

Z_1 = Preference shifters (i.e., sex of child, number of children, and the age of child)

The child's health status (C) is a household produced commodity and can be written in the following form:

$$C = c(X_C, H_{CW}; H_{Ch}, Z_2) \quad (2)$$

where X_C = Medical services for producing of C

H_{CW} = Time spent for production of C by the wife

H_{Ch} = Time spent for production of C by the husband

Z_2 = Productivity shifters (i.e., mother's education, age, breast-feeding, and the child's birth weight)

Time is an input in child health production, along with medical services. Mother's time and medical services are substitutes in production of child's health; time

can be substituted for medical services or vice versa to produce a constant level of health. We assume some positive amount of both inputs are used in child care. Moreover, we assume that the productivity of each input increases at a decreasing rate. In other words, each input in health production leads to better health status. Yet, as more each input is used, its ability to generate significant improvement in the child's health declines.

Substituting Eq. (2) into Eq. (1), the mother's utility function can be rewritten as follows:

$$U = [c(X_C, H_{CW}; H_{Ch}, Z_2), Q_O, L; Z_1] \quad (3)$$

The mother's goal is to maximize her utility by making rational decisions on the allocation of her time and income. Her income and time constraints are:

$$I = P_{XC}X_C + P_OQ_O \quad (4)$$

$$T = M + H_{CW} + L \quad (5)$$

where I = family income

P_{XC} = The price of medical services

P_O = The price of all other market goods

T = Total available time

M = Total hours for market work by mother

Further, the income constraint requires that actual income equals actual expenditure. More specifically,

$$P_{XC}X_C + P_OQ_O = WM + H + U \quad (6)$$

where W = Mother's market wage rate

H = Husband's earning

U = Unearned income

By combining the above income and time constraints, the utility maximization problem for married and non-married mothers can be solved by applying the Lagrangian method.¹ The mother's demand functions for time and purchased inputs for children's health production as derived from the first order conditions are as follows:

$$X_C^d = x_C^d(W, P_{XC}, P_O, V; Z_1, Z_2) \quad (7)$$

$$H_C^d = h_C^d(W, P_{XC}, P_O, V; Z_1, Z_2) \quad (8)$$

These demand functions provide the structure for understanding a mother's decisions. The exact relationship between the independent variables and the dependent variables differs between married and non-married mothers. For married mothers, the responsibility in

¹ See Hong (1990) for the derivation of the demand model.

household work, including child care will be shared with their spouses. Thus, the presence of a husband results in enhanced household productivity for married mothers as compared to non-married mothers. The optimal time allocation decisions of married and non-married mothers differ. Therefore, equations (7) and (8) are estimated separately, according to marital status.

Empirical Model

Based on the theoretical model, the empirical estimation focuses on equation (7) and is specifically specified as follows:

$$\begin{aligned} \text{NUMVISIT} = & a_0 + a_1 \cdot \text{INCOME} + a_2 \cdot \text{WORK} + a_3 \cdot \text{CPIM} + a_4 \cdot \text{CPIALL} \\ & + a_5 \cdot \text{MEDICAID} + a_6 \cdot \text{CAGE} + a_7 \cdot \text{GENDER} + a_8 \cdot \text{SIBLINGS} \\ & + a_9 \cdot \text{RESMOBIL} + a_{10} \cdot \text{CHRONIC} + a_{11} \cdot \text{MOMEDU} \\ & + a_{12} \cdot \text{MHEALTH} + a_{13} \cdot \text{MAGE} + a_{14} \cdot \text{MOMAGE} + a_{15} \cdot \text{BFEED} \\ & + a_{16} \cdot \text{BWEIGHT} + e \end{aligned}$$

where Dependent Variable:

NUMVISIT = number of physician visits

Independent Variable:

V : INCOME = family income

W : WORK = employment status of mother

P_{XC}, P_O :

CPIM = Consumer Price Index for medical care provided in the region

CPIALL = Consumer Price Index for all items sold within the region

MEDICAID = the use of Medicaid benefits

Z_1 :

CAGE = age of sample child

GENDER = gender of sample child

SIBLINGS = number of siblings

RESMOBIL = residential mobility

CHRONIC = presence of chronic condition

MOMEDU = level of mother's education

Z_2 :

MHEALTH = current health status of mother

MAGE = mother's current age

MOMAGE = mother's age when child was born

BFEED = breast-feeding

BWEIGHT = birth weight of sample child

Model Hypothesis

An increase in income (V) raises the purchasing power for all market goods, including medical services. It is expected that the effect of increased income on the demand for medical services is positive if medical services are a normal good and negative if medical services are an inferior good.

The mother's employment status (W) reflects her available time for health production. Household production theory indicates that a working mother spends less time in health production and uses more market goods for health production, holding other factors constant. The variables, Consumer Price Index for medical care and all other goods in

1980, are included to examine the effect of price changes (P_{XC} , P_O) on the use of medical services. It is expected to be negative because real income will decrease as the prices of medical services and all other goods rise.

Medicaid benefits reduce the out-of-pocket cost of medical services to zero or near zero, depending on the level of benefits (Feldstein 1983; Newacheck 1986). A positive relationship between the use of medical services and the use of Medicaid benefits is hypothesized.

Several measures of taste for medical care (Z_1) are included: age and sex of the sample child, number of siblings, residential mobility, presence of chronic conditions and level of mother's education. A negative and significant effect of a child's increasing age on the use of physician services is reported in several studies (Edwards and Grossman 1981; Inman 1976; Kovar 1982; Orr et al. 1984; Wolfe 1980). Previous studies have also reported that male children use more medical services than female children (Colle and Grossman 1978; Edwards and Grossman 1981; Inman 1976; Kovar 1982; Wolfe 1980). As the number of children in the family increases, the average cost of health care per child decreases because the parents' limited time and income are spread among more children. As a result, the demand for medical services for each child will decline. The predicted effect of mobility is unclear. As the family moves more frequently, the use of medical services for children may increase to maintain a continuity of health care.

Both the presence of chronic health conditions and the mother's education are hypothesized to be positively associated with the number of physician visits. A child with a chronic health condition requires more health care services to produce a desired level of health status. The level of the mother's education tends to be associated with her level of awareness of symptoms and knowledge about health care (Davidson 1980). She may also use more preventive care than a less educated mother.

Finally, five indicators of productivity shifters (Z_2) are included in the empirical model. These are the current health status of the mother, mother's current age, maternal age, breast-feeding, and the birth weight of the sample child. A good health status of mothers

influences the care of infants and growing children positively (Feldman et al. 1987; Kessel et al. 1981).

The older mother has more experience in household production activities. This results in higher productivity and more time allocated to household work than the younger mother. With more time spent in health production, the older mother will use less medical services for her child since time and medical services are substitutes for each other.

Maternal age, breast-feeding, and birth weight of the child are indicators of child health during infancy. Young maternal age and low birth weight are associated with poor health status for children. With lower initial health status, the productivity of mother is lower and results in greater use of medical services. Breast-feeding is recognized as a positive factor that affects the early childhood's development and does the health status of children (Goldberg 1984; Wary 1978). Therefore, fewer physician visits will be made by breastfed children. The measurement and description of variables are presented in Table 1.

METHODS

Sample

The data for the current study are the 1981 National Health Interview Survey. This is a national survey conducted in 1980 by the U.S. Bureau of the Census for the National Center for Health Statistics. The National Health Interview Survey is based on a sample of the entire civilian non-institutional population of the United States. The 1981 survey includes supplemental information on children's health. This Child Health Supplement provides a unique opportunity to study factors affecting children's health. Other data sources frequently include information on children and their families but not about their mothers. The Child Health Supplement likewise is the only existing source of data on family characteristics and children's utilization of medical services, health status, school achievement, and birth condition.

Since the primary objective of this study is to examine the effects of maternal employment on the use of medical services, children who live only with their fathers, brothers, or other male relatives are excluded

TABLE 1. Measurement of Variables

Variable	Measurement
X _C : Number of Physician Visits	Continuous variable
V: Family Income	Under \$1000 to \$25000+
P _{XC} : CPI for Medical Care Medicaid	Index ¹ Dummy variable (=1 if used)
P _O : CPI for All Goods	Index ¹
W: Mother's Employment Status	Dummy variable (=1 if work)
Z ₁ : Age of the Sample Child	Number from 6 to 15
Sex of the Sample Child	Dummy variable (=1 if male)
Number of Siblings	Continuous variable
Residential Mobility	Continuous variable
Presence of Chronic Condition has a chronic condition)	Dummy variable (=1 if sample child)
Mother's Education	Zero years to 17+ years completed
Z ₂ : Mother's Current Health	Dummy variable (=1 if good)
Mother's Current Age	Continuous variable
Maternal Age	Continuous variable
Breast-feeding	Dummy variable (=1 if sample child was breastfed)
Birth Weight	Continuous variable

¹ Indexes are assigned for each sample child based on the region where he/she lives; northeast, northwest, west, and south.

because the purpose of this study is to examine the behavior of mothers with children. Children whose birth weight is not known are excluded because the current study requires information on the birth weight of the child.

The actual sample used in the current study consists of 5999 children ages 6 to 15 who have a mother or mother figure. Working mothers are slightly over-represented as compared to the distribution of the general population; 55% of women aged 18 and over were in the labor force in 1981 while married mothers are over-represented; about 64% of women aged 18 and over were married in 1981 (Statistical Abstracts of the United States 1988).

Estimation Procedure

The dependent variable for the demand model is the number of physician visits. In the current data, about 27% of children did not visit physicians in 1980. Given this problem of a censored endogenous variable tobit analysis is used. Since the theoretical model predicts that the demand model for married and non-married mothers differs, the data are stratified by marital status and the demand model for children of the two types of families are estimated separately.

RESULTS

Results of the tobit analysis of the demand for physician services are presented in Table 2. A Chow test is performed to test whether significant differences in explanatory power between the stratified sample and the total sample exist (see endnote 1). The test indicates that using the stratified sample is more appropriate than using the total sample as theory suggested.

As hypothesized, access to Medicaid has positive and significant effects on the use of physician services for married and non-married mothers. The magnitudes of the effects are also substantially large as shown in Table 2. Consumers are concerned about the out-of-pocket price not third party payor or governments (Feldstein 1983; Pauly 1982). The Medicaid benefit, reduces the out-of-pocket cost of physician visits to zero or near zero depending on the state where the sample child lives; the greater the coverage for medical care, the lower the out-of-pocket price and the greater the demand for medical care. These results are consistent with Orr and Miller (1981) and Wolfe's (1980) studies. Both report a positive effect of Medicaid benefits on the use of medical services.

The number of siblings has significant and negative effects on the use of physician services. This implies that children with more siblings use fewer physician services than those with fewer or no siblings. This result is suggested by the theoretical model. Due to limited resources in the family, fewer resources will be allocated per child. Fewer physician visits are likely to be made for a child with fewer resources.

TABLE 2. The Results of a Tobit Analysis for the Demand for Medical Services.

Dependent Variable: Number of Physician Visits

Independent Variables	Effects	
	Married	Non-Married
V:		
Family Income	0.077(1.395)	-0.053(-0.606)
W:		
Mother's Employment	-0.697(-3.492)***	-0.353(-0.746)
P _{XC} , P _O :		
CPI for Medical Care	0.473(0.957)	-0.086(-0.089)
CPI for All Goods	-0.674(-0.965)	0.041(0.030)
Medicaid	2.401(3.591)***	2.099(4.368)***
Z ₁ :		
Age of Child	0.003(0.078)	0.010(0.167)
Sex of Child	-0.252(-1.304)	-0.121(-0.370)
Number of Siblings	-0.686(-7.482)***	-0.608(-3.957)***
Residential Mobility	0.038(0.852)	0.086(0.983)
Presence of Chronic Condition	0.241(1.161)	0.744(1.840)*
Mother's Education	0.358(5.189)***	0.415(3.762)***
Z ₂ :		
Mother's Health	0.332(1.091)	-0.630(-1.288)
Mother's Current Age	-0.007(-0.102)	-0.005(-0.433)
Maternal Age	-0.002(-1.789)*	0.009(0.365)
Breast-feeding	0.225(1.000)	-0.436(-1.089)
Birth Weight	0.004(0.410)	0.0004(0.044)
# of iteration	26	27
Log-likelihood	-12279.0	-2693.2
N	4883	1116

Numbers in parentheses represent the t-ratio.

* P < .1

** P < .05

*** P < .01

The level of the mother's education is positively associated with the use of physician services. The findings of this study show that the children of educated mothers visit physicians more frequently than those of less educated mothers, regardless of maternal marital status. Since educated mothers may be more sensitive to the symptoms of disease or illness, have more knowledge about preventive care, and have a higher level of compliance on the required follow-up care (Davidson, 1980; Pauly, 1982), educated mothers may take their children to physicians more frequently.

The effects of the mother's employment status on the demand for physician services is negative for the children of married mothers but is negative and insignificant effect for non-married mothers. The

negative effect is consistent with household production theory that suggests the employed mothers may use more medical services since they spend less time in health production than non-working mothers.

The interpretation of these results is not clear. The negative effect of mother's employment suggests that physician visits may be a time-intensive good; therefore, mothers may not substitute physician services for their time. One possible explanation is that working mothers may substitute various health-related activities such as sports programs and healthful diets for medical services. In other words, working mothers may substitute less time-intensive goods (i.e., preventive care) for medical services.

The presence of a chronic condition is found to have a positive and significant effect only for the sample of non-married mothers. Chronically ill children of non-married mothers visit physicians more often than healthy children. These findings are also consistent with the findings of Wolfe's study (1980). In her study, children who have an illness of a vital organ or other major illness are found to make greater use of medical services.

The mother's age at the child's birth has a significant and negative effect on physician visits for children of married mothers. An insignificant effect is found for children of non-married mothers. The findings of this study indicate that children of young mothers are likely to use more physician services than those of older mothers. This is expected because young mothers tend to have less experience in raising children. The inexperienced young mother may take her children to physicians more often due to low productivity in health production, over-sensitivity, or ignorance about the health care of children. Therefore, physician services will be substituted for the young mother's time and knowledge.

DISCUSSIONS

The current study is the first piece that attempts to examine the use of health care for children separately for the children from different households. It clearly confirms that married and non-married mothers make their decisions on the use of medical services differently.

The results of this study have several policy implications. Medicaid benefits allow more medical care for children from low income families. However, there are many children who need care but do not have Medicaid benefits because of eligibility criteria (Boverj, 1982). This program should expand its coverage.

Mother's education seems to be an important factor in explaining the children's health care utilization. Educated mothers demand more medical services for their children. Although the current study does not confirm that educated mothers use more preventive care, the existing literature suggests a higher level of preventive care for children of educated mothers. More education programs are needed to disseminate information about health care, both physical and mental health care.

Children from large families use physician services significantly less than those from small families. Special attention is needed for these children to have adequate medical care. Special programs can be developed to focus on children from large families to enhance their health status.

Whether the children of employed mothers visit physicians less frequently due to inflexible work schedules, a preference for less time intensive health production, or the husband's contribution to child care needs further investigation. Work site family medical care programs could provide a valuable option that enhances child health production among employed mothers.

NOTE

1. This is a chi-square test. The calculated statistic has the following format:
 $G_2^{\text{restricted}} - G_2^{\text{Full}}$
 where G_2 is equal to $-2 \cdot \log$ -likelihood ratio. This difference has a Pearson chi-squared distribution. The test in this study is: $30022.0 - 29944.4 = 77.6$
 The critical value for chi-squared (.001, 17) = 40.79.

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Impact of AIDS on Financial Resources:
A Pilot Study in Indiana

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The financial impact of Acquired Immunodeficiency Syndrome (AIDS) on households and families has received little attention. Results of a pilot study of AIDS patients in Indiana are presented. Health insurance coverage sources are reported as are changes experienced in income, assets, and debts.

Introduction

Acquired Immunodeficiency Syndrome (AIDS) is a multi-faceted disaster with enormous economic implications for families. Medical research is providing information about AIDS, ways to make it manageable, and appropriate health service delivery. Health economists have provided the limited cost information that exists based on hospital and insurance company data. Little, however, is known about the financial and time costs of the disease to patients, their families, and friends.

In May of 1989, leading AIDS researchers stated that the first wave of the AIDS epidemic in the United States was drawing to a close (Smith 1989). That wave was described as having been centered around the east and west coasts. Speculation was raised as to what the response to the disease would be as it spread through the central part of the country.

As of October 1, 1990, 946 Indiana residents had been diagnosed with AIDS of which 553 had died (ISBH 1990). Whereas the 1990 rate of new cases had been approximately 20 cases per month, 55 cases were identified in September 1990. Only ten counties had not reported a case of AIDS.³ It appears that Indiana is about three to four years behind the west coast in terms of the spread of the disease (Myers 1989).

The spread of AIDS to the Midwest has raised some new issues. Those who live in rural areas and have AIDS find many challenges to receiving medical care and other services

needed to cope with the disease. Two challenges are distance and homophobia, both of which make it difficult to learn about and take advantage of necessary services. Networking through support groups becomes the method of learning about potential services, but some patients and/or their families may find it difficult to take this step. Problems in receiving care or other services invariably impact the costs to the patient or the patient's family.

The exact impact is hard to assess, however, because to date the costs to patients and their household members have not been measured in the United States.

The purpose of this study was to develop an instrument and method of data collection so that the financial ramifications of the AIDS disease to patients and their households can be measured. The instrument was described in a poster session presented to the 1990 ACCI Conference (McRee and Widdows 1990). This paper reports the results of a pilot study conducted in Indiana using the instrument. Only selected results from the baseline survey instrument are being reported.

Review of Previous Efforts

In a study of the first 10,000 AIDS patients in the United States, Hardy (1986) showed that the per patient lifetime hospital costs averaged \$147,000. The burden this figure represents, coming on top of the other traumas being faced by the patient and the patient's family or friends, is extreme.

Prior to 1989, the method of determining the cost of AIDS in the United States was to multiply the annual average cost of treatment per patient times the number of patients for that year (Widdows 1989). This formula did not allow for the observation of variation in costs by region, hospital type, stage of the disease, and type of treatment. Furthermore, a review of AIDS studies by Sisk (1987) indicated that many studies excluded costs of services used outside the hospital such as drugs, long-term care, counseling, and community support services.

Updated estimates of the costs of AIDS are being effected by the use of the drug azidothymidine (AZT), patients living longer, changes in populations effected, and regional differences in costs. Hospital costs have been a high percentage of the total costs. As a result of treating HIV related illness before it becomes AIDS, laboratory tests,

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3 AIDS and HIV positive diagnoses are required to be reported to the state unless the diagnosis is made in an anonymous testing site.

counseling, and other expenses have become more prevalent in total costs.

Use of AZT and aerosol pentamidine have increased life expectancy of patients who suffer from pneumocystis carinii pneumonia (PCP) (Scitovsky 1989). For those who can take these drugs, the costs of hospitalization are reduced, including intensive care unit expenses used heavily when attempts are made to prolong life. Using AZT costs about \$11.20 per day (Hellinger 1990). Use of aerosol pentamidine costs approximately \$2.00 per day.

Patients also use other drugs and alternative therapies including alpha interferon, acupuncture, mega-vitamins, and herbal therapies. The cost of these therapies has been estimated at \$3.30 per day (Hellinger 1990). These alternative drugs and therapies typically are not covered by any governmental or private insurer.

As with any other disease, someone has to pay the bill. With AIDS, the sources for payment of expenses vary. Medicaid and private health insurance have born the brunt of the expense. Several writers (Scitovsky 1989; Bilheimer 1989) have projected increased pressures on Medicaid as more persons become dependent on the entitlement program to pay their medical expenses.

Most of the AIDS patients have been young and in career stages where concern focuses on the build up of assets more than protection against major catastrophes. Many have simply not accumulated the assets required to meet expenses they experience during the course of the disease. Families and friends become alternative sources for funding to pay bills.

When families and friends become alternative sources for paying the health care bills, financial strains are placed on all involved. In such situations, the cost has fallen partially on health care providers such as hospitals, welfare agencies and insurance companies. These institutions were the first to show concern about the cost of AIDS and in whose name (and under whose funding) initial studies were carried out.

Many patients have no health care coverage at all. According to 1986 data, at least 13.3% of persons in the civilian noninstitutionalized population were not covered by any health care plan (Ries 1987). The group with the highest percent of noncoverage were those between the ages of 18 and 24, males, Afro-Americans, and persons in low income groups. Scitovsky (1989) also indicated that risk groups and diagnoses effect the pattern and the insurance coverage of the disease as well as when the patient is eligible for insurance coverage.

It becomes a game of chance as to whether one receives compensation for expenses or not. As a result, further information needs to be gathered regarding services and financing

provided voluntarily by friends, family members, and other programs (such as food stamps, rent/transportation, subsidies, etc.). The extent to which costs are incurred by patients and their families is not known.

The family has long been considered an appropriate unit of analysis for studying matters related to consumption of consumer goods and services. However, little empirical data has explored the use of resources by families when impacted by major health care demands and costs.

Anderson (cited in Litman 1974) indicated that families may determine not only whether a family member receives care but also in how and where this care is provided. Farber (cited in Litman 1974) found that long-term medical problems effected the family's social organization both within the family and within the community.

The Problem

There is a paucity of any data about the costs AIDS patients or their families and friends face as a result of AIDS. It is not an easy problem to address. It requires an intensive study of the financial affairs of all concerned. It is, however, necessary. Without such data, it is difficult for professionals to give meaningful financial advice to the people who have to cope with the effects of the disease.

The client population which stands most to benefit from this project is the patient group themselves, their families and friends. The audience which has the most immediate need for the data is the agencies such as volunteer agencies, welfare agencies and financial planners which advise patients, their friends and families.

Methodology

Internal funding from Purdue University was provided to develop a questionnaire and method of data collection that would provide information regarding the economic impact of AIDS on Indiana households. A two-part questionnaire was developed. Part I was a survey instrument that collected information regarding the health and economic status of the respondent. Part II was a diary survey that chronicalled four consecutive weeks of expenses by the respondent. Information from Part I is being reported in this paper.

Content validity for both forms of the questionnaire was established in three rounds of reviews by persons working directly with AIDS patients. A contract was negotiated with the leading AIDS service organization in the state to pay them a sum of money to distribute the questionnaire received. The organization supplied the services of a graduate assistant who conducted face-to-face interviews with

AIDS patients.⁴ Thirty questionnaires were sent to the organization. Twenty-three usable questionnaires were returned in April 1990. In effect, quantity was sacrificed for quality of information received.

The Results

The sample consisted of persons who had made contact with the leading service organization for patients diagnosed HIV positive or with full blown AIDS in the state of Indiana. Respondents were asked to provide information regarding the state of their health, household, and financial situation. The sample can be described as white males between the ages of 23 and 50. Most were urban residents.

In what follows, the descriptive data from Part I of the questionnaire are reported. While the data clearly cannot be claimed to be "representative" of the broader population of Midwestern AIDS sufferers, they are interesting enough to warrant attention.

The length of time since respondents had been diagnosed HIV positive ranged from 3 months to three years. All but five of the respondents had been diagnosed with full blown AIDS. The length of time since respondents had been diagnosed with full blown AIDS ranged from two years and two months to three months.

Eighty-two percent of the respondents were receiving the pharmaceutical treatment of AZT. Fifty-two percent were receiving aerosol pentamidine as a drug therapy.

Table 1 reports the responses of patients when asked to indicate insurance coverages that they were receiving or for which they were eligible for the payment of medical expenses. Sixteen respondents indicated that

Table 1
Frequency Distribution of Responses by Insurance Coverage Held.

<u>Insurance Coverage</u>	<u>Frequency</u>
Medicaid	16
Current Employer	5
Former Employer	4
Private Health	3
Life Insurance	2

Number with Multiple Coverage = 4

they were covered by the government sponsored program, MEDICAID. Five persons were covered by insurance related to their current employment. Four persons received

⁴ This proved to be helpful in receiving completed questionnaires as some of the respondents were suffering from dementia associated with the disease.

health insurance coverage through a former employer as described by the Consumer Omnibus Reconciliation Act of 1985 (COBRA). Four persons had health insurance coverage from multiple sources.

Respondents were asked to indicate their source of income both before diagnosis and at the time of data collection. Table 2 reports the frequencies of response to this variable which was adapted from the NC 182 Family Economic Well-being questionnaire. The most

Table 2
Frequency Distribution of Responses to Income Questions Before Diagnosis and Currently.

<u>Sources of Income</u>	<u>Before</u>	<u>Now</u>
Salary	20	1
Own Business	4	1
Savings	9	1
Investments	9	1
Pension	1	1
Gifts	1	1
Worker's Compensation	1	0
Rental Income	1	1
Project Safe	1	1
Government Sources	4	14
Social Security	0	1
AFDC	0	1
HUD	0	1

Annual Mean Income

Household Mean Income	\$27,600	\$14,150
Own Earnings	14,300	7,149
Government Sources	557	601

frequently reported sources of income prior to diagnosis were salary, savings, investments, one's own business, and government sources. At the time of data collection, the most frequently reported source of income was government sources. In addition, social security, AFDC, and HUD had become sources of income post-diagnosis.

Table 2 also reports the response to the questions regarding total before tax household income, total tax personal earnings, and amount of income from governmental sources. Before tax household mean income prior to diagnosis was \$27,600. Before tax household mean income at the time of data collection was \$14,150. Mean personal earnings were \$14,300 prior to diagnosis and \$7,149 at the time of data collection. The mean amount of income from governmental sources had increased slightly from \$557 prediagnosis to \$601 at the time of data collection.

Respondents were asked to indicate the amount of household and business/farm assets owned or being purchased by the household prior to diagnosis and, separately, at the time of data collection. As can be seen in all categories with the exception of checking accounts in Table 3, assets were reduced

between the time prior to diagnosis and the point of data collection for this project.

Table 3
Frequency Distribution of Responses to Asset Questions Before Diagnosis and Currently.

<u>Assets</u>	<u>Before</u>	<u>Now</u>
Own Home	10	4
Vehicles	17	1
Checking Account	17	17
Savings Account	15	7
CD	5	2
Stocks	5	4
Other	15	8
Business	1	0
Total Mean Household Assets	\$8,800	\$4,830

The mean total value of assets prior to diagnosis was \$8,800. The mean estimated total value of assets in April 1990 was \$4,830.

Respondents were asked to indicate types of household debt held prior to diagnosis and at the point of data collection. Table 4 reports the frequencies of responses to these questions. In all categories with the

Table 4
Frequency Distribution of Responses to Debt Questions Prediagnosis and Currently.

<u>Debt Sources</u>	<u>Before</u>	<u>Now</u>
Mortgage, Home	9	3
Mortgage, Rental	2	0
Auto Loan	11	5
Credit Card	13	8
Home Improvement	1	0
Education	5	1
Medical	7	1
Family	7	11
Other	3	4
Business	1	0
Business Vehicles	1	1
Livestock	1	0
Total Mean Household Debts	\$4,900	\$3,400

exception of business/farm vehicle debt, change in the source of debt is indicated. Respondents reported more debt that could be categorized as family debt or other debt at the time of data collection than prior to diagnosis for AIDS.

Table 4 also reports the mean estimated total debt held by households both prior to diagnosis and at the point of data collection. Mean estimated total debt had dropped from \$4,900 prior to diagnosis to \$3,400 at the time of data collection.

Concluding Comments

This paper presented a small sample administration of a proposed questionnaire designed to analyze the financial impact of AIDS on the patient and his/her immediate family, however defined.⁵ The questionnaire was designed to elicit information on the financial environment of the patient before and after being diagnosed HIV positive. Comparison of the two data points allows comment on the financial impact of the disease, even though the data themselves are not necessarily representative of the broader population of AIDS sufferers.

AIDS had impacted the financial status of this sample of Indiana patients profoundly. Almost all of those with "regular" income sources beforehand (salary, own business, etc.) lost their source of income. Average earnings of the patients was halved, and most had to rely on government services for funds. Seventy percent had some kind of insurance. The data revealed that some had either lost coverage or had their rates increased.

There had been a parallel impact on the asset holdings of patients. Both physical and financial holdings had been reduced drastically. So too, however, had debt holdings, but average net asset declined after HIV diagnosis from \$3900 per respondent to \$1430. The impact on patterns of consumer expenditure will be determined when Part II of the questionnaire is analyzed.

Although the sample is small, the results are interesting and important enough to warrant administration of the questionnaire to a larger population, and grant proposals to this effort are being developed. Large sample results will enable the "rural" dimension of costs to be identified, and relevant policy statements to be made. The financial stress on AIDS patients and their families is significant and the data are needed.

⁵ The term family is defined in the questionnaire by questions asking with whom the patient resided before and after being diagnosed HIV positive.

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Teaching Writing Skills and Critical Thinking In Consumer Education

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Effective consumer education requires that students learn critical thinking and effective written communications skills. Both these skills can be incorporated into a single project requiring the analysis of a consumer issue.

Setting the Scene

A democracy functions best with informed citizens who base their "votes" on a thorough understanding of issues. Citizens must understand the points of view on and impacts of public policy proposals that address the issues and problems of the day. Those who have this skill will be better able to take leadership roles and persuade others to their point of view.

Rather than have students write a public policy issue analysis as a single task to be turned in as a completed project, they complete a series of assignments which, when taken together and cumulatively, result in a complete issue analysis paper. The result is that they are asked to think critically and receive feedback on their writing at each stage.

Students are to assume that they have taken a summer position as an intern in the Washington, DC office of their local Congressman. An aide to the Congressman (the instructor) has asked them to select a consumer problem for which there has been debate over various proposed solutions. Once students have defined a problem which the aide feels is sufficiently important for analysis, students provide the aide with a straightforward, unbiased written discussion of the strengths and weaknesses of the various solutions as gleaned from various sources including newspapers, magazines, professional literature, and government documents. They are then asked to write a position statement for the Congressman regarding the best solution or course of action in response to the problem.

Assignment Components

Each portion of the paper is turned in separately and sequentially for grading and feedback and then returned to the student for editing. The entire, edited paper is turned in at the end of the semester for a final grade. The components are as follows.

1. A problem statement providing a concise write-up of the problem to be addressed. The problem is not that the student's ideal solution has not been implemented. It is a difficulty that consumers are facing in the marketplace and for which public policy solutions have been proposed.

2. Identification of the major proposed solutions to the problem. Doing nothing about the problem should be considered an alternative. Students should describe the proposed solutions and the current state of affairs and history regarding their implementation. If students do not intend to consider some of the solutions identified, they may clearly indicate that at the end of this section. This allows them to delimit their analysis to make it manageable.

3. A thorough, documented and unbiased discussion of the strengths and weaknesses (positives and negatives) of the various solutions to the problem. No preferred solution should emerge or be detectable in this portion of the total assignment. This section of the paper should be written from the perspective of a observer/reporter. The student is forced to keep their own feelings about the solutions in the background as they develop the pro's and con's from existing literature. I want them to keep an open mind and not judge the issue prematurely. This is very difficult for students to do but is a key to effective critical thinking.

4. A persuasive presentation of what the student feels is the best solution or course of action. This section should be written in the first person. It gives the student the chance to propose a solution based a knowledge of its pro's and con's and those of alternative solutions. The best papers will employ both a good offense and a good defense of the solution preferred.

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Stimulating Learning in Consumer Education by Practical Application of Course Concepts

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One of the advantages of teaching consumer education is that the content lends itself to practical applications in students' lives. This abstract outlines a technique of teaching that involves students in marketplace assignments. The experiential learning experiences are designed to show students the relevance of the subject matter and to get them excited about the course content. The outcome is an interactive classroom atmosphere where concepts are reinforced by students experiences in the marketplace.

Experiential learning is a teaching technique recognized as one that reinforces concepts taught in the classroom (Bliss, Hiss, Kamins & McIntyre, 1973). This method accommodates a variety of learning styles. Other advantages include: establishes the relevancy of course content; increases retention of course concepts; encourages student-student and student-teacher rapport; and stimulates students to examine their values as they apply to consumer issues.

Overview of the Course

The author uses a series of ten experiential assignments in a consumer education course, in conjunction with interactive lecture, class discussion, group activities and presentations. Students are learning from the teacher, each other and the marketplace. The keys to the success of this method include: presenting assignments in a sequence designed to lessen students' hesitancy to contact businesses (phone contact, write a letter, work in pairs in the marketplace, work alone); providing specific guidelines and criteria for assignments; encouraging students to choose products or services to examine that they are most interested in; recommending that students are considerate of the businesses they contact (including going during less busy times, or calling first); and encouraging students to share their experiences with one another. To accomplish the latter, arranging seating in a circular fashion so that students can all face one another facilitates discussion. A brief description of the sequential experimental assignments follows.

Experiential Assignments

Consumer Hotlines

Students call an 800 number to learn about a product. This information is shared in class and helps to get students thinking about the consumer information available to them.

Evaluation of Ads

This requires identifying ads in magazines as defensive, informational or comparative, and determining the target audience for the ad.

Writing a Letter of Complaint

To make this relevant, students are required to write a letter concerning an actual problem with a product or service that they or a friend or family member has experienced.

Small Claims Court

Students attend a session of court, observe the participants, and comment on their opinion of the ruling.

Evaluating Food Purchases

Store brands or national brands of frozen convenience foods are compared between three types of stores: local, national chain, and discount.

Consumer Credit

Students visit a department store's credit department and ask questions about credit account options and charges.

Banks and Banking

After visiting a local bank, students compare three types of checking accounts and chose one explaining the rationale for their choice..

Comparing Consumer Durables

A durable the student wants to buy is researched in *Consumer Reports* and in local stores. A choice is made based on the student's buying matrix information.

Used Automobile Purchase and Repair

Students visit an automobile repair shop or used car dealer, asking questions related to costs, warranties, and financing.

Understanding Insurance Policies

Students interview an insurance agent and find out about costs of a policy for auto, health, or renter's insurance, evaluating the policy for their needs.

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Techniques for Evaluating Student Progress in Consumer Education

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Philosophies and techniques for evaluating student progress in consumer education programs and courses are discussed. A primary objective is the enhancement of student learning.

Goals of evaluation efforts include the need to assign grades to student projects and courses, determine eligibility for certification, and evaluate programs for accreditation. This paper discusses evaluation techniques that also enhance learning.

Enhancing Student Learning

Evaluation can provide feedback into the educational process. An effective technique is to have students give a written response to a class session. At the end of class, ask students to write a one paragraph description of the important concept of the day or an unanswered question. Students improve listening and writing skills and learn to focus on key concepts. Teachers receive valuable feedback about the message actually received by students and insights into information and methods that are appropriate for the next class meeting.

I administer my own course evaluation form each semester and use the results to refine the course for the next semester. Students are asked to state the strengths and weaknesses of the class and rank the value of class learning activities. One of my colleagues administers her end-of-term evaluation mid-semester so that modifications can be made in the course to help currently enrolled students.

Student Involvement

Education should help students become self-directed learners. Evaluation can facilitate this process by helping students evaluate their own learning. I encourage students to evaluate their own work. To do this, I distribute the score sheets that I will use in evaluating class that project. This process stimulates students to ask questions about the purpose of the assignment, required components, and standards that will be used in evaluation. Students gain experience

applying evaluation criteria to their own work.

I also involve students in writing examination questions which may be used on the test. Students tell me that this method helps them focus their study effort. I have found that the questions and answers help me identify concepts that need further explanation or discussion.

Perspectives on Evaluation

Both students and teachers have perspectives that should be considered in planning for evaluation. Teachers may want to know the level of student learning, the effectiveness of educational strategies, and the progress being made towards course and program objectives. I start every class period with an opportunity for students to ask questions and encourage students to write down questions that arise when reading assignments and reviewing class notes. Sometimes I give students a list of questions to use when studying for an essay examination. This method helps students focus their studying and encourages them to identify and explore relationships between concepts.

Students are active participants in their own learning and have perspectives on evaluation. They may ask: What am I learning? What am I supposed to be learning? Will it be on the test? How will I use this information? How does this fit into my understanding of the world? If we want graduates of our programs to be independent learners, we have to help students answer these questions.

Timing of Evaluation

Evaluation should be an integral part of any curriculum, course, class session. At the beginning of the semester, I survey students about course expectations and preparation for subject matter. I have found that this gives me valuable insights about my students. During the semester, I encourage feedback using techniques discussed in this paper. At the end of the course I look for closure on concepts and evaluation of course activities.

I have presented a philosophy of assessment that extends beyond assigning course grades. I challenge you to go back to your classroom and look for methods of evaluating students that will feedback into enhanced student learning and influence the direction of learning in the present and future.

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**Impacts of Emerging Banking Reform on Consumers:
A Federal Policy Perspective**

Peggy Miller, Consumer Federation of America

As the C.F.A. Banking Legislative Representative, Peggy Miller represents 240 organizations on national consumer banking policy, including coordination of national coalition efforts, director of advocacy and policy development. Previously, she was Vice-President, Policy and Government Relations for the National Center for Appropriate Technology where she supervised the development of programs and policies in sustainable agriculture, safe energy, and housing, and mounted national coalition campaigns on resource conservation. She had earlier served in various positions involving community development and resource management.

The implications of bank reform and the current bank crises could greatly impact our everyday lives in the next few years. "If you can't trust your banker, who can you trust?" The simple fact that that old adage no longer applies says it all. We have a rapidly changing system on our hands, with banking issues and Congressional activity reported almost daily in the press, banks getting into new, risky products, and increasing cases of consumer deception.

Ignoring Congress, important decisions are being made by the regulators themselves who have a capacity for putting out regulations virtually daily. If those regulations are not thought through carefully, loopholes are created and these loopholes create major bank manipulation. In addition, Congress is daily communicating with those regulators to ensure that much policy occurs through regulation rather than legislation. They would rather not have these issues come up to Capitol Hill, where the public would then know about their role. That game continues, and the implications are enormous.

One of the problems is that consumers and families (particularly those without a great deal of income), tend not to care, or tend not to understand the relevance of these decisions. On the other hand, persons with a great deal of money to deposit and invest are quite aware of the implications and are quite involved in the process.

Decisions now being made could change the entire banking system, a system that the public currently believes in and hopes will continue. Consumers have come to accept insured coverage, checking account and savings account services, and that we will receive a reasonable return on our money. Up until a few years ago, we accepted that the whole

system was safe and secure. There was no talk about risk. In prior years what consumers cared about were questions on such issues as disclosure of banking terms, so that we would be able to shop more wisely, and the cost of products and services. There have been efforts for better disclosure, for better laws to give us more credit, for improved services. These efforts continue such as to pass Truth-in-Savings and Basic Banking legislation.

In the last few years, however, there has been a major change. That change has been evidenced through the thrift crisis, and is now demonstrating itself through what is being called the bank crisis. Today, consumers ask other questions which include the following: What is happening to the structure of the industry and as it relates to our everyday lives? Will we continue to be able to get savings and checking accounts? Will we be able to get credit for our every day needs? What is that credit going to cost us? What is going to happen in terms of things that we care about?

We tend to like a variety of small businesses in our neighborhoods. We tend to like a variety of neighborhoods and the ability of neighborhoods to remain strong and flourishing. But such community structures are diminishing, and have been for 15-20 years. As more and more people become aware that something is afoot that is changing the society around us and is removing our ability to control that society, there is a growing feeling of hopelessness, of lack of power, and lack of input. There remains, however, no real understanding of what we can do about it. In the banking world, issues are complex, and we feel less in control. We hear about Treasury proposals being aired in debate, and the Bank Insurance Fund's need for recapitalization. We've recently heard that a few hundred more banks are going to go down shortly, and we see various articles in the press about the impact of various proposals. Relating these issues to our everyday lives is difficult, but we must try because they impact our lives immensely. From our standpoint at the Consumer Federation of America (C.F.A.), the proposals that have been put on the table this year are extremely serious.

One of the concerns is that a turning point is coming related to the growing control on the international level, as the U.S. works toward merger with the European Community. There is a current push in Congress by many who are endeavoring to change our financial system to allow U.S. businesses to invest internationally, as well as for international businesses to invest here. The proposals on

the table to accommodate this kind of change are supported by major banks, by Citibank, J.P. Morgan, Chemical Bank, and major money centers in the United States. German, Japanese, British, and French banks very much want to invest in the U.S., but don't like doing so currently because of state restrictions, which hamper their ability to move in and buy up our banks. Currently international banks own about 25% of our bank assets. Their near-term goal, they say, is 40%.

Is that important to us as consumers? Is it important whether we have increased foreign ownership of our bank assets; i.e. land, real estate, and other forms of securities. Let's think about that. French banks tend to be state government banks, meaning if they buy our banks, we then have strong control coming in from a governmental force. Is this in our best interests? German banks are the most capitalized at the current time. The Treasury proposal that is on the table right now would allow any highly-capitalized bank to buy quickly. The proposal also proposes interstate branching, nation-wide branching, whereby a highly-capitalized bank could move in and buy up and start branches throughout the entire country. What does this mean to consumers? Will we get better service? Will they give us better loans? Unfortunately, statistics portray that with larger sized banks, a streamlined system and branching, fees severely increase for checking and saving accounts and other banking services. For example, Virginia small banks offer low cost services 71% of the time, but their large branch banks offer such services only 9% of the time. Larger banks have the highest credit card rates, i.e., 20%.

Of greatest concern is the unwillingness of large branch banks to continue lending in the community. They don't want to lend to small businesses, but they do want local deposit dollars. In fact some have been frank enough to admit that what they are trying to develop is a deposit franchise. They build deposit dollars which are then loaned out wherever the highest profit margin is. Financial discussions at the moment suggest that the highest profit margins are going to be in Eastern Europe and Kuwait. What does that mean to consumers?

If the Treasury proposal were to pass, we would have the capability for all large banks to move much more rapidly into the system, into individual states, where they can buy up banks, start branches, and close those that they don't want to operate. As they closed a lot of smaller banks down, this would result in severe concentration and consolidation. We would have far fewer banks and the resulting banks, in our opinion, could very easily be highly costly to consumers in terms of both everyday functions, and policies that the public would have no control over, such as credit being available in the local communities. We have seen this occur in a

number of areas when larger banks move in. In fact, we have been told that in New England that is the purpose; that New England's economy is on the downside, and the intent is to move in purchasers, close banks, and move deposit dollars elsewhere. This kind of action will cripple the economy. We at C.F.A. oppose it because it is not policy in the best interests of this country and of our people, and it's also not good economic policy. It might be advantageous for the owners of the larger banks and for those dealing purely on a global scale. But will it be good for the people in this country?

I'm worried about concentration, and about the implications of increased foreign ownership. I do believe that there are many areas where lending back and forth across all national lines is very important and will facilitate great progress. But I still believe very much in a fundamental economic structure, based on a foundation of strong neighborhoods, localities, states, and regions. Through strong basic structures, we can achieve a good strong overall national economy, one that can contribute to a very strong international structure.

Why are we seemingly trying to accommodate larger size banks to move swiftly into our country? Some of our banks point to Japan, or they point to Canada, or Germany and they say, "look, their banks are huge! Look at our banks, they're tiny in comparison. We can't compete". I would, in response, ask two questions: In those countries, how do the consumers feel about the size of the banks? What are they getting out of their system, i.e. how is their system different from ours? Japan, for example, has two separate systems: The very large banks which have grown because of favorable trade balances as well as very different long-term economic development (which we as of yet have not achieved in this country); and also a system in which they use their post offices to gather household savings for free. In that system, they don't charge people anything, and they then move their money back through the government to such things as housing and transportation (this is the money that built their bullet transportation system, for example). If we allow in this country a consolidation along the lines of what we see in Germany or Japan under the argument that bigness is needed, without a correlating counter system for the people in this country which allows both access to reasonably priced checking and savings accounts as well as a mechanism for holding in some deposit dollars, we will have serious problems. We would also need a mechanism to provide credit in this country where needed. If we allow interstate branching, nation-wide branching, without counter policy development, we could easily allow for severe consolidation without retaining any of the banking services that we hold as necessary. We at C.F.A. are extremely worried about this. We have been scrambling to analyze the statistics because of what we

were hearing back from our member organizations which are scattered around the United States. What we hear is "whenever branching happens, we lose. Prices are shooting up. We seem to not be able to get credit. If this goes bigger, we're real worried about what is going to happen".

Right now, there is an international group of people that meets on a monthly basis, a group called the Baussel Group. They meet in Switzerland to develop the international standards that are starting to guide our banks as well as the banks in Europe and Japan. They also develop systems for when U.S. banks and the U.S. Treasury will bail out certain depositors, and when foreign countries will bail out certain depositors. A problem occurs in that the Treasury proposals that are on the table, and that are also submitted to this group, still keep the entire system linked to our Treasury. If we allow interstate branching, as proposed by the Treasury where anyone can come in and branch in any state with no restrictions, the states will have no control. Any corporation could buy any bank. We have been told that AT&T has a proposal on the table; and that GE has a merger proposal on the table. This type of combination and consolidation between corporation, retail, and banking, has never before been allowed in this country; mainly because if consolidation of that nature were allowed, the power structure would become so enormous that our regulators could not touch it. Regulators would not be a match for industry wizards of money movement and manipulations with all their capital and legal power. An example of this is recent articles in the Wall Street Journal and Washington Post which described a bank called BCCI (an international bank) that has been owning American Security illegally for ten years. Our regulators, even though they tried to figure it out, couldn't, and were not able to regulate the activities. This is the kind of thing which would happen, an example of the consequences of allowing this type of proposed consolidation and control. Our regulators have been telling me at meeting after meeting, "we couldn't stop this loss of control from happening". But there is strong lobbying for this proposal.

In the case of interstate branching, there would be some efficiencies. For example, ATMs across the United States. When we go up to Capitol Hill, we are asked, "Isn't that what consumers want; to be able to use their ATM and credit cards anywhere?" We point out that Citibank and the other money center credit cards have the highest interest, and are not competitive at all. As discount rates have gone down, the credit card rates haven't. This does not benefit consumers. It does provide them with the advantage of being able to use cards nationally and probably internationally; but we would exchange a great deal in return for that. We're trying to figure out if there are any ways to allow some of these efficiencies without giving up on the current structure which does allow for the

smaller banks to keep money in the communities and to move money back.

The Community Reinvestment Act (CRA), an ongoing battle trying to get banks to put more money back into their communities, has been a long fight. Yet, it is much easier fighting against a locally owned and controlled bank where there exists some local organization to work with, or where it's possible to go one-on-one with a particular bank. In Los Angeles, right now, there is a group trying to conduct CRA negotiations with a Japanese owned and controlled bank in Los Angeles, headquartered in Japan. The CRA law requires that the group meet with the actual owners; the Japanese owners say to meet with their managers in California; and thus things drag on. This is an example of the lack of control that will occur if we allow this proposed policy to prevail. This is not to say that Japan or other countries are any worse or better than our large banks that are U.S. owned. I admit that I sometimes wonder if maybe Germany would do a better job running some of our banks compared to what our own money centers are doing: they are far more traditional in their lending patterns; they didn't get into less developed country debt in the same way we did; they didn't jump into junk bonds, or leveraged buy-outs to the same degree. Those are all lending practices that led to the near collapse of our money centers.

What we at C.F.A. are trying to stress to the Congress and to consumers is that there must be a better way. We acknowledge serious problems in the savings and loan and banking industries; problems beyond mismanagement and supervision. The banks that are in crisis all lent into a too-concentrated area; they lent into real estate and leveraged buy outs. Their portfolios were simply too concentrated. Congress claims that we need interstate branching to be able to loan in different states and spread risk. We respond that an institution can lend in thirty states and still become insolvent if they're only in one industry, such as real estate.

The solution is not geographic diversity. We have allowed over the last fifteen to twenty years the various departments--energy, agriculture, commerce--to push for policies that have consolidated all of our industries. We've seen our agriculture industry slowly become consolidated, and we've lost many family farms. We've lost jobs, and small business throughout the Midwest and many of the agriculture states. Just in the last ten years seven to eight million sole proprietorships have been forced into lower paid, service sector jobs, and we then lost many rural banks. Today's bank health problems exist because we have systematically had policies which have stimulated concentration and moved people away from fairly well-paid sole proprietorships where they earned a decent income, and were able to buy a home or rent a farm. It is dramatic

when you look at the statistics. These people are earning far less, and are not particularly happy about what they're doing. This has shrunk the bank's capacity for profitable lending and so has led to bank ill-health. Diversification with industries would help. Take a look at energy; there's a nine-to-one job ratio in renewables versus oil. Such increased employment would do wonders for bank health since it would start many sole proprietorships around the country, and those people would need loans from their banks. This credit demand would stimulate better lending.

On the other hand, if all of the money is placed in big industries where people are forced into lower paid jobs, problems in our bank situation result. Large banks, just by their deposit concentration, choose to lend to big industries and then they fail when that industry fails. In Boston, banks lent in a concentrated way to electronics; when the electronic industry went down, they went down.

The economic battle going on today is whether or not we want a fairly diverse economic system. We can go either way. Departmental policies are stimulating current conditions of concentration. They can change their ways. They can help to stimulate diversification in our energy system; they can help to stimulate renewable energy, and to encourage energy conservation. We are suggesting to the regulators that all these policies we have been concerned about; i.e. energy conservation, diversified agriculture; all relate to bank health. It also relates to the fundamental economics of what we want in our neighborhoods and in our individual lives. The bank policy that's being talked about and whatever decisions are being made there will have severe impacts. Currently, about 20% of the households in this country are out of the banking system; if bank fees go up there will be more consumers who can no longer afford a checking or savings account. There are very serious connections between who receives credit, cost of banking, who is saving, and what that has to do with the deficit situation. Savings contribute to lending capacity. Credit contributes to economic stimulation; jobs, and greater payment of taxes; which help pay for the deficit. But if we see the bank fees continuing to rise, more people will drop out of the banking system. Then credit will become more restricted. We'll see more small businesses close. We'll keep hearing about people having to move their jobs or must find work elsewhere.

As the whole fundamental structure in this country is being debated, we who are representing the consumer interest must become involved. Those who are lobbying the Congress are certainly analyzing issues and are certainly involved. The lobbyists I confront everyday going up to the Congressional offices and senatorial offices have high stakes in this debate. Consumers all have a high stake

in it too. We must get more involved in the process, we have to analyze what is best and what policies will help. If we don't care enough to call a Congressman or a Senator and we don't get other people to call and we don't stay involved in the process, it will move away from us and we will have a situation in which we have no control. More and more of the control will come from an international level. You, your colleagues, and your students need to pay close attention as you see reports in the media and other publications, realizing that this will strongly impact all of our lives, and will be the focus for major fights in the next two or three years. Please, get involved.

**Consumer Policy in Newly Emerging Market Economies:
The Eastern/Middle European Countries**

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In this paper a framework for consumer policy in less developed countries is presented. Consumer markets and consumer characteristics in Eastern/Middle European countries are then compared to those of less developed countries. The result is a set of recommendations for consumer policy development in Eastern/Middle European countries.

Introduction

As Eastern/Middle European countries try to establish market economies after having centrally planned economies for more than forty years, it is important to consider consumer policy directions these countries should take. If consumers do not respond to markets or if markets do not respond to consumers, the seed is planted for consumer dissatisfaction which can result in social unrest. In a newspaper article on cigarettes in the Soviet Union it was noted that "So acute is the situation in the city of Perm, in the Urals, that purveyors recently began marketing packets of tobacco dust that had been used earlier against garden pests. That triggered a demonstration...by a tobacco-starved crowd of people who lay across streetcar tracks, disrupting traffic, before moving on to register their protest at City Hall." (Soviets fired up over lack of cigarettes 1990:1A)

A Consumer Policy Framework

Policies to enhance the ability of consumer to make good decisions have been classified as protection, education and information (Thorelli and Thorelli 1977). Consumer protection consists of "measures to safeguard consumer rights in cases which consumers themselves cannot be expected to enforce these rights....[while] consumer education provides the knowledge foundation necessary to develop citizens into intelligent

consumers, or at least to make their self-development into emancipated consumers possible. Consumer information in a general sense comprises all data about individual products, brands, and models in the marketplace." (Thorelli 1981:202)

Thorelli and Thorelli (1977:49-50) noted that to achieve freedom of choice consumers must be mature. That is, they should have an understanding of decision making and budgeting, and a sense of judgment when making purchase decisions; they also need an appreciation of the nature of a market economy. Once the requisite level of maturity is achieved, consumers need information to identify those product characteristics consistent with wants and needs. If consumers are to be informed, Thorelli and Thorelli argued, general product information is needed to allow choice among particular models of a product; however, this is predicated on the integrity of product information. It is education policy that addresses maturity; information policy that addressed consumer information needs and protection policy focuses on ways to address the deficiencies or gaps left by the two other policy types.

In less developed countries Thorelli (1981) argued that the order in which consumer policies should be addressed is protection, education, and information. This ordering is predicated on the implicit assertion that in less developed countries markets are underdeveloped and consumers immature.

Characteristics of consumer markets in less developed countries, according to Thorelli (1981), include: lack of quality control, lack of adequate transportation and storage facilities for fresh foods, and predatory seller practices. In addition official product standards are virtually nonexistent and weights and measures are often inaccurate. This market structure is set in an environment in which there is poor, inadequate information that is poorly communicated. Thorelli and Sentell (1982:5) commented that in less developed countries the "consumer may be an actor in the marketplace, but he is certainly not a partner."

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Thorelli (1981:206-208) suggested that in less developed countries consumer protection should focus on: product integrity--assurance that when a purchase is made that it is what a normal consumer would expect it to be; product quality--consistency across production runs, minimum standards and standardization; and deceptive practices. Consumer education should focus on creating an awareness of the principles of budgeting and decision making, and on how markets operate. Consumer information, while the last of the three policy types, is crucial to the development of open markets and it is important for governments to initiate consumer information programs that are providers of useful, unbiased information.

The framework for consumer policy developed by Thorelli and his colleagues suggests the following when considering consumer policies for Eastern/Middle European countries. Do the emerging Eastern/Middle European market economies have characteristics similar to those of less developed countries and are consumers in Eastern/Middle European countries immature? Should the answers be yes, then what type of consumer policies are most appropriate for these countries? These issues are addressed in the remainder of this paper.

Eastern/Middle European Consumers and Markets

Western Europe lay in ruins in 1945, but attitudes and skills had survived. The invisible destruction in Eastern Europe is worse than the visible devastation wrought by war. Managerial talents have been blighted by a half-century under an economic system that practiced pick-a-number pricing, taught enterprises to hoard inventory and rewarded them for producing a million left shoes. Eastern Europe suffers from another distortion: the incestuous trade patterns that are legacy of the Stalinist years. Trade under Comecon, the Council for Mutual Economic Assistance, was based on a curious reverse mercantilism: the imperial country (the Soviet Union) supplied energy and raw materials that the colonies (the satellites) paid for in manufactured goods. Since the Soviet Union was chronically short of almost everything, it was an undemanding market, providing no incentive for

East Europeans to develop products for sophisticated customers. (Ball 1989)

This illustrates the base from which Eastern/Middle European countries are developing a market economy. The underlying economic and social environment has given rise to frumpy 100% acrylic sweaters being produced in a Hungarian state-run factory that are marketable only to the Soviet Union (Revzin 1990); the production of shoddy products (Hillkirk 1990); bumper apple crops not being converted into apple juice because leaders refused to allow money to be spent on processing plants and transportation facilities (Reaves 1990); and a central command system that has socialized citizens to sit back and wait for instructions resulting in little individual initiative or judgment (Jackson 1990).

In an attempt to address shortages and meet consumer demands, the Soviet Union has been trying to convert plants from military to civilian production. The Zaparozhye engine plant where engines for military applications have been produced was ordered to produce, as quickly as possible, any consumer item that would be demanded by the average Soviet consumer and would be of world class quality to facilitate exporting the product--the result was a hand-powered cement mixer. Leningrad's Baltic Works shipyard is trying to produce machines to make Siberian dumplings. The Votkinsk machine tool plant which has produced missiles is attempting to produce milk pasteurizing equipment. (Schodolski 1990) Even factories that have historically made consumer products are not immune from behavior contrary to desired outcomes. In July 1989 Siberian coal miners struck with one of their primary demands being soap. A cause of the soap and detergent shortage was factory managers who attempted to meet targets measured in rubles by shifting production to expensive types of soap (Hornik 1989).

Responding to ill-conceived production targets (rather than target markets) is not the only factor limiting the ability of Eastern/Middle European countries to move toward market economies. A critical problem facing these economies is inadequate infrastructure, obsolete production equipment, and insufficient parts. The 1990 grain harvest in the Soviet Union was undermined by too many combines being idle due to a lack of batteries, spare parts and fuel (Soviets say, "No cigarettes, no

harvest" 1990). Twenty percent of the 1989 grain harvest was lost due to poor transportation and storage facilities (Hornik 1989). In October 1989, 25,000 tons of food stuffs and several thousand tons of washing agents were stuck in Soviet ports due to railroad problems (Hornik 1989). The Ukrainian city of Lvov has water twice a day for a total of six hours (Hornik 1989). Much of the autobahn concrete in East Germany was laid in the Hitler era and has hardly been improved since (Jackson 1990). East German factories use equipment dating to the turn of the century (Hillkirk 1990). McDonalds spent 12 years preparing for the opening of their first restaurant in Moscow. They set up a special distribution center outside of Moscow; they planted potatoes, lettuce and cucumbers to insure availability; and they set up a dairy plant to pasteurize milk (Franklin 1990). In general Eastern/Middle European technology is out of date and is based on the philosophy of continuing to use something as long as it works. For example, the launchers for manned space flights are of the same basic design used in 1957 to send up Sputnik I and the onboard computers in the Soyuz space capsule have the capacity of NASA computers from the 1960s (Old technology on space station plagues Soviets 1990).

Even those Eastern/Middle European countries that have made significant movement toward a market economy, face daunting problems. In Poland it is no longer necessary to sneak out from work to purchase necessities. The Poles know that coats, hair dryers and other items that were once difficult to find are now readily available in stores. The catch is, however, that the items are too expensive to purchase (Newman 1990). East Germans are overwhelmed by the choices available to them. After leaving a department store in Erfurt an old woman was heard saying, "Too much, too much." (Jackson 1990). Eastern/Middle European consumers are not accustomed to advertising as are consumers in the West (Moore 1990); however, they still recognize a wide range of Western brand names even though many of the products are not actively marketed or even sold in their countries (Eastern Europeans know brands 1990).

While the types of problems noted above are largely the result of trying to make large, state-owned firms more responsive to consumers, the implications are much the same for the private sector that existed in various degrees in many Eastern/Middle

European countries. Kornai (1990:138) noted that the "private firm was typically not interested in building up a solid goodwill with its customers for its products or services....To the extent that consumers were used to queues and shortages in the state-owned sector, it was generally easy for the private firm to keep its customers..."

What we have described is an economic system that does not value customer service, that produces poor quality products, that has inadequate transportation and storage, and that does not respond to consumer needs. In this system are found consumers unaccustomed to making decisions, unaccustomed to having choices, unaccustomed to prices that are not set by the state.

Eastern/Middle Europe and Less Developed Country Markets

The picture painted above is similar to the one Thorelli (1981) developed for less developed countries. Product quality is poor; infrastructure is inadequate, broken or non-existent; customer service is of little concern. This suggests the market structures of Eastern/Middle Europe and less developed countries are similar.

It is important to note, however, that while market structure in Eastern/Middle European countries possesses many of the features of less developed countries, there are several important differences related to consumer maturity. First, the average level of education is higher in Eastern/Middle European countries than in less developed countries. The typical Eastern/Middle European adult is literate while this is frequently not the case for less developed countries. Second, many Eastern/Middle European countries had viable market economies until World War II resulting in older consumers who have had significant, although dated, market place experience. However, as noted in the quote at the outset of the previous section, fifty years of central control may have destroyed the ability of even these older Eastern/Middle European consumers to act in a way needed to make a market economy operate effectively. Third, Eastern/Middle European consumers have been exposed to modern technology and mass media on a broad scale--something not true in many less developed countries.

Additional important differences between Eastern/Middle European countries and less developed countries

relates to the general economic environment of the countries. While there is no data to support this assertion, it is likely that the distribution of wealth is less skewed in Eastern/Middle European countries than in less developed countries. Circumstantial support for this argument is the large savings many Eastern/Middle European consumers have amassed because there was nothing for them to purchase (Hornik 1989:63; Jackson 1990:31). Related to this, large land holdings in Eastern/Middle European countries are held by the government while large land holdings in less developed countries are generally held by private citizens.

The conclusion, then, is that Eastern/Middle European markets are underdeveloped and consumers in these countries are unfamiliar with the operation of a market. However, this is set in the context of a relatively educated group of consumers who have been exposed to and are often familiar with technically sophisticated items. The consumer policy agenda which emerges from this environment should address:

1. Product integrity and quality.
2. Development of an unbiased consumer information system.
3. Consumer education in market operation.

Eastern/Middle European Consumer Policy

Product integrity reflects the situation when products are of such low quality they do not even begin to meet their intended purpose. The product integrity problem is illustrated by the cigarette dust issue noted above. When purchasing cigarettes, consumers expect to get tobacco cut into short, string like pieces. Rather consumers received a collection of tobacco dust wrapped in paper--something substantially different from what a reasonable consumer would expect when purchasing a cigarette. Product integrity issues are addressed through the establishment of product standards that mandate minimal requirements for a product to be given a particular name.

The issue of product quality relates to whether or not products meet reasonable levels of durability, reliability, functionality, etc. This becomes a concern once product integrity is addressed. While the Trabant might meet product integrity requirements, even the casual observer

would agree that it would not rank high on the quality dimension.

While product quality is addressed to some degree by standards developed to insure product integrity, the most viable way to insure quality will be the development of consumer product testing system and subsequent dissemination of the test information. If such product and service testing organizations are part of engineering schools or technical institutes then an added advantage is that students will be taught by faculty who, being involved in the testing research, will understand and be able to teach the importance of good design from both the engineering and consumer perspective.

Newspapers should be the media of choice to disseminate test information since they have been part of the social fabric of Eastern/Middle European countries. This should reduce consumer resistance to newspapers as a consumer information source. In addition product test information is a public good and publishing comparative information is a public service. As newspapers are privatized, it may become necessary for governmental authorities who oversee markets such as housing, personal loans, and durable goods to mandate the publication of such information. The principle is the same as requiring information to be disclosed on labels or in advertising.

The need to develop an unbiased system to produce consumer information will also be addressed, to a large extent, by the comparative testing mechanism outlined above. However, it may still be necessary, at least in the early stages of the development of a market economy, to develop standards of information quality. The uninitiated choice maker is especially susceptible to puffery or outright lies. This type of disinformation must be controlled.

The need to educate Eastern/Middle European consumers as to how market economics operate is paramount. In the past many Eastern/Middle European consumers only choice was buy or not-buy; there was no choice between models. Efforts are underway to help consumers in some of these countries understand how a market economy functions, but it is important that these efforts be enhanced. Perhaps the informal education model underlying the Cooperative Extension Service is a vehicle that should be considered.

Finally, this paper focuses on consumers per se and on the information needed by consumers to effectively operate in a market economy. An important corollary to this perspective is to consider how sellers respond to consumer information. This is the topic of a paper under development.

In closing we see a need for Eastern/Middle European countries to develop basic product standards to insure the integrity of the products sold in the market. Once a minimum level of product quality is established through standards, it is important to develop a consumer product testing system that provides comparative test information through the mass media--preferably newspapers. All of these activities need to be undergirded by an educational effort designed to help consumers understand and function effectively in a market economy.

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The Education of Central Planners

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Economic and consumer education programs for leaders and decision-makers in centrally planned economies which are in transition to market-oriented economies are discussed. The paper is based on personal observations and experiences in Poland, Hungary, and Czechoslovakia. The need for and focus of such educational programs are discussed. Suggestions are made concerning the content and strategies for delivery of such programs. Resource needs and potential impacts and benefits are briefly discussed.

Introduction

Focus in this paper is not on training central planners *per se* but on economic and consumer education programs for those who will be providing leadership and making decisions in countries where the transition from centrally planned to market-oriented economies is occurring. This is true of all Eastern European countries, however, different countries are at various stages of this transition. Poland, Hungary, and Czechoslovakia are the furthest along in the transition and are the most advanced economies in Eastern Europe. The combined population of these three countries is about one-fourth of the U.S. population and their combined area exceeds the combined area of Ohio, Indiana, Illinois, Kentucky, and West Virginia. These three countries along with the former East Germany are critical to the viability and strength of Eastern Europe. If these countries are not successful in making the transition from centrally planned economies to market-oriented economies, the prospects for countries such as Yugoslavia, Romania, Bulgaria, and Albania is not very encouraging. These latter four countries have severe internal political and economic problems which have to be resolved before serious progress can be made in the transition toward market-oriented economies.

The discussion which follows is based mainly on observations and experiences in Poland, Hungary, and

Czechoslovakia. In the next section, attention is devoted to the need for economic and consumer educational programs. This is followed by some suggestions for the focus of such educational programs. After that, suggestions are made regarding the content and strategies for delivering such educational programs. This is followed by a brief discussion of needed resources to conduct such educational programs. The paper concludes with a brief discussion of some potential impacts and benefits of economic and consumer educational programs in these transitional economies.

Situation and Need for Educational Programs

For more than 40 years, Eastern European countries have been under communistic rule and have had planned economies. In that environment there was little need for individual decision-making, leadership, and entrepreneurship. Hence, only a few individuals that had such skills are still alive and they are elderly. Most people that have lived in this type of an environment for all of their lives or more than 40 years of their lives are very cautious and risk-adverse. They have not had to bear any risks and they are reluctant to assume any risks in a market-oriented economy which they do not understand and can't even visualize how it functions. Many are skeptical about markets and do not have confidence in them. Yet as the planned economies are making the transition to market-oriented economies, individuals will have to assume risks and exercise leadership and entrepreneurship. This situation offers challenging opportunities for economic and consumer educational programs.

The four to five decades of planned economies in Poland, Hungary, and Czechoslovakia left these countries void of the infrastructure necessary for a market economy to function effectively. This is one of the reasons people in these countries have difficulties understand and visualizing how market economies function. Most of the institutions necessary for a market economy to function, and which most of us take for granted, do not exist in these countries. These economies were left without financial institutions,

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information systems, communication systems, wholesaling, retailing, distribution systems, commodity markets, and futures and options markets. It is surprising how much commerce is carried on in a struggling manner despite the lack of these important institutions and infrastructure. In addition, because of the low priorities placed on quality of natural resources and the environment, the planned economies left these countries with some severe pollution and environmental problems. Rector Palous of Charles University in Prague summarized the environmental situation using an analogy to an aquarium. Palous indicated when the communist took over they took over an aquarium and what they left behind when they were finally removed from office was a bowl of fish chowder. Palous further commented that a challenge facing the Czechs, and the same would be true for other economies in transition, is whether the bowl of fish chowder can be converted into something which once again resembles an aquarium. This analogy applies not only to the natural environment but also the economic environment.

People in these countries desire technical assistance from the West in the form of educational programs which will enable them to better understand the economics of a market economy and the behavior of consumers in a market economy. There are opportunities for educational programs which deal with all aspects of a market economy from suppliers of basic inputs through production, marketing, distribution, and to the final consumers. But to be effective, the educational programs must take into account the status of the institutions and infrastructure needed for a market-oriented economy to function. People within these countries will have difficulty relating to educational programs designed on the basis of institution and the infrastructure that exists in the U.S. and such educational programs will be of limited usefulness.

Focus of Technical Assistance Education Programs

To be effective and to obtain the greatest impacts from resources available for economic and consumer educational programs, it is critical that appropriate audiences be identified and targeted. Depending on the specific details of the economic or consumer educational program, managers and decision makers at various levels from production to retail sales and for some consumer education programs, household heads or individuals in

households who make decisions about food and clothing purchases and meal preparation might be the audience which could benefit directly from the educational program. And even though this might be the audience that could derive substantial benefits from the educational program, it is doubtful that would be the audience to target for technical assistance educational programs. The resources available for these kinds of educational programs are limited and targeting the users of the educational programs would result in a demand for the programs that would simply overwhelm the resources available to effectively deliver such programs. If the greatest impacts and benefits are to be derived from the economic and consumer educational programs audiences need to be selected to maximize leverage of the limited resources.

One way of leveraging limited resources for technical assistance educational programs is to direct the educational programs at the educators indigenous to the country, i.e., educate the educators or teach the teachers via collaborative educational programs and let them transfer the information to the user clientele. This approach involves a trade off between time and broader dissemination. It may take more time to reach the user clientele because of the time required to teach the teachers but once the teachers have acquired the knowledge then it can be transferred to a broader clientele rapidly.

A critical clientele in all of the economies in transition are the policy makers. They are continuously making decisions and formulating policies, with or without economic and consumer information, which affect the activities of businesses and consumers. Consequently, these decision and policies may affect the types of economic and consumer educational programs which may be plausible. Reaching policy makers should be of high priority in any technical assistance educational programs. Because of the need for expediency, some economic and consumer educational programs could be targeted directly to the policy makers, however, most such educational programs would be more effective if done in collaboration with indigenous scholars and teachers. Information and technology from the West is desired and sought after by Eastern European countries and its desirability is even further enhanced if transferred by indigenous personal. But most critical is that the policy makers be high on the priority list for participating in economic and consumer

educational programs since their decisions and policies immediately impact the activities of businesses and consumers.

Program Contents and Delivery Strategies

The content of educational programs will vary with objectives and the particular issues being addressed. In Poland, Hungary and Czechoslovakia, the more important and useful types of educational programs would be ones concerned with the role, contributions, and operations or functioning of institutions and components of a market economy. In these countries, the economies are in rapid transition to some type of market-oriented economies and a better understanding of why these components are needed, how they function, and what they contribute to the overall functioning of a market economy is needed and necessary. The following are some topics which are worthy candidates for educational programs.

1. The role, contributions and operations of financial institutions in market economies.
2. The role, contributions, and operations of various types of information systems, including communications, in market economies.
3. The role, contributions, and operations of wholesale firms in market economies.
4. The role, contribution, and operations of retail firms in market economies.
5. The role, contributions and operations of distribution systems, including transforation, in market economies.
6. The role, contributions, and operations of commodity markets in market economies.
7. The role, contributions and operations of futures, options, and stock markets in market economies.
8. The roles and contributions of various levels of management in firms in market economies.
9. The role and contributions of grades and standards in market economies.

10. The role and contributions of nutritional and food safety information in market economies.
11. The role and effects of resource use and environmental quality regulations in market economies.
12. The role of incentives, disincentives, and motivation in market economics.

This is not an exhaustive list of potential topics but a list of topics of concern to people in the economies in transition and the topics are basic to the functioning of a market economy.

There are many strategies for carrying out economic and consumer educational programs and there is no single strategy that is clearly best. Exchange of scholars, training of graduate students, and collaborative research and educational programs are plausible options which have been successful. These strategies generally involve a small number of foreign scholars and require considerable time before they have substantial impacts in the foreign countries. Given the rapid rate at which the transition from planned to market-oriented economies is occurring in Eastern Europe, additional delivery strategies which require less time and involve greater numbers of people need to also be considered. In-country workshops and short-courses merit serious consideration. These workshops and short-courses could be taught in two phases. The first phase would be taught in-country and would reach a larger group of educators, teachers, and managers. Normally, these workshops would be three days to a week in length but some might be several weeks in length depending on the interests and the availability of the participants.

In a second phase, short courses would be taught at universities or other institutions in the U.S. The second phase would involve a smaller number of participants who could be chosen from participants in the first phase or they might be new participants who already have the level of training and background equivalent to, or greater than, participants in the first phase. The length of time for the second phase would range from a couple of months to a year. Depending on the length of time of the second phase, the short-courses could be complemented with regular academic courses, special executive training types of courses, internships in businesses and agribusinesses, and visitations to

boards of trade, stock exchanges, private firms, and government agencies. The workshops and short-courses could provide training and first-hand observation and experience in a timely manner. And the workshops and short-courses could complement the strategies of exchange of scholars, training of graduate students, and collaborative research and educational programs.

Required Resources and Third Party Funding

Unfortunately none of the countries in Eastern Europe can afford to purchase the technical assistance educational programs which have been discussed. Poland, Hungary, and Czechoslovakia all have large debts with Poland having the largest and Czechoslovakia the smallest. Gross national products in these three countries are declining and they are experiencing double digit inflation. All three countries lack hard currency and hence are not able to purchase needed technical assistance or pay for educational programs.

Unless third party funding becomes available for technical assistance and education programs in Eastern European countries, economic and consumer educational programs will be nothing more than rhetoric. U.S. universities and businesses are capable of and must provide the professional expertise. This professional expertise will need to be financially supported by funds from the federal government, private firms, and national and international institutions that fund technical assistance and educational activities. A mini-Marshall plan could do wonders for Eastern Europe.

Potential Impacts and Benefits

Economic and consumer educational programs would facilitate the transition from planned to market-oriented economies in Eastern European countries, particularly in Poland, Hungary and Czechoslovakia. These three countries are the "backbone" of Eastern Europe. They are critical to the stability and strength of Eastern Europe. If these three countries fail to make the transition to market-oriented economies, there is little hope that the other Eastern European countries will be able to make the transition.

Poland, Hungary, and Czechoslovakia offer some potential trade opportunities in products such as protein feed, poultry and beef products, fruits and vegetables, and possibly feed grains. However, they

will not be able to import any of these products until they solve their internal financial problems and acquire hard currency.

These three countries offer opportunities for investment of U.S. and other countries' capital into their industries. These countries were known for the production of high quality products such as heavy equipment, precision instruments, musical instruments, crystal, and china. The countries that provide technical assistance will have a competitive advantage on investment in industries in these countries.

Europe 1992, The Cost to Consumer Sovereignty

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For producers, the benefits from a unified European Community (EC) could be substantial. Consumers may also gain if the removal of trade barriers increases competition thereby improving product quality and reducing price. However, the creation of homogeneous markets may reduce cultural diversity among EC nations, which could ultimately reduce consumer choice and sovereignty.

Removing the Trade Barriers: Homogeneous Markets

"The goal of 1992 is to move people, products and services among European Community (EC) nations with the same ease as they cross U.S. state borders. Removing barriers to trade could save European marketers \$200 billion over the years, experts say." (Parry, 1988)

"Legislators at EC's Brussels headquarters say 1992 will create a single European market of more than 300 million consumers, rivaling the U.S. and Japan in world trade power." (Parry, 1988)

As the aforementioned quotes indicate, from the supply side of the market, the benefits of having a unified European Community could be substantial. Producers, suppliers and marketers are using such terms as Pan-European brands, global brands, Euro-markets, Euro-consumers, homogeneous consumer markets and homogeneous purchase behavior to characterize what they hope will be the European market of the future: a larger group of consumers with similar tastes and preferences purchasing similar goods and services that can be marketed across EC countries. Economies of scale alone could account for most of the gain from expanded market size. In addition, the removal of trade barriers will generate increased competition,

which economic theory predicts will increase the quality of products. There will be a wider choice of brands at lower prices and a wider distribution of products. (Roberts, 1989) The increased market size and production opportunities will also tend to standardize goods and services and generate a more homogeneous but complex environment. (Vandermerwe, 1989)

In order to insure that the unification of the EC will be successful in creating a homogeneous consumer market, producers and marketers have been focusing on the existing similarities across the EC nations. Although some "new" Pan-European goods or brands will appear on the scene, many will be adaptations of existing products or brands under new names. Although producers are well aware of language, historical, social, economic and cultural differences among the EC nations, they are purposely minimizing these differences and emphasizing consumer similarities. The attitude that prevails is that eventually consumers are likely to become similar in their tastes and preferences for products once similar products are available, so why not speed up the process. Further, "the blending of tastes, life-styles and purchasing behavior will eventually accelerate especially if we consider trends in electronic media and information technology." (Vandermerwe and L'Huillier, 1989)

Diffusion theory is often used to explain why certain cultures or groups of consumers may be more inclined to accept new products than others. As noted by Gatignon and Robertson, the focus of much of the empirical research on consumer diffusion theory has tried to identify profiles of consumer innovators for various products; those characteristics of consumers that would increase the likelihood that a new product would be adopted. (Gatignon and Robertson, 1985) Innovators are usually highly educated, have relatively

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high incomes, are risk takers, and are younger and more socially active and mobile. (Robertson, Zielinski, and Ward, 1984)

Support for the notion that consumers with the aforementioned characteristics are similar, even across nations, can also be found in recent literature on Europe 1992. For example, researchers have monitored the consumer behavior of various subcultures within EC nations and conclude that within these subcultures, tastes and preferences are more similar than not. For example, the youth subculture across the EC exhibits almost identical purchase behavior for selected goods and services. Tastes in music, sports, and cultural activities for teenagers are so alike that a common EC market seems inevitable. (Martin, 1988) Electronic games and other high tech products, as well as the soft drink market, are also rapidly being integrated into youth markets across the EC. (Martin, 1988) Termed the "new wave young" this market has already exhibited preferences for similar lifestyles. They are very fashion and style conscious and are being looked upon as the Pan-European consumers of the future. (Anonymous, 1989).

Another subgroup of innovators whose consumer behavior lends support to the notion of a common EC market are the wealthy. Regardless of nationality, upper class consumers purchase the same status and luxury items such as Rolex watches, Cartier jewelry, perfume, and expensive cars. As one researcher concludes, snob appeal goes across borders. (Anonymous, 1989) Upscale images are not unique to any one nationality. (Martin, 1988). The Veblen effect and conspicuous consumption will have their role in the unification process to the benefit of the producers of these goods.

Producers are also viewing the existence of Sky Channel, a television network broadcasting across the EC, as the vehicle that will facilitate advertising to all EC nations. Global advertising, taking into consideration language differences, can create uniform tastes and preferences through common exposure. (Beyma, 1989) Some marketers have suggested separating the EC into only two sectors: an east and a west market using the Rhine River as the

natural divider. This division would account for the majority of language and cultural variations and still offer mass marketing appeal for Sky Channel and other media. (Martin, 1988) If characteristics of innovators are taken into consideration, producers might also consider a division between poorer and wealthier consumers as measured by their incomes and/or access to goods and services.

The economic theory of the firm also offers support for the creation of a homogeneous EC market. Unification can create economies of scale which will increase efficiency in the production and distribution of products. Firms can benefit from decreased average costs of production given increased quantity sales and hence, product quality can improve. This will lead to increased competition among producers and lower prices, which benefits consumers. (Geroski, 1989) This theoretical argument, together with some evidence from a few selected product markets by subcultures that homogeneous marketing will succeed, has given producers the incentive they need to take advantage of relaxed trade barriers and expand across EC nations. However, support can also be found in the literature regarding cultural variation among EC consumers which would not support the promotion of Pan-European brands or marketing.

Maintaining Cultural Diversity

Many producers are realizing the importance of individual consumer preferences, many of which are culturally based. Consumer behavior literature has focused both theoretically and empirically on the impact that culture has on consumer purchase behavior. Whether culture is broadly defined by nationality or more narrowly defined by selected socio-economic and demographic characteristics, the impact of culture on consumption is well documented.

As these cultural variations pertain to the EC, producers may find the expansion into common markets difficult. For example, food manufacturers are aware that in France, Italy and Spain,

consumers favor oil based cooking whereas in Germany and the UK, margarine and butter are preferred. (Martin, 1988) Kelloggs has had to alter its corn flake commercial for each of the EC countries given various sets of regulations in recent years. With the coming of 1992, even if these regulatory differences are removed, they will still most likely continue to vary their ads in consideration of cultural differences. (Cote, 1988b). The French prefer top loading washing machines; the British, front loading. The West Germans prefer high speed spinners whereas the Italians favor slower machines. (Anonymous, 1989) Even the exact same product may be received differently given packaging, labeling and brand name recognition of common household items. Sara Lee's product Radox, a shower gel that was the top selling bath soap in the UK, was confused outside of the English market as being Raid, the bug killer. Alternatively, the product Sanex, A Spanish soap, did not do well in England because the name sounded like a feminine hygiene product. (Weiner, 1989) Although the existence of some common markets for certain products in certain subcultures is evident, those who focus on cultural differences among consumers do not agree that the homogeneity of a youth market will necessarily create a homogeneous adult market. The "new wave youth" of today may not become the Pan-European consumers of future generations. Beatlemania was a global phenomenon for teens, as were the mini-skirt and jeans. However, as adults, tastes and preferences become more diverse and culturally based. (Anonymous, 1989)

Supporters of diversity also find flaws in the presumption that economies of scale will be realized with the benefits thereof being passed on to both producers and consumers. Empirical evidence that supports the economies of scale argument has yet to be forthcoming. Even theoretically, the impact is questionable. As firms reduce their costs of production, consumers should be faced with lower retail prices. (Geroski, 1989) The reduction in price should increase the quantity demanded for consumers who are already purchasing the product and increase the demand for the product from zero to some positive number for new consumers. In the case of

new consumers, Geroski states that the increase in demand will only be marginal since price alone does not determine demand for a product. To insure the adoption of a new product a perceived need must be met. (Geroski, 1989) Hence, an analysis of the exogenous variables affecting product adoption might be more fruitful. Further, there is evidence based on diffusion theory that innovators and adopters of new products are more likely to have had some experience with similar goods and services within a product category, which may partially explain why some consumers are able to evaluate information relatively quickly and easily. (Gatignon and Robertson, 1985) Pan-European brands within product categories may therefore be viewed as experience goods for consumers even though the particular product being sold is marketed as a new product. Hence, price reduction alone may not increase demand from zero to some positive number.

In the case of current consumers, the products are experience goods by definition, so little new information is necessary. For satisfied consumers, it may be the case that the price elasticity of demand is greater than $[-1]$ so that a price reduction will lead to a measureable increase in quantity demanded. Further, the removal of trade barriers and tariffs, which also reduce the costs of production in addition to economies of scale benefits, will generate an increase in quantity demanded given the substitution effect of a price decrease. However, it is also possible that the removal of trade barriers will make some products available to consumers that were not available prior to 1992. Consumers will be better able to afford these additional products because of the income effect of the price reduction of goods they currently consume. Hence, the quantity demanded of goods currently consumed will decrease. If it is more likely that price reductions lead to an income effect rather than a substitution effect, consumers will purchase more of newly available goods and services rather than increase their demand for existing goods, reducing the impact of economies of scale.

Aware of the conflicting theories and evidence in the literature, producers and marketers are looking for a middle ground. Some support the idea of planning globally but

marketing locally. (Anonymous, 1989). Others favor focussing on smaller market niches: unique clusters of consumers across the EC who have some commonality other than their nationality such as selected socio-economic and/or demographic characteristics. For example, clusters based on a combination of income, age, language and geographic location have been proposed. (Vandermerwe, 1989) Others support marketing products to predetermined subcultures of consumers across the EC: mass appeal for specialized interests. (Roberts, 1989) Alternatively, markets could be made more accessible rather than identical (Quelch and Buzzell, 1989), and slight variations primarily regarding packaging or labeling could remain diversified while keeping production technologies identical. (Cote, 1988a)

The Threat to Consumer Sovereignty

If consumers can benefit to some extent from economies of scale and expect to receive a higher quality, more standardized product at a lower price, it appears on the surface that a Pan-European approach can promote consumer welfare and should be applauded. However, consumer educators and consumer advocates should move cautiously. The expansion of markets across the EC poses a possible threat to the existence of consumer sovereignty.

By giving consumers adequate information, assuming rationale behavior, and relying on dollar votes to communicate wants, consumer rights can be supported and protected. One of the basic consumer rights that promotes sovereignty is freedom of choice. Consumer choice involves rationally making selections among a set of alternatives given resources, whereas consumer sovereignty would give consumers the ability and access to determine what the original alternatives are. (Rothenberg, 1962) One may question whether today's global market economy promotes choice or sovereignty. Some might argue that individual consumers face choices, however, in the aggregate, groups of consumers are sovereign. This is one of the assumptions made when

equating the notion of consumer sovereignty with a free market economy. (Rothenberg, 1968) Since what any one individual consumer really wants is difficult to measure before purchases are made, post purchase behavior is usually analyzed to measure consumer demand. Hence, market demand rather than individual demand becomes the focus of consumer sovereignty issues. Consumers are not truly sovereign, but rather, their consumption behavior is related in some way to the behavior of others. As noted by Galbraith, consumers have no absolute choices. Rather, all of their choices are relative to what others have exposed them to. (Galbraith, 1958) Still others believe that consumers do not even have freedom of choice among alternatives given the restraints of economic resources, cultural influences, socialization and legal restrictions. (Hoyt, 1938)

Whether or not consumers are truly sovereign or they operate within a predetermined set of alternatives, the creation of a unified European Community may threaten the options currently available. Initially it appears that the removal of trade barriers will increase the availability of products in some areas which will expand consumer choice and promote sovereignty. Further, removal of barriers will increase the number of producers of similar products and promote competition, again supporting the idea of a sovereign market. Economies of scale arguments, in theory, are also quite convincing, as price reductions will increase consumer choice sets by expanding budget constraints. However, caution is needed. If Europe moves toward one homogeneous market in the interest of efficiency, there is a risk to that some aspects of consumer sovereignty might be lost.

First, the economic theory of the firm and its implications for economies of scale, as mentioned earlier, may have some flaws if we consider the possible income effect of reduced prices thereby reducing, rather than increasing, the demand for certain goods and services. This reduction in demand will prevent firms from achieving economies of scale, therefore, consumers will not benefit from the

theorized price reduction. Second, even if the expansion of a choice set of goods and services is viewed to promote sovereignty across the EC, there is a threat to choice sets within individual countries of the EC. Standardization may remove culturally based products and even though the number of goods and services offered may increase, the characteristics of these products may be designed on a global rather than national level. If in fact, consumer sovereignty focuses on having consumers determine the alternatives from which to choose, globally determined characteristics will reduce consumer sovereignty because the alternatives are being determined outside of a particular nation. Third, standardization may reduce price but at the expense of choice as resources will be allocated in greater proportion to a more limited set of producers. Even those who rely heavily on the economies of scale arguments to justify expansion recognize that there will be some inequities due to the imposing of uniformity. (Geroski, 1989) Some of these inequities may involve loss of consumer choice if the resources that might have been allocated to produce culturally based goods and services are allocated to produce a larger quantity of standardized goods. Fourth, in contrast, for countries where the current offerings of products are sparse, an expanded EC market may increase choices. However, whether consumers will feel that they can freely choose to adopt these goods into their personal household budgets or they perceive that they will be expected to adopt them in order to exist in a new and changing environment is yet to be determined. The latter situation obviously will reduce freedom of choice and hence sovereignty. Fifth, an expanded EC market may eventually reduce consumer choice sets by reducing disposable income. Disposable income can be defined as income available for expenditures or savings after all fixed expenses are paid. As standards of living increase, fixed expenses tend to increase also. Goods and services that at one time may have been considered luxuries, may become necessities and part of household's fixed budget. A recent survey conducted by The Wall Street Journal polled a national random probability sample of adults regarding their opinions about certain products. Respondants were

asked whether they thought a selected group of products were merely "modern frills" or whether they "made life better." In other words, have the products we once considered to be luxuries become part of our everyday life and a fixed expense. Such products as home computers, coffee makers, and microwave ovens, once luxury items, were viewed as being necessities rather than frills. (Freedman, 1989) Similarly, telephones and automobiles, when first introduced, were considered luxuries. Over time, new technology quickly becomes indoctrinated into a society. The expansion of EC markets and the introduction of new goods and services, if quickly adopted, will eventually reduce disposable income unless incomes are increased proportionally.

Conclusion

The supply side of the market for goods and services may view the unification of the EC as a way of standardizing production technologies, expand market shares, compete with consumer markets in the US and Japan, and benefit from economies of scale. The demand side of the market could potentially benefit from improved quality, standardized products, increased availability of some goods and services, and reduced prices. However, some precautions to protect the interests of consumers within the various countries of the EC are necessary. This paper is not arguing against unification by any means. However, consumer economists should be concerned that most of the recent literature on the impact of EC 1992 is producer oriented, based on marketing research studies rather than consumer oriented, based on consumer behavior and/or attitude studies. Research is needed immediately to determine consumer views so that this new expanded market will give consumers due consideration. It is not just an issue of dollar votes. It may be an issue of cultural diversity, national pride, and preservation of custom versus quality control, pricing, standardization and choice.

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The Involvement-Information Search Relationship Under High and Low Time Pressure

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Time pressures are widely felt in contemporary life and may, it has been suggested, create a distinctive context for decision-making. Separate regressions relating involvement antecedents to the use of seven nutrition information sources were estimated for time-pressed and not-time-pressed food preparers. Structural differences in the equations were examined. The results suggest that the time-pressed implement their food-related concerns differently from those who are not time-pressed.

Time pressures are widely felt in modern life. Studies by Robinson (1990a) indicate that a larger proportion of American adults feel time-pressed than a decade or two ago, despite evidence they have more leisure time (Robinson 1989). As modern consumers adapt to the time pressures of their environment, they appear to be creating what Gross has labeled "the time-scarce lifestyle" (1987). There is increasing recognition that consumer behavioral processes can differ with the environmental situation. Responses are contingent not only on the characteristics of the individual consumer but also on the situation in which the consumer is operating. This interactionist approach suggests that time pressure's conditional effects on information search and other decision-making processes should be part of the consumer research agenda.

Past studies of the effects of time pressure on information use (e.g., Wright 1974; Wright and Weitz 1977; Park, Iyer and Smith 1989 and Iyer 1989) have focused on the effects of temporary pressures on particular decisions and have found significant effects. There has, however, been no consideration of the effects of the persisting pressures of "the time-scarce lifestyle" on ongoing information search processes. This study examined one aspect of the information search process: the

relationship of involvement to food and nutrition information search under high and low time pressure.

Involvement and Information Search

The definition and operationalization of involvement have been the subject of continuing controversy. In their review article on involvement Park and Mittal (1985) suggested that the concept be defined as the arousal capacity of some goal (object, issue or task). They argue the causes for this arousal may be utilitarian or value-expressive. Utilitarian causes or motives give rise to cognitive involvement and may include cost-benefits and functional performance factors. Value-expressive motives give rise to affective involvement and may include interest in enhancing self-esteem, projecting a desired image (Park and Mittal 1985) and personal enjoyment (Bloch 1981; Higie and Feick 1989).

One Dimension versus Several

The argument for multiple causes suggests that while involvement itself may be uni-dimensional, the underlying causes or motives for involvement are multi-dimensional. A small group of studies has linked multi-dimensional antecedents of involvement to behavioral outcomes including information search (Laurent and Kapferer 1985; McQuarrie and Munson 1987; Beatty and Smith 1987; and Higie and Feick 1989).

The variety of dimensions in these analyses seem confusing. There is, however, agreement that the antecedents of involvement are multidimensional. There also is agreement that the antecedents of involvement include both utilitarian causes (product importance, risk) and value-expressive causes (pleasure). Further, there is agreement that these antecedent dimensions play varying roles in influencing behavioral outcomes including information search activity.

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Enduring versus Situational Involvement

Several researchers have made a distinction between situational and enduring involvement (Bloch and Richins 1983). Situational involvement is considered to be the result of concern with a particular decision or purchase and to be of only temporary duration. In contrast, enduring involvement is a result of continuing concern and is expected to have an ongoing effect on behaviors. Much of the discussion of enduring involvement has focused on leisure and hobby activities. As a result, self-image and hedonic factors have received principal consideration. Economic consequences (e.g., on-going operating costs or expenditures), and health/safety risks (e.g., product use hazards) also seem likely concerns and antecedents of involvement. Laurent and Kapferer (1985) and McQuarrie and Munson (1987) both included risk variables in their analyses.

Prepurchase versus Ongoing Search

Many past studies of the relationship of involvement to information search have not clearly distinguished between the types of involvement motivating on-going information search and those motivating prepurchase search. Ongoing search would seem to be the result of enduring involvement while pre-purchase search activities may be due to enduring involvement, situational involvement or a combination of both. Laurent and Kapferer (1985) and McQuarrie and Munson (1987) both utilized questions suggesting enduring involvement.

Time Pressure and Its Effects

The effects of time limitations and time pressure on decision-making have been conceptualized and operationalized in a variety of ways. The operational definitions may be classified along several dimensions. Time limits or pressures may be objective or subjective. Time pressures also may differ in scope and may be task specific or more general. Measures of role overload and the opportunity cost of time would seem to tap more general time pressures. Further, time pressures may differ in duration and may be temporary or chronic.

Time constraints have been found to have a direct effect on many aspects of the information search process: the extent of search (Beatty and Smith 1987), the sources used (Robinson 1990b; Feick, Herrmann and Warland 1986; Herrmann, Warland and Mothersbaugh 1989), the attribute

information used (Wright 1974), and the outcomes of search (Park, Iyer and Smith 1989). Only one study, to our knowledge, has considered the effects of time pressure in a conditional sense. Iyer (1989) examined the effect of store knowledge on grocery purchase behavior under high and low time pressure.

Hypothesis Development

The work of Stigler (1961) and Becker (1976) has brought recognition in social science theory of time as a scarce resource and of its value. The time-pressed are especially aware of the costs of time devoted to decision-making and try to reduce it. One result is that the time-pressed (TP) are likely to be selective in exposing themselves to different information sources and selective in the information which they draw from them as compared to those who are not time pressed (NTP). One example of this selectivity is the lower use of television, a relatively time-intensive medium, by the time-pressed (Robinson 1977). This suggests the hypothesis:

H 1: The frequency of use of various information sources will differ between the TP and the NTP, with the TP tending to make less use of all sources, especially more time-intensive sources, such as television.

We have suggested above that risks such as economic risk and health risk are antecedents of involvement. There is evidence (Wright 1974; Wright and Weitz 1977) that under time pressure information about negative effects, i.e., information about risks, is weighted more heavily than is information about positive effects. This suggests the next hypothesis:

H 2: Involvement antecedents dealing with risks (i.e., negative consequences) will have a greater effect on search behavior among the TP than among the NTP.

Individuals under the time pressure can be expected to prioritize their activities. One basis for prioritizing will be involvement with a task, issue or object (product). If an activity or product is seen as satisfying value-expressive motives, it will receive more time and attention. The TP are likely to prioritize to a greater degree than the NTP. As a result, the search behavior of the TP is likely to vary more with the level of value-expressive involvement than does that of the NTP. This leads to the next hypothesis:

H 3: Involvement antecedents dealing with value-expressive motives will have a greater effect on search

behavior among the TP than among the NTP.

The arguments for H2 and H3 suggest that the behavior of the TP varies more with the level of involvement than does that of the NTP. Thus, overall, the behavior of the TP seems to be more linked to involvement than does that of the NTP. This leads to a more general hypothesis:

H 4: The level of involvement (i.e., the level of the antecedents of involvement), will be more predictive of search activity among the TP than among the NTP.

Method

Data

The data were collected in telephone interviews with the principal meal preparers in the survey households. The data were obtained in telephone interviews conducted in Summer 1985 from a national sample stratified to the county level, using random digit dialing techniques. A total of 444 interviews were found to be usable for this analysis. As might be expected in a study of meal preparers, female respondents outnumbered males.

Frequency of Use of Information Sources

The dependent variables in the analysis were the frequency of use of seven different food information sources (see Table 1).

Time Pressure

The time pressure measure used was an objective one based on the characteristics of the meal preparer-respondents and their households. The characteristics utilized were ones associated with more frequent reports of feelings of time pressure in a study by Robinson (1990a):

- Age (under age 45 or over)
- Employment status (employed outside the home or not)
- Household size (4+ persons or fewer)
- Presence of children (children age 20 or under present or not).

Those who were younger, employed outside the home, from households of four or more and had children present were assigned dummy variable values of 1. The four variables were summed to create a time pressure index value for each respondent. The Cronbach's alpha for the index was .67.

Antecedents of Involvement

The review of recent analyses incorporating antecedents of involvement suggested that our analysis should include multiple antecedents of involvement with both utilitarian and value-expressive dimensions. A set of 19 questions dealing with various interests and concerns about food and nutrition was subjected to factor analysis to determine the number of dimensions underlying the responses. After

Table 1 - Mean Values for the Seven Information Sources

	Sample Mean	Time Pressure Categories-Means		t Test Statistic
		Low	High	
Asking Others about new food products and recipes	1.91	1.98	1.67	3.54 ^b
Television programs on food and cooking	1.55	1.62	1.29	4.70 ^b
Magazine Articles about recipes and food products	2.31	2.38	2.05	3.69 ^b
Food Pages Articles about recipes and food products	2.20	2.29	1.88	4.33 ^b
Pamphlets on food and recipes distributed at grocery stores	1.84	1.89	1.64	2.62 ^b
Newspaper Food Ads	2.26	2.33	2.03	3.11 ^b
Nutrition and ingredient Labels	2.14	2.18	1.99	1.94 ^b

Scoring: 3 = Frequently; 2 = Sometimes; 1 = Seldom or Never

^bp < .01

orthogonal rotation, four distinct factors were identified: (1) concerns about the cost of food, (2) concerns about controlling food choices in order to obtain certain food constituents or nutrients and to avoid others, (3) interest in the use of foods for a variety of self-expressive purposes including social uses (e.g., as a gift, in entertaining) and in food preparation as a diversion or recreation, and (4) enjoyment of meal planning, food shopping and meal preparation. The factor scores on the four factors identified in this analysis were used as the independent variables in the regression analysis.

Analysis

A number of previous studies (Laurent and Kapferer 1985; McQuarrie and Munson 1987; Beatty and Smith 1987; Higie and Feick 1989) have assessed the relationship of involvement to behavioral outcomes by regressing the outcomes under study on the multiple antecedents of involvement which they identified. This study employed this approach.

Since it has been argued that time pressure creates a distinctive context for behavior, the model specified provided for the estimation of two separate sets of relationships representing the distinctly different processes occurring under higher and lower TP. Such a model permits the estimation of both separate level and slope coefficients.

The sample was split into TP (n=279) and NTP (n=165) categories using the index of time pressure. Respondents with index values of 0-1 were classified as NTP, while those with values of 2-4 were classified as TP. The estimation of separate regression equations for high and low time pressure involves the implicit assumption of a threshold effect - with time pressure's effects beginning to operate only after they reach a certain level. The threshold assumption is supported by a suggestion by Fisher (1988).

The four antecedents of involvement were regressed on information use in separate regressions for the NTP and the TP. Seven pairs of standardized beta coefficients were produced, as reported in Table 2.

Results

An overview of the results indicates that the four antecedents of involvement did contribute to the explanation in the use of the information sources. The adjusted R² for the fourteen equations estimated

ranged from .09 to .30, with a median value of 18.5.

The estimation of standardized beta coefficients permits us to assess the relative explanatory power of the four antecedent factors (Blalock 1979). The use of each of the seven information sources appears to be driven chiefly by one, or in some cases two principal concerns. The first five of the sources listed in Table 2 contain general information on recipes, food preparation and, less frequently, nutrition. Enjoyment and Self-Expression played key roles in explaining the use of these five general information sources. In the NTP regressions, Self-Expression played the principal role.

The two remaining sources studied contain more specialized information. Ingredient and nutrition labels contain a limited range of detailed information. Newspaper food ads, for their part, contain information on prices and availability, but little else. The use of food package label information was found to be driven chiefly by nutrition concerns. Use of food ads was found to be driven principally by economic concerns, as might be expected.

Let us turn to look more specifically at the evidence concerning the hypotheses guiding this study. The results suggest that time pressure does create a context in which information search is reduced. The mean usage of all seven sources was significantly lower among the TP than the NTP (Table 1). These results provide strong support for H1.

Examination of the adjusted R² coefficients for the seven pairs of equations suggests that the involvement antecedents do provide more explanation of usage among the TP than among the NTP, as hypothesized. For six of the seven pairs of regressions, the adjusted R² coefficients for the TP were larger than those for the NTP (food pages ads were the exception). This suggests that the information search activities of the TP are more closely linked to their priorities than those of the NTP. These results provide support for H4.

In order to determine whether the antecedents of involvement had a stronger effect among the TP than among the NTP the significance of differences in pairs of coefficients were determined with Z tests (Ko and Clogg 1989). The results of these tests are reported in Table 2. Twenty-eight tests were conducted comparing the

Table 2 - Standardized Beta Coefficients for the Antecedents of Involvement for the NTP and TP

		Nutritional Risk	Economic Risk	Enjoyment	Self-Expression	\bar{R}^2
Asking Others	NTP	.16 ^a	.10	.09	.29 ^b	.13
	TP	-.02	.10 ^a	.37 ^b	.27 ^b	.28
	Z ^c	(-2.2)	(.2)	(3.0)	(.1)	
Television	NTP	.24 ^b	-.03	.17 ^a	.15	.09
	TP	.17 ^b	.10	.31 ^b	.07	.17
	Z ^c	(-1.3)	(1.3)	(1.2)	(-.8)	
Magazine Articles	NTP	.19 ^b	.04	.14	.34 ^b	.18
	TP	.15 ^b	.07	.37 ^b	.26 ^b	.30
	Z ^c	(-.8)	(.4)	(2.7)	(-.4)	
Food Pages Articles	NTP	.09	-.00	.08	.38 ^b	.15
	TP	.12 ^a	.11 ^a	.32 ^b	.25 ^b	.25
	Z ^c	(.2)	(1.4)	(2.9)	(-.6)	
Pamphlets	NTP	.18 ^a	.08	.24 ^b	.30 ^b	.19
	TP	.04	.18 ^b	.39 ^b	.17 ^b	.26
	Z ^c	(-1.8)	(1.3)	(1.7)	(-1.1)	
Newspaper Food Ads	NTP	.22 ^b	.37 ^b	.16 ^a	.13	.22
	TP	.04	.34 ^b	.19 ^b	.07	.17
	Z ^c	(-2.3)	(.4)	(.5)	(-.3)	
Food Labels	NTP	.31 ^b	.16 ^a	.05	.24 ^b	.18
	TP	.48 ^b	.07	.04	.03	.24
	Z ^c	(1.0)	(-.9)	(-.1)	(-2.0)	

Scoring: 3 = Frequently; 2 = Sometimes; 1 = Seldom or Never

^a $p \leq .05$ ^b $p \leq .01$

^c Z statistics for comparison of pairs of regression coefficients are presented in brackets. The statistics are based on $Z = \frac{\hat{B}_{TP} - \hat{B}_{NTP}}{S(\hat{B}_{TP} - \hat{B}_{NTP})}$. Values greater than 2.0 can be considered significant.

unstandardized regression coefficients, and significant differences were found in six coefficient pairs. The relative magnitude of the coefficients in these cases was not, however, always as hypothesized. On the basis of H2 and H3 it was expected that the coefficients in the TP regressions would be larger than those for the NTP. The coefficients for the TP were significantly larger in three instances and smaller in three others. These results did not provide support for hypotheses H2 and H3.

An alternative approach to testing H2 and H3 is to focus on the largest standardized betas, i.e. those with the greatest explanatory power. Focusing on these coefficients will put emphasis on the key explanatory elements. We could, for example, focus on the largest beta in each NTP equation and compare it to the corresponding coefficient in the TP equation. We then could reverse the process and compare the largest beta in each of the TP equations to the corresponding beta in the NTP equations.

A total of 12 comparisons was required to do this. For example, in the regression for Asking Others estimated for the NTP, the coefficient for Self-Expression is the largest. This coefficient does not differ significantly from that for the TP, however. In the same pair of regressions, Enjoyment has the largest beta for the TP regression. This coefficient is significantly larger than that for the NTP, as hypothesized. Overall, in the 12 comparisons, the TP coefficient was significantly greater in three instances. In all three of these cases, the Enjoyment coefficient for the TP is significantly greater than that for the NTP. These results provide weak support for H3. There is no evidence to support H2.

Discussion

The general pattern of the results is similar to that in earlier studies which regressed information search activities on the antecedents of involvement. The adjusted R2s obtained for this study were similar to those obtained by Laurent and Kapferer (1985) for the use of articles and TV programs and for looking at advertising and by Beatty and Smith (1987) for media search and for interpersonal search. The results also resembled the earlier studies in that the regressions were dominated by one or sometimes two principal variables, chiefly pleasure (Laurent and Kapferer 1985; McQuarrie and Munson 1987).

Risk-related variables thus failed to play a strong role in explaining information search in this study. These results are similar to those in the two previous studies which resembled this one in their product orientation (Laurent and Kapferer 1985; McQuarrie and Munson 1987).

In examining the results we can note several distinct patterns. Among the TP, the use of the five general information sources studied (asking others, television, magazine articles, food pages articles and pamphlets) is driven principally by Enjoyment. In all five instances the effects of Enjoyment were greater among the TP than among the NTP, and in three instances these differences were statistically significant. Among the NTP, the use of these five sources was driven principally by Self-Expression. Its effects were larger for the NTP than the TP. The differences were not, however, significant. The expected differences between the TP and NTP did not appear for the use of food labels or for the use of newspaper food ads. For both these highly specialized

sources of information the principal variables operating were as expected (Economic Risk and Nutritional Risk), but the differences in coefficients between the TP and NTP were not significant.

The results indicate that time pressure has the effect of structuring behavior by making the relationship between involvement and search more consistent, in some instances.

The results have several implications for consumer information and education policy. As time pressures in our society continue to increase, as seems likely, their effects on consumer information search are likely to continue to worsen. The results of this study suggest that use of simple, easy-to-use sources such as labels can be encouraged by emphasis on cognitive (i.e., risk) factors. Use of more general and demanding information sources appears, however, to depend on value-expressive factors.

Overall, the results suggest that the time-pressed implement their interests and concerns differently from those who are not time-pressed, in some instances. The methods they develop to cope with on-going time pressures may well constitute a distinctive lifestyle, one which merits more attention from consumer researchers than it has received.

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