Can Retail Level Scan Data Be Used for Applied Demand Analysis?

The widespread adoption of optical scanners at the checkout counter provides an alternative data base for consumer researchers. Use of these data requires becoming informed about the characteristics of scan data, but experience and credence information problems are present. The situation is addressed by explaining the properties of scan data and the ways in which they conform to traditional data sets used for applied consumer research. Various types of scan data are outlined.

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Scanners are becoming ubiquitous at retail checkout counters. Their proliferation encompasses just about every type of retail activity. Continued improvements in scanner technology and data processing have resulted in an expansion of the information that is captured. Retail level use of scanners has now reached the point where the data are becoming available to researchers.

The introduction of new technologies, like the introduction of new consumer goods has some interesting parallels. One of them pertains to the economics of information. Just as consumers are reluctant to purchase new products, researchers, as "consumers of data" are often reluctant to investigate new data sets. Part of the difficulty can be expressed in terms of experience and credence properties associated with consumer goods (Nelson, Darby and Karni).

Experience properties pertain to researchers having to acquire and work with the data before making a judgement about their suitability. The opportunity cost of the process can be significant, thereby preventing consideration of data bases that possess many desirable properties. Credence problems arise after a researcher has concluded that a scan data base is appropriate for empirical work because the peer review process necessitates others being familiar with such data in order to make an informed evaluation of the research. Both of these information problems can be addressed through an explanation of data generated by scanners.

Several pieces of information need to be combined in order to have an appreciation of scan data. They can be grouped into two areas. One pertains to the scanner technology. The characteristics of bar codes and the information they contain need to be explained. Some knowledge about the ways in which businesses store the data is useful because the process dictates the amount of information associated with the various records. The second area pertains to the desired properties of data for estimating demand relationships. Together these two areas allow for an assessment of whether scan data can be used to estimate demand relationships.

Bar Codes and Scan Data

A bar code has two components. One is a series of digits, and the other is a series of printed rectangular stripes and spaces of varying widths that can be interpreted by an optical scanner and correspond to the digits. Standardization of the codes is handled by the Uniform Code Council. The initial digit specifies the type of product. Most consumer products begin with a 0,6, or 7; a 2 specifies a variable weight item, a 3 denotes drug codes, a 4 is for in-store marking, a 5 is for coupons, and the remaining digits are presently unspecified.

Fixed weight product codes for manufacturers are unique across retailers. The second through the eleventh digits identify a specific manufacturer and the products of that manufacturer. The twelfth digit is

predetermined based on the preceding digits and serves as a way of checking that the scanner read the code correctly.

Variable weight items are more problematic. The second through the sixth digits conform to a numbering system, but ranges of numbers have been assigned to commodity groups, trade associations, etc. However, retailers have flexibility in assigning specific numbers within the ranges. Consequently, designations of unique products across retailers of variable weight items are not standardized. Digits seven through eleven contain the value of the variable weight package, and the twelfth is predetermined as a way to verify the scanner read the code correctly.

Notice the information contained in fixed versus variable weight bar codes is quite different. Digits two through eleven identify unique products for fixed weight items, whereas digits two through six identify specific variable weight products at specific retail outlets. Consequently, the software that is used to process customers' bills needs to be quite flexible.
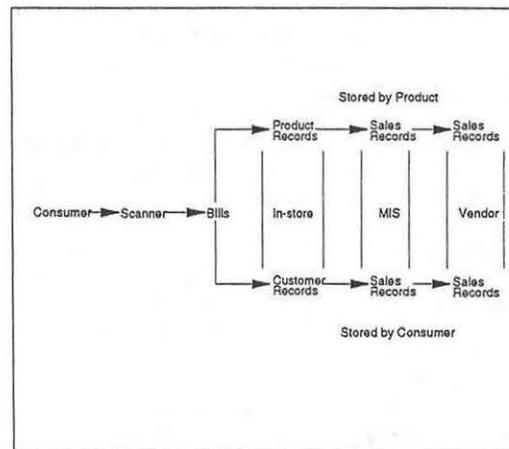
Scanners interpret the bar codes of products that consumers want to buy and match the codes with those in a price file to generate bills. The procedure automatically has the information in a form that can be processed by computers. However, it is important to recognize that there is no single type of scan data. Rather, these data may undergo various changes as they are transferred from the cash registers to in-store computers, to corporate management information systems (MIS), and to market research companies (vendors).

The situation is portrayed in Figure 1, which shows the flow of data from the point of purchase through the various places where they are held for analytical purposes. The basic division among types of scan data occurs during the initial transfer to in-store computers. Either the data are stored by customer or by bar code. In their most basic form neither of the two types of scan data contain any information other than price and quantity, customer ID with respect to the former, and store ID with respect to the latter. Customer specific records are tracked by the bottom path, and the product specific records are traced by the upper path. Researchers may be able to obtain either type of scan data drawn from the various storage locations. However, the types of information are quite different.

Customer specific records pertain to the bundles of items the shoppers purchase. The software marks the record and transfers the bar code specific information to in-store computers. This data base is uploaded to corporate MIS at regular intervals. The data can be sold to vendors who manipulate the data and sell the information and corresponding analyses.

Figure 1.
Types of Scan Data

Product specific records are generated by adding customer purchases to those of other shoppers at the store. These data are by bar code, not customer. Further processing of the data occurs as they are transferred to the corporate MIS and to vendors.

Applied Demand Relationships

Quantity observations used in empirical demand studies are marketplace transactions. They represent amounts that consumers are able and willing to buy and that retailers are able and willing to sell. Data captured by scanners

record these transactions. Variables included in a demand equation are quantity(Q), prices(P), income(Y), and a vector of other variables affecting demand(V) (e.g., advertising, demographics). These data, ideally, are specific to each consumer, as shown in equation (1).

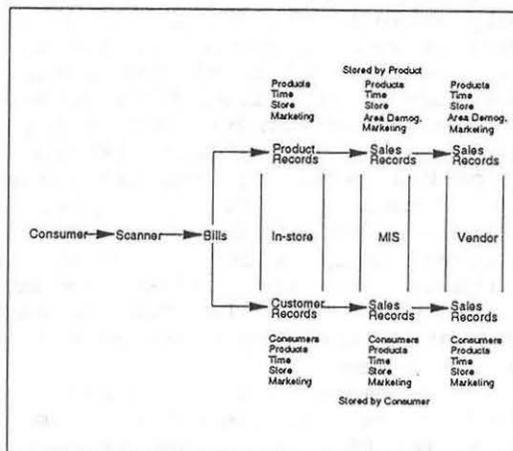$$Q_{ijst}=f(Y_{it},P_{i1st},\ldots,P_{iJSt},V_i) \quad (1)$$

where

i = ith consumer,
j = jth good, of which there are J
t = time
s = sth store, of which there are S.

Scan Data and Demand Relationships

Figure 1 and equation (1) are combined in Figure 2. Customer specific records keep the i subscript active, as shown in the bottom path. Socioeconomic data may be available. For example, some supermarkets have frequent shopper programs which require completing questionnaires to obtain ID cards that give discounts or other incentives. Or, if credit card data are obtained, the socioeconomic data may be available through another data set, although consumer expenditures may have undergone extensive aggregation or truncation. These data bases may also record the prices of the respective items purchased at various outlets, so the s subscript is active.

Figure 2.
Types of Scan Data and Variables

There are some scan data bases, controlled by market research companies, that track consumers throughout a metropolitan area. This requires coordination across retailers. It involves a process similar to clearing checks and credit card transactions. The technology is also being tested for electronic benefits transfer programs, such as WIC and Food Stamps.

The upper track in Figure 2 refers to product specific data that have been aggregated across consumers, which results in the loss of socioeconomic information. This information may be reintroduced if data are available from a variety of outlets, and the characteristics of typical shoppers are known. An alternative is to use scan data from outlets that are homogeneous, recognizing the intercept would reflect, in part, the ceteris paribus setting. Some advertising data may be associated with these data if the retailer or manufacturer has product specific records of promotional activity.

Scan Data Relative to Other Data Sources

By now, it should be clear that scan data possess many characteristics that are needed to estimate demand relationships. In addition, there are some desirable features vis-a-vis more traditional data sets, and these are noted below.

Scan data represent marketplace transactions at a level of detail that is not available with traditional public data sets. Conceptually, scan data have characteristics of panel data at the customer record level and represent pooled cross-section time-series data with respect to product level records, if allowances are made for socioeconomic variables. Depending on the level of detail, it is possible to estimate consumer tradeoffs among substitutes and complements which are not possible with conventional data. For example, traditional food demand data are for fairly aggregate products, whereas scan data are available for individual products that consumers buy.

Another important advantage is

that the prices are actual prices paid, as opposed to price indices which pertain to aggregates of products that consumers do not purchase. The prices that are part of a scan data base represent actual marketplace tradeoffs. As an illustration, instead of using an aggregate index for red meat, it is possible to include prices of individual cuts. This not a trivial distinction in many cases. Continuing with the previous illustration, prices of various cuts of red meat often change on a weekly basis by more than a dollar per pound. Furthermore, as Eastwood, Gray, and Brooker have noted, scan data provide evidence that the composite good theorem does not hold, thereby making it very tenuous to use price indices in estimating demand relationships for product groups.

The time period is also more compatible with consumer decision making for regularly purchased goods and services. Scan data are often available on a daily and/or weekly basis. The latter seems to be much more consistent with behavior than monthly, quarterly, or yearly demand analyses for nondurable goods and services.

Customer specific records track individual purchases by individual shoppers. Unfortunately, because the data are so detailed, price tradeoffs are difficult to capture because prices of items not purchased are not part of the data base. Obtaining the missing price information may be possible in some situations, but would require considerable programming effort. Store level records, on the other hand, contain the prices of all the foods, but lack the customer specific socioeconomic information. However, to the extent that the respective stores cater to specific socioeconomic groups, the data can be reintroduced into the store level data through careful selection of the outlets. One possibility is to use locations that provide a variety of socioeconomic variation and to include them in (1). Another possibility is to select outlets that cater to specific types consumers so there is little variation and an intercept would pick up the common influence.

Scan Data Caveats

Some problems of scan data are identical to those of more traditional data bases. These are the usual econometric problems of zero purchases, heteroscedasticity, multicollinearity, and autocorrelation. There are some characteristics of scan data that can create other problems for researchers trying to use them to estimate demand relationships. One group of problems follows from the organizational structure of retailers, and the other reflects the nature of scanner technology.

Product specific detail can vary depending on the scanners, computers, and software used to capture and transform the data as customer bills are processed. Some programs place the bar code specific information into default categories. For example, children's socks could be placed into a children's clothing default aggregate. Therefore, care must be taken to ensure the needed detail for a study is present in the data. The likelihood of defaults being used increases as the data are farther and farther removed from the scanner.

Larger retailers may use special cash register keys for frequently purchased products called PLUs. PLUs may not be converted to UPCs by the software. Thus, treatment of UPCs is not standardized across retailers, thereby making it more difficult to track the same products across competitors.

Variable weight items pose a problem in addition to the one discussed above. Some MIS software only records the number of times a code is read by scanners, and others capture the value of the packages. The former is called item movement. Item movement can be used as a proxy for quantity sold if the distribution of package sizes for the product does not change. (For example, the average size of a rib roast.) A further complexity is that some software captures item movement, quantity, or sales for PLUs depending on whether they are fixed or variable weight foods.

A more subtle concern is whether the time period for the scan data matches the time period for

pricing. For example, consider weekly data. Does the seven day period for the scan data coincide with the pricing period and with the advertising period? Yes should be the answer, but not all organizations have reached this level of coordination. The situation is compounded when data are for more than one retailer, because it is quite likely the time periods do not match. The manner in which vendors handle these issues needs to be clarified before such data can be used properly in consumer research.

Corporate and vendor data may also contain missing stores. Technical difficulties can prevent store level data from being transmitted further. Consequently, aggregated quantities for multiple outlets, such as a vendor data set covering a market area, may have undergone further adjustments. These manipulations need to be explained to ensure the data contain accurate measures, or the store level data should be used.

Conclusion

Scan data are records of marketplace transactions between consumers and retailers. Consequently, they measure quantities demanded in a manner comparable to more traditional data bases. Among the notable advantages of these data are the possible product specific detail, possible consumer specific detail, and the time period.

There is no single type of scan data. Rather, there is a variety of data bases that are becoming available. Differences among them are due to the type and amount of aggregation that has occurred. Which one is best depends on the problem to be analyzed.

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Endnotes

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Determinants of Nutritional Adequacy - The Case of Female Heads of Households

This manuscript is based on the award winning 1994 ACCI Master's Thesis.

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Census Data reveals that female headed households are an increasing family group. This trend is prevalent over all educational levels and for all ethnicity. Female headed households are a substantial part of the population in poverty; in 1986, 50% of all poor households were female headed and about half of them received food stamps (Frazao, 1992). Because of their increasing prominence, the nutritional status of female households is of concern.

The purpose of this paper is to study the influence of socioeconomic characteristics on nutrient consumption of single female household heads. Previous work with such concern is lacking. The findings reported here are of interest to policy makers, health professionals and food industry alike (Senaur, Asp & Kinsey, 1992).

The analysis undertaken differs from previous studies in a number of ways. First, care is taken to define the variables in such way so as to admit comparisons with other studies and clarify the impact of variables which have been in doubt before (e.g., household size). Second, new variables that account for differences in educational attainment are introduced. Third, new variables measuring individuals' perceptions of the healthfulness of their diets and their knowledge of diet-health relationships are integrated into the analyses. As shown, these variables are most critical for policy design.[2]

Theoretical Framework

It is hypothesized that several categories of demographic and personal variables influence nutrient intake: Apart from general demographic variables (D), it is assumed that geographic location and the degree of urbanization (L) have an impact on intake. Several studies confirm this (Adrian & Daniel, 1976).

In general, education (E) is believed to have a positive impact on dietary adequacy. Since the female household head is responsible for most of the food planning and purchases, education and, in particular, knowledge of health and nutrition issues will allow her to choose foods with higher nutritional value.[3]

The same effect is expected to prevail for the influence of income and wealth (I). Income affects the quantity and quality of food purchased. Wealth can be thought of as owned property as well as liquid assets. Frequently the home is the largest assets a household holds; and at the same time it can be interpreted as a proxy for ownership of a kitchen and food processing facilities (Horton & Campell, 1991).

The set of variables denoted by (T) stands for time use variables which are assumed to influence nutrient intake in both directions. For example, it is theorized that women's employment time should be negatively related to nutrient intake because of the reduced time available for home production. Yet, it should be noted that higher incomes and education which ensures women's employment can mitigate the effect of reduced time availability by permitting them to purchase better quality foods or food preparation services (Motherbaugh, Herrmann & Warland, 1993).

(F) measures the impact of food expenditure composition on nutrient intake. It captures effects of shopping habits and allocation of income on food at or away from home.

Food assistance programs participation (P) is believed to have a positive influence on nutrient intake (Horton & Campell, 1991. FSP represents a tool for directly improving the dietary status of

low-income households.

A set of variables that measure personal perceptions of the quality of diet and health status (DH) is incorporated into the model. These variables represent the main innovation of this research. A positive perception of personal diet and health is assumed to be associated with high quality diets.[4] Considering all those factors leads to the following model:

$$N_j = N_j(I,D,L,E,T,F,P,DH)$$

where N_j equals the total consumption of the j-th nutrient.[5]

Data and Empirical Analysis

The data used for this study is the recently released 1989 Consumption Survey of Food Intake by Individuals (CSFII) together with the Diet and Health Knowledge Survey (DHKS). The CSFII contains information for 5204 individuals of all ages in 2164 randomly chosen households. The data set includes information on self-perceptions of diet quality, health and nutrition related knowledge, food labels, and food safety issues. For this study, households with two or three full days of food consumption records were chosen. The final data set contained 515 non-pregnant, non-lactating female household heads, 19 years and older, who participated in both, the CSFII and the DHKS. Table 1 presents the main characteristics of the sample population.

Nutrient intake is measured in four different ways: caloric intake as a percentage of the Recommended Dietary Allowances (RDA1) is a measure of overall nutritional quality. The number of low-intake nutrients (NOLOWINT) describes overall nutritional status. It was calculated by comparing the individual's average intakes of 15 nutrients[5] with the corresponding RDAs. Following Murphy et al. (1993), mean nutrient intakes that were below 67 percent of RDA were considered as low-intake nutrients. Those were summed up for each individual (Maximum 15). A third measure of intake is energy derived from fat consumption as a percent of total energy intake (PERFAT). This measures

the qualitative composition of an individual's diet.[6] The last measure is calcium as a percentage of RDA for Calcium (RDA13). The danger of osteoporosis and other calcium deficiencies suggest that this variable should be studied.

The independent variables represent the following categories: Income and wealth, location, education, perceptions, time use, food expenditure composition, and policy variables. Their definitions and descriptive statistics are presented in table 1.

Results

Table 2 contains the results of the multivariate regression analysis. The discussion of findings begins with the regressions of energy intake as a percent of RDA and number of low intake nutrients. Both models are significant and all of the independent variables have plausible signs, though not all are statistically significant. Residing in urban areas has a negative impact on caloric intake but does not influence (NOLOWINT). This confirms the finding in previous studies (Adrian & Daniel, 1976; Murphy et al., 1993). Both regressions suggest that the money spent on food away from home is positively associated with dietary quality.

Education of the household head is an important factor in both analyses. The education index is strongly positively related to nutrient intake. Moreover, the higher a woman's educational attainment the less likely she is to have a deficient nutrient intake. These results confirm the hypothesized relationship between education and nutrient intake.

Holding everything else constant, the number of low-intake nutrients declines with increasing per capita income. Although not statistically significant, a higher per capita income also improves caloric intake. The same positive relationship holds true for homeownership. The results also reveal that perception of dietary quality is a good indicator for the actual quality of diet.

Interestingly, employed female household heads are more likely to

Economic Well-Being of Rural Baby Boomers[1]

The purpose of this research was to determine the variables influencing the level of net worth and the satisfaction with net worth among a sample of 851 rural baby boomers. Stepwise multiple regression analyses were used. Socioeconomic variables have little influence on the level of net worth. Satisfaction with net worth is affected by income, the level of net worth, and age, with income having the greatest impact.

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The economic well-being of the baby boom generation is important to the financial health of the economy. Prior research (Burns & Widdows, 1988; Coulson, 1988) indicates that those individuals born in the U.S. between 1946 and 1964, commonly known as baby boomers, are not setting sufficient resources aside for their future, at least in terms of prior generations. Additionally, there is evidence that some variation in economic well-being exists among different subgroups of baby boomers (Coulson, 1990; Coulson, 1988; Dinkins, 1993). One subgroup, however, which has not been studied is comprised of baby boomers living in rural areas.

Methodology

A model was established to look at factors influencing actual and perceived economic well-being of rural baby boomers. The two research questions were: (1) What is the nature of the relationship between net worth and various socioeconomic attributes for rural baby boomers and (2) what is the nature of the relationship between level of satisfaction with net worth and various socioeconomic attributes for baby boomers in non-metropolitan areas?

Data were collected in conjunction with the cooperative regional research project NC-182, Family Resource Utilization as a Factor in Determining Economic Well-Being of Rural Families. The data were collected from household financial managers in two rural counties in each of eight states: Arizona, California, Illinois, Indiana, Iowa, Kansas, Michigan, and Minnesota in the summer of 1988. Financial manager was defined as the person responsible for handling the majority of the household's financial affairs. Of the original sample of 2,510 rural financial managers, 851 were baby boomers as defined by their age (24-42) at the time of the survey.

Findings

The first step of the model was a stepwise multiple regression analysis with net worth as the dependent variable. The independent variables were age, education, total household income, marital status, household size, and gender. The only statistically significant independent variable was income, and it attributed to only 3% of the variation in net worth. These findings indicated that these socioeconomic factors have little influence on the accumulation of net worth among rural baby boomers.

The second step in the model was a stepwise multiple regression analysis with satisfaction with net worth as the dependent variable. The independent variables were net worth, age, education, income, marital status, household size, and gender. The most influential statistically significant independent variable was income. Almost 11% of the variation in satisfaction with net worth was attributable to income, indicating that perception of net worth was relative to available resources. Net worth was the second most important independent variable accounting for approximately 3% of the variation in satisfaction with net worth. The

third statistically significant independent variable was age which accounted for less than 1% of the variation in satisfaction with net worth. Overall, these three independent variables, income, net worth, and age, accounted for approximately 15% of the variation in satisfaction with net worth.

Implications

Socioeconomic variables have little effect on the accumulation of net worth among rural baby boomers. Further research on what variables influence the accumulation of net worth among baby boomers, both rural and urban, is warranted. A better understanding of these variables would facilitate reaching members of this generation most in need of assistance or direction in accumulating net worth.

Income was the best determinant of satisfaction with net worth which may indicate that perception of net worth is relative to available resources. Net worth itself had only a small impact on satisfaction with net worth. Individuals may not know how much net worth is needed to achieve financial goals, so level of net worth is not effective at predicting satisfaction. The levels of net worth for these baby boomers were quite low with more than one-fourth having negative net worth and more than three-fourths of the sample reporting net worth of $25,000 or less.

Evidently there is a need in non-metropolitan areas for assistance in resource and financial management. Many baby boomers are reaching the stage in the family life cycle where resources may finally be available for accumulating net worth and consequently are in need of financial guidance which may not be adequately available in rural areas.

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Credit Card Usage and Knowledge in Thailand

This study was conducted to determine the relationship between the characteristics of credit card holders and the extent of credit card usage, the level of credit card knowledge, and the consumer's choice perspectives. The characteristics of credit card holders studied were: 1) gender, 2) age, 3) marital status, 4) education, 5) income, and 6) occupation.

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Over the past decade credit cards have become popular in Thailand. The credit card business is one of the most rapidly expanding businesses in the consumer credit field, thus offering many issues to study.

This study examined the relationship between the characteristics of credit card holders and the extent of credit card usage, the level of credit card knowledge, and the consumer's choice perspectives. The characteristics of credit card holders studied were: 1) gender, 2) age, 3) marital status, 4) education, 5) income, and 6) occupation.

Data for this study were collected in Bangkok, Thailand by telephone interviews during July - August 1993. The sample consisted of 150 Bangkok Bank credit card holders. The chi-square test was used to analyze the hypotheses. For all statistical analyses the level of significance was .05.

As a result of the 18 specific null hypothesis tests, only two independent variables were found to have a statistically significant relationship with the extent of credit card usage. The findings suggested a positive relationship between the extent of credit card usage and occupation and income. Respondents with higher occupational status and income tended to use credit cards to a greater extent than those with lower occupational status and income. Gender, age, marital status, and education were not related to the extent of credit card usage in this study.

No significant differences were found among the demographic characteristics of credit card holders and the level of credit card knowledge, and consumer's choice perspectives. Gender, age, marital status, education, occupation, and income were not related to the level of credit card knowledge and the consumer's choice.

Married middle-age men of high social economic status were the major credit card holders in Thailand. The mean number of years of card ownership was 3.84. The mean number of credit cards held was 3. Convenience was the major reason (51%) for using credit cards, followed by emergencies (23%), and travel (15%). Over 88% paid their credit card bills in full and almost half (48%) used credit cards one to four times a month.

The scores from three different credit card usage items--years of use, number of credit cards held, and frequency of use--were combined to create a new dependent variable which was the extent of credit card use. Almost half of the respondents (46.7%) were moderate-users; twenty-eight percent were light-users and only one-fourth (25.3%) were heavy-users.

The credit card knowledge scores were very low. One fourth of card holders knew the length of the grace period and the interest rate. However, only 13% knew their liability if case of loss or theft. Almost 89% were classified as low knowledge credit card users; 6.7% and 4.7% were classified as medium and high knowledge credit card users respectively.

The behavioral influence dominated the choice perspective (71%) for choosing credit cards,

followed by the experiential (11%) and decision-making perspective (2%). Neither gender, age, marital status, education, nor income was related to the consumer's choice perspectives when applying for a credit card.

The results revealed that most Thai credit card holders were not knowledgeable about credit card terms. Further, this study suggested that most Thai credit card holders are not rational consumers in the classic sense when selecting a credit card. A decision-making perspective which views consumers as problem-solvers is quite weak in explaining the decision to apply for a credit card. These credit card holders did not compare the costs and benefits of various cards and evaluate their choices when selecting their card. The credit card holders were clearly influenced by environmental stimuli such as advertising and group norms when they applied for a credit card.

Educational information programs that provide reliable information would be beneficial to card holders. Such programs should inform consumers about credit card terms, costs of using credit cards, and the negative effects of credit card misuse on personal and household finances.

Only two percent of credit card holders compared the credit information among credit card issuers before they applied for a credit card. Three possible factors that can explain such consumer behavior are: (1) the lack of regulations requiring disclosure of credit card terms, (2) the difficulty in getting information from the credit card issuers, and (3) the limited amount of credit card information available for consumers in general.

Consumer educators must be creative in light of the finding that consumers do not use a rational decision making approach when selecting credit cards. Besides the education programs for credit card users, all secondary schools and the universities in Thailand should offer courses in personal financial management.

Policy-makers in Thailand can assist consumers in making better informed choices by developing regulations on the disclosure of information requirements on credit cards. Additionally, the Department of Consumer Protection in Thailand could help consumers by setting the policy to encourage credit card issuers and the media--especially newspapers, and television programs-- to inform consumers regarding more valuable information about consumer credit. For example, the Department of Consumer Protection might encourage newspapers to devote one column in the economic report section to disseminate consumer news once a week.

Endnotes

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Perceptions of Independent Living Skills and Expectations of Parental Resources: A Study of Young Adults[1]

Young adults need many skills to make a successful transition from the parental home to independent living arrangements. Assistance from parents can be beneficial also. Results of this study indicated that young adults have a high level of confidence in their independent living skills and high expectations of receiving parental resources. Differences were noted based on educational level and gender.

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The purpose of this study was to understand young adults' perceived competencies in a variety of independent living skills and their expectations of receiving parental resources when they are between the ages of 18 and 24. Analysis of variance was used to compare youth in college, vocational school, and those not enrolled in any program of higher education. A t test was used to make comparisons by gender. Pearson correlations measured the relationship between perceptions of independent living skills and expectations of parental resources.

The sample consisted of 104 single 18 to 21 year-olds from a number of educational and employment settings in Western and Central Wisconsin. Two instruments were developed for this study. The 40-item Perceptions of Independent Living Skills Scale (alpha reliability=.90) measured perceived competence in both tangible and intangible living skills. The 35-item Expectations of Parental Resources Scale (alpha reliability=.96) measured expectations of parental resources in the six categories of resources developed by Foa and Foa: love, status, information, money, goods, and services (Foa & Foa, 1974).

Overall, the young adults felt confident in the skill areas. In order of confidence from highest to lowest, the seven skill areas were: social/community, interpersonal, employment, home management, transportation, personal care, and money management. Included in these categories were a wide variety of consumer skills such as budgeting, applying for loans, using credit cards, purchasing a car, signing an apartment lease, obtaining insurance, furnishing a household, and supporting oneself financially.

Significant differences based on educational level and gender were found in the area of transportation. Work-oriented and vocational school youth felt significantly more confident than college youth in the skills of purchasing a car, repairing a car, and purchasing car insurance. Males felt more significantly confident than females in the skills of purchasing and repairing a car.

The young adults expressed a high likelihood of receiving assistance from their parents. In order of highest to lowest level of expectation, the resource categories were: love, information, status, goods, services, and money. Examples of material resources expected from parents included loans and gifts of money, tuition, insurance, use of family vehicles, rent, and payment of fines and legal expenses.

College students' expectations were significantly higher than work-oriented youth's in the areas of money, status, and love. College and vocational school youth's expectations were significantly higher than work-oriented youth's in the area of goods. Although females had greater expectations than males, no significant differences were noted.

The relationship between perceived level of independent living skills and expectations of parental resources was not significant.

However, significant relationships were found between overall independent living skills and the resource categories of status, information, and love; and, between overall expectations of resources and the independent living skill categories of employment and interpersonal skills.

The young adults of this study felt they have adequate skills to live independently. Yet many are still living at home and not fully using their skills. Current norms indicate a strong desire among young adults to live independently (Furstenberg, 1989). Thus, they may not fully understand the complexities involved and the many competencies required of them. Furthermore, the majority in this study reported incomes of under $500 per month, indicating they do not have the financial means to become self-supporting. As a result, they must continue to rely on parents well into their young adult years.

The results also suggest a strong family system as the norm for most young adults. Implications include the need for adolescents and young adults to obtain life skills education in preparation for the challenges of independent living. Education for parents on the needs of young adult children could be beneficial also. Concern is raised for those youth without adequate consumer skills and family support to rely upon during the transition years.

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Saving Behavior as an Indicator of
Developing Financial Responsibility in Adolescents

This study examines the saving behavior and attitudes of adolescents as indicators of developing financial responsibility. The relationship between saving practices and gender, income, employment status, and future educational plans was studied to determine how such factors relate to saving behavior during the adolescent years.

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Introduction

The financial behavior of adolescents is of interest to family economics professionals because during the teen years individuals acquire much of their financial understanding and establish many of the financial habits that carry into adult years. Of specific concern is the ability to delay gratification, a capacity with tremendous implications for responsible financial behavior. As Pritchard (1989) and Bachman (1983) noted, the large amount of discretionary spending available to adolescents may lead to an orientation toward immediate gratification which might prove difficult to support during adult years.

Purpose and Method

The purpose of this study was to provide insight into the saving behavior and attitudes of adolescents as one means of assessing the development of financial responsibility during the teen years.

The data used in this study were from a written survey instrument, Money Management and Spending Habits of Teenage Consumers in Kansas. The survey was administered in April, 1990 in U.S. Government classes at 37 Kansas high schools selected using a stratified random sample. The mean age of respondents was 17.45 with the sample evenly divided on gender.

Chi-square tests of independence were applied to nominal variables and T-tests to variables measured on other than nominal scales in determining if the saving practices and attitudes of adolescents were related to certain demographic and socio-economic characteristics. The statistical significance was determined using $p < .05$.

Results and Conclusions

From the 1483 usable responses obtained in the statewide survey, 83.7% of adolescents indicated saving at least a portion of their income on a regular basis. At the mean, respondents saved 42.5% of their total weekly income. While 85.7% of females were saving compared to 82.1% of males, the difference was not statistically significant. Females exhibited a higher saving rate (45%) than males (40.1%), however, females saved fewer dollars each week because they had less income available from which to save. Males had a mean weekly income of $71.21 while females averaged $60.17. Females displayed a significantly more positive attitude than males in their response to a question concerning the importance of a consistent saving habit.

Adolescents holding regular jobs exhibited different saving behavior than their unemployed peers. Ninety-one percent of employed youth were regular savers compared to 73.2% of adolescents without regular jobs. Working adolescents had a significantly higher rate of saving (46.4%) than non-working teens (36.3%). Because of the higher saving rate and the fact that working teens had three times the mean income ($88.95) of non-working teens ($27.44), workers saved significantly more dollars on a regular basis than did unemployed youth. Working teens also had significantly stronger feelings about the importance of

saving on a regular basis than their non-employed counterparts.

Adolescents and their parents often justify teen labor force participation by highlighting the increased potential for college saving. Given that college involves a major commitment of resources, it is reasonable to compare the saving patterns of adolescents indicating plans for future education with those having no educational plans. Adolescents bound for college, junior college, or a vocational-technical school were no more likely to be regular savers than their peers with alternative plans after high school. At the mean, both groups saved almost $21.50 per week. Those adolescents with goals of future education had a significantly higher saving rate (44.2%) than those without future educational plans (40.6%). The attitude concerning the importance of saving on a regular basis was significantly more positive for teens seeking more education than for the group which was not.

There were definite indications that adolescents were saving and held a positive attitude concerning the saving habit. However, because the saving data were gathered from a question concerning the amount saved on a weekly basis, it is important to caution that teen saving behavior may be more a matter of not spending at a particular time in order to meet a monthly car payment or other short-term goal. Whether this is truly a measure of the adolescent's ability to delay gratification may be questionable. More study is needed to derive any definitive conclusions concerning whether adolescent saving equates with capacity to delay gratification.

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Longitudinal Study of Ninth and Twelfth Grade Students' Consumer Competencies in South Dakota

The purpose of the research study was to assess consumer education knowledge of South Dakota high school students considering grade level, gender, and school size. A stratified random sample based on student enrollment was used to select ten percent of the public schools in the state. The validated Harder and Fenslow Consumer Education test was administered in a required class. Data analysis indicated significant differences between gender, grade level and school size.

Delores Kluckman, South Dakota State University[1]
Julie Bell, South Dakota State University[2]

The purpose of the longitudinal research study was to assess consumer education knowledge of South Dakota high school students considering grade level, gender, and school size.

Ninth and twelfth grade students enrolled in ten percent of the public schools in South Dakota were given the validated Harder and Fanslow Consumer Education Test in 1986 (n = 1028), 1989 (n = 927), and 1992 (n = 1176). The test consisted of 11 multiple choice questions on demographics with an additional 50 multiple choice questions related to consumer education concepts divided into the following seven areas:

♦ Values and Ethics that Underline Education for Consumption

♦ Consumption: An Expression of Life Style

♦ Consumer Decision Making

♦ Consumer Information: Location, Evaluation and Processing

♦ Change and the Consumer

♦ Consumer and the Economic Environment

♦ Consumer Rights and Responsibilities

A stratified random sample based on student enrollment was used to select participating schools. The two researchers administered the consumer education test in a class required of ninth and twelfth grade students. Data were analyzed using percentages, means, and chi-square.

Research findings indicate ninth and twelfth grade students representing schools with the largest enrollment had the lowest average test scores in 1986 and 1989. Students from the smallest schools had the highest test score averages in 1986 and 1989. Students from the large size schools had the highest test scores average in 1992, however, medium size schools consistently had the lowest test score average. Ninth grade students participating in the study had lower test scores than twelfth grade students with a significant difference at a .01 level. Throughout the longitudinal study, females scored higher on the test than males regardless of grade level. The highest test percentage score, considering all participants, was 90% (45 correct) in 1986, 92% (46 correct) in 1989 and 1992. The lowest test score was 12% (6 correct) for each of the years in the longitudinal study. The overall test average was 56.4% in 1986, 58.1% in 1989 and 58.1% in 1992. The findings from this research study correlate with the results of the Harder and Fanslow Consumer Education Test administered in the Rocky Mountain states.

For ninth and twelfth grade students, this study reinforces the general perception that too few Americans are adequately prepared for their responsibilities as consumers, producers, and citizens in our

society. Knowing high schools students' consumer skills could provide guidelines for curriculum modification locally and/or statewide. Vocational home economics is one area that should examine its content and/or delivery methods in helping people become competent in consumer skills. As the nation's educational system works toward the achievement of the six National Education Goals and undergoes restructuring and modernization, it is important that consumer education be integrated into the school curriculum. Improving consumer education competency must not only be the role of the school but a cooperative effort of parents, business and government leaders, and educators.

Endnotes
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Computer Assisted Instruction: Budgeting Help for Consumers With Limited Reading Skills

Two pieces of Budgeting Computer Assisted Instruction (BCAI), one with text only and one with special enhancements of graphics and voice were used as methods of teaching family budgeting to non-literate and literate women in Puerto Rico. This computer program could be used as an educational method to help women to become knowledgeable about money management concepts and skills that will help them to become better administrators of their families' economic resources, especially Puerto Rican women who have been confronted with multiple economic problems.

Carmen T. Andrades-Garay, Ohio State University[1]
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Introduction and Purpose

The Budgeting Computer Assisted Instruction (CAI) was designed as a part of a method of teaching family budgeting to low-literate and literate women in Puerto Rico. Two pieces of budgeting computer software were designed to test the effectiveness of the computer in teaching women with limited reading skills. One form involved text only, and the other was enhanced with graphics and voice. The BCAI was sponsored by Puerto Rico Agricultural Extension Service.

Computers have been found to offer adult students a new way to learn. Advantages of computer-assisted instruction were identified (Caldwell, 1982; Cranton, 1989; Askov & Clark, 1991) as offering privacy in the learning process, helping educators to individualize instruction to learners' needs, and providing immediate feedback. Also, learners can make better than average gains by using technology in the educational process (Caldwell, 1982).

Computers allow low-literate learners to feel that they can have more control over their own lives. They can achieve this by taking control of the learning situation as they become familiar with the computer (Askov & Clark, 1991).

Cash Flow Budgeting

Cash flow management is the most fundamental aspect of family financial management. It includes budgeting tasks and the use of financial statements to estimate family financial status, planning financial goals, and evaluating family financial decisions (Garman & Forgue, 1988). Cash flow management is the basis of this computer-assisted instruction program which was designed to help families maximize their cash management (Godwin, 1990). The cash flow budgeting process in the Budgeting CAI was presented in the following sequence: (1) short-term goal planning, (2) calculation of monthly income, expenses and savings, (3) financial situation analysis: leaky, sorrow, negative and balance budgets, (4) budget modification, (5) sample budget and recommendations.

Implications

The use of the CAI approach to computer program design for personal finance has the benefit of advising the client through the use of a computer as a financial counselor. Budgeting CAI can allow consumers (particularly women) with limited reading skills to develop mastery in management of their finances and to gain control of their resources. While most other budgeting advise for low-literate consumers requires interaction with an expert, computer-assisted instruction incorporates expert knowledge into the program. Therefore, no expert need be present for learning to take place.

Procedure

This study was designed to investigate the effects of the Budgeting Computer Assisted Instruction (BCAI) as a method of teaching. The research design was experimental, using a randomized pretest/posttest method.

The subjects were randomly assigned to three groups. Each group received a different level of treatment. Two groups received the method of teaching (i.e. BCAI with voice and graphics and BCAI with text only) as well the instruments. The control group received no treatment, only the pretest and the posttest. The research hypotheses were tested by computer interviews via pretest and posttest.

The data were obtained using the Budgeting Knowledge Test, the Attitudes Toward BCAI Scale and the Demographics Characteristics Instrument. The pretest involved the three instruments, and the posttest consisted of the Budgeting Knowledge Test and the Attitudes Toward Computer BCAI Scale. Responses to the Attitudes Toward BCAI were rated on five-point Likert Scale.

The validity and reliability for the instruments and the BCAI were tested by means of a panel of experts, and field and pilot tests. Both English and Spanish versions were tested for validity. Both versions of the instruments and the BCAI were checked for translation accuracy by a professor at the Ohio State University. The Spanish version of the instruments were also validated for clarity and population validity by three Puerto Rican Agricultural Extension Service Home Economics program specialist. Their recommendations were incorporated in the instruments.

Two field test were conducted with members of the Homemakers Clubs. They have similar demographic characteristics to the sample. The field test checked for clarity, wording, length, format of the instruments. In the first field test, participants received the instruments without the computer screen presentation. In the second field test, participants used the instruments as they appeared on the computer screen. Two pilot tests were conducted in Puerto Rico with the Home Economics program clientele of the P.R. Agricultural Extension Service.

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The Urban Families Initiative: A Resource Mapping Project

This project is being conducted by The Urban Families Initiative The Ford Foundation. Goals of the project are to ascertain characteristics of three poor, culturally diverse families in poor urban neighborhoods to identify available community resources, to examine how families access these resources, and to discover effective models to enhance urban family life. Understanding this access will enhance the effectiveness of service delivery in an effort to support and increase the well-being of poor urban families.

Wendy Reiboldt, California State University, Long Beach[1]
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Carol Kellett, California State University, Long Beach[3]
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Introduction to the Problem

The plight of urban families in America is depicted daily in newspapers and other media. Children and adults face violence, unemployment, concentrated areas of substance abuse, gangs, homelessness, and crowding in their neighborhoods. Therefore, urban families encounter fear, isolation and alienation which increase the barriers to creating solutions to the problems. Urban families experience unequal access to programs and services available in the community and, if access is available, also face confusion in the complexity of services available.

Purpose and Goals

This resource mapping project, conducted in collaboration with The Urban Families Initiative at California State University, Long Beach, and funded by the Ford Foundation, seeks to ascertain characteristics of poor families and neighborhoods in order to understand when and how they access services. Because both immigration and migration are contributing to rapid demographic changes in Southern California, the study will analyze and compare neighborhoods where various ethnic and cultural groups are represented.

Four major goals drive the study: 1) Identify family and community dynamics in three selected urban neighborhoods; 2) determine community resources that affect families; 3) examine how families access public and private sector service agencies; and 4) discover effective models and approaches for enhancing family life in urban settings. Addressing each of these goals requires collaboration among a variety of communities, organizations, agencies, and service providers. It also requires a naturalistic approach to understand family and community dynamics. In-depth data collection will take place every 6 months for a total of 18 months to track change over time. The study will report "thick descriptions" (Van Maanen, 1979) about the families, neighborhoods, and services in the community.

First, identifying family and community dynamics in three selected urban neighborhoods requires careful site selection. Site selection is based upon information from Census data, community organizations, city government, and public safety providers. Recognition of diversity at this level is important. Furthermore, use of existing contacts is important to get an in-depth picture of the neighborhood.

Second, determining community resources that affect families requires use of both formal and informal networks. Informal "informants" (community natives) provide valuable inside information about service providers.

Organizations in the community, school districts, etc., will also be tapped.

Third, to examine how families access public and private sector service agencies, collaboration with community service providers will be necessary. Empowerment of these agencies will allow them to provide information at all levels of the study. In addition, use of community informants and personal interviews with native families will enhance the range of information to be gathered.

Fourth, to present effective models and approaches for enhancing family life in urban settings, information from all sources will need to be analyzed. It is important to consider effective models for different ethnic groups. That is, understanding that what works for one group may not work for the others.

Outcomes

Outcomes of this project are numerous. An in-depth understanding (i.e. a resource map) of the selected communities will be gained. Existing coalitions among community members will be strengthened, and new coalitions will be formed. Service providers will gain insights that may increase effectiveness of services. Finally, this project will benefit researchers, community members, and service providers as it strives to improve the lives of poor urban families.

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<u>Endnotes</u>
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TV In-Home Shopping: Women's Perceptions of
Its Use for Apparel Information Search and Purchase

This study was conducted to investigate womens' attitudes regarding
the use of in-home shopping methods.   It was anticipated that
potential explanations might be identified as to why shopping
methods may or may not be used.

Amy J. Harden, Miami University[1]

TV in-home shopping has the
potential to meet needs of people who
may not have the ability to travel to
local stores, as well as those who
are too busy or have other
commitments and cannot shop locally.
In order to consider this marketing
strategy, attention needs to be given
to understanding consumers' attitudes
toward using TV in-home shopping
methods.

A descriptive research study
was conducted to investigate womens'
attitudes regarding the use of in-
home shopping methods.   It was
anticipated that potential
explanations might be identified as
to why these methods of shopping may
or may not be used.   In order to
analyze the adoption process of TV
in-home shopping, the diffusion
theory (Rogers, 1983), which may be
used to study how an innovation
diffuses through a social system,
over a period of time was used.
Thus, consumers' attitudes toward the
use of the innovation, TV in-home
shopping, were examined.

Five focus group interviews
were conducted to gain an
understanding about consumers'
attitudes toward TV shopping.   The
use of focus groups provided an
opportunity for consumers to provide
a depth of information and to express
their thoughts in an open process.
Therefore, potential explanations for
the use of in-home shopping methods
might be determined.

Participants selected for this
study included women's church groups,
women's clubs, professional women's
groups, and community groups. Women
were chosen as subjects for this
study because they tend to do the
largest percentage of shopping.   The
total number of participants was 34
with an average of seven per focus
group.

The demographics of the
participants consisted of ages
ranging from 24 to 81 years old.   The
majority of the participants in all
groups (70% or above) were married.
A majority in all groups (80% or
above) had completed at least some
college.   Occupation consisted of
retired in two groups (40% or above)
and overall consisted primarily of
homemakers (20%-60%).   Income varied
in each group (from a range of $25-
55,000 to $75-85,000).

The data obtained from the
focus group interviews were coded by
three judges who were provided with
diffusion theory information and
trained in the open coding method of
grounded theory (Strauss & Corbin,
1990) which involves identifying
ideas expressed.   Following the
judges' coding, the data were
examined for the presence of the
elements of diffusion theory.

Due to similarity in ages
between focus groups 1 & 2 (average
ages 62 & 66 years respectively) and
between focus groups 3, 4 & 5
(average ages 36, 34, & 38 years
respectively) data were combined into
two categories: older participants
and younger participants. These two
categories were formed in order to
gain an understanding of attitude
differences between age groups.

The results revealed that
unlike younger participants, older
participants viewed TV shopping as
entertainment and as a way of
alleviating loneliness. This group
discussed enjoying watching and
listening to the hosts on TV shopping
programs and seeing what other
consumers were buying. In addition,
they felt that the merchandise was of
good quality and was unique.

Disadvantages reported included

a need for self-discipline in using TV shopping to prevent getting 'hooked' or addicted to buying products haphazardly; offensiveness of the hosts being obnoxious and phoney; and the lack of interaction to gain product knowledge.

The younger participants group revealed a dispersion of responses. Some stated that advantages to TV in-home shopping included products less expensive than catalogs and was of good quality, while others felt products were cheap and 'gaudy' looking. In addition, some participants reported returning products was convenient, while others stated it was inconvenient and a hassle.

Disadvantages consisted of requiring a large amount of time to watch for desired products to be displayed; inaccurate sizing; difficulty in visualizing how apparel would fit; and fear of giving out credit card information. In addition, younger participants also identified a need for self-discipline in using TV shopping to prevent getting 'hooked' or addicted; and offensiveness of hosts being obnoxious and phoney.

In summary, the results of this study demonstrated that participants were generally aware of TV shopping and expressed the attitude that their behavior would not need to be substantially adjusted in order to use this method. Participants also indicated that the use of TV shopping would be compatible with their lifestyles, and was not complex to use.

The use of TV shopping may meet the needs of individuals who lack the ability or desire to travel to local stores. Attitudes of participates in the study indicated that TV shopping could become viable if the disadvantages to its use could be eliminated. For example, one TV shopping network has attempted to reduce the amount of time needed to watch for the display of desired products by offering a schedule of when various merchandise will be offered.

Based on the results of the present study, TV shopping may increase if its unique advantages are promoted. As interactive TV becomes a reality for mass society, the time consuming aspect may be eliminated resulting in an increase in overall use and acceptance.

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Consumer Education Partnership: Brazil and Canada

This poster session illustrated a partnership project between home economists in Fortaleza, Brazil and Winnipeg, Canada, which focussed on consumer education. From a modest beginning, the project expanded to produce a teaching resource now used in schools, and the development of a consumer help and extension centre.

Ruth E. Berry, University of Manitoba[1]
Clarisse Ferreira Gomes, Federal University of Ceara[2]

Introduction

During 1994, a seven year consumer education project, resulting from a professional twinning relationship between home economists in Fortaleza, Brazil and Winnipeg, Canada concluded. The project was funded by the Canadian International Development Agency (CIDA) of the government of Canada which provides funds for projects in developing countries.

The Canadian Home Economics Association (CHEA) and CIDA have cooperated in many programs since the inception of the International Development Program in 1976. Currently, 12 such professional partnerships exist between Canadian associations and those in developing countries such as Sri Lanka, Thailand, Ghana and Pakistan.

The Manitoba Association of Home Economists was twinned with the Brazilian Association of Home Economists-Northeast in 1987, and consumer education was identified as the area of interest of both groups. Twinning projects combine the expertise of professionals in Canada and developing countries in planning and implementing a project to improve the lives of the poorest segment of the population in the developing country. Working together in both Canada and Brazil, learning about the language and culture, and developing knowledge and awareness were important outcomes for those persons involved.

The poster showed the consumer education resource book which was developed and approved for use in all schools in the province of Ceara, Brazil and traced the development of the *Nucleo*, a consumer resource and research centre at the Federal University of Ceara. The Brazilian home economists selected their primary topic for consumer education which addressed concerns of health, sanitation and the environment, and this was the problem of garbage, including medical waste, which was poorly disposed of, and not recycled. The result was cooperation with a number of agencies dealing with this issue, and the development of a teacher resource book entitled *Garbage, Problems and Solutions*. This book was tested in a number of teacher workshops, and eventually was printed by the Minister/Secretary of Education and made available to all schools in the state. Examples of school projects and photographs were shown.

From beginning as a small resource centre at the University for pamphlets and free teaching aids, the committee obtained space in a central city location in Fortaleza to open a consumer help and resource centre called the *Nucleo*. This centre has one full-time staff member, and student and staff assistance from the University, to offer direct help for consumer problems, as well as conducting research and participating in outreach activities and consumer education.

Agreements were signed with the Secretary of Education to continue work on a consumer education curriculum in the public schools, and with the University to continue providing space for the *Nucleo*. The committee in Brazil continues to conduct workshops for training teachers on how to use the resource book, and has surveyed schools to see how the resource book has been used.

Many other changes have evolved from this project. Brazil developed a consumer code and legislation in 1991, and interest and awareness of consumer issues has increased further since that time. This includes a professional consumer education seminar, promoted by the Brazilian home economists, increased media coverage on consumer issues, the development of consumer courses at the Federal University of Ceara, and the expansion of other projects between Manitoba and Brazil.

Currently, Manitoba home economists are involved in two other projects in Brazil. These are: an entrepreneurship program for women through a confectionery and bakery business, and the development of the first Master's program in Home Economics in Latin America which has begun at the Federal University of Pelotas with assistance from the University of Manitoba. Universities in other states are now offering courses to train teachers in consumer education methods.

The project will be evaluated one year after its conclusion by the partners and externally by CIDA. It is hoped that the production of curriculum guides and resource books in consumer education will continue, and that the *Nucleo* will continue to serve the community by providing outreach and research on consumer issues.

Endnotes
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Knowledge and Use of Credit Cards by College Students

One hundred thirty six college students were surveyed to determine method of obtaining credit cards, how credit cards are used, and balances paid. In addition, student knowledge of APR, grace period, and balance was studied. Students seem to be similar to other credit card users regarding obtaining, using, and paying credit.

Margaret A. Jover, Southwest Texas State University[1]
Judy L. Allen, Southwest Texas State University[2]

Credit card holders have grown by about 25 million in the past decade and may be reaching the saturation point (Courtless, 1993). Hoping to increase their market, credit-card companies are blanketing campuses of colleges and universities with promotional material. Credit card ownership among college students increased 37 percent between 1988 and 1990 (Cutler, 1991).

The easy access to credit has created problems for many students. The "buy now, pay later" philosophy has caused many students to accumulate debt quickly. According to the Consumer Credit Counseling Services, there have been increasing numbers of students seeking counseling services (Kutner, 1993)

Purpose

This study examined the college student credit card owner. The study focused on how the credit card was obtained, used, and balances paid. The study also ascertained if college students checked credit files and were aware of balances, interest rates, and grace periods.

Methodology

One hundred thirty six college students were surveyed in Consumer Education classes at Southwest Texas State University. The classes consisted of Home Economics majors and other non-Home Economics majors.

The survey consisted of two identical instruments. Students provided income information, method of obtaining credit card and use of credit cards. In addition, students identified method of credit card payment and if they had checked their credit file. Finally, the students listed each credit card, the APR, the grace period, and the balance owed.

In order to verify credit card information, students were given two copies of the instrument. One instrument was completed in class and the other was completed at home.

Analysis of Data

Data were analyzed using Systat, a statistical program for personal computers. Guidelines were developed to determine the variation allowed in reporting APRs and balance.

Results

The majority of students were Home Economics Majors (70.59%). Approximately one-third of the students were classified as sophomores (36%) and one-third as juniors (34%). Freshmen comprised 13% of the population and seniors 16%. A majority of the students were female (83%). The average age was 22 years.

The monthly average income was $621.60. A majority of the students received income from employment (64.71%) and parents (71.32%).

Of the 136 students surveyed, 96 (69.12%) of the students had a credit card in their own name. The students averaged three credit cards each. The average balance on each card was $307.48. There was a per person average balance of $957.91. The average APR per credit card was 22.7%.

Only a small percentage of students obtained the credit card through tables at registration (16.91%). Most either received applications through the mail (41.91%) or obtained application forms from a store (47.06%).

Approximately one-fourth of the

students either paid credit card balance in full (22.92%) or paid the minimum balance (26.04%). Half (51.04%) reported that they paid above the minimum but less than the full payment. Almost half (48.53%) of the total sample had been denied credit. Of those owning a credit card, over half (55.21%) had checked their credit files.

The students were asked to indicate how they used their credit cards. Most (92%) of the students reported "always" or "sometimes"using credit to purchase clothing . Almost two-thirds (60%) of the students reported using credit "always" or "sometimes" to pay for car expenses and for entertainment. However, 80% responded that they "never" used credit for cash advances.

To determine student knowledge credit card balance, grace period, and APR, the students were also asked to report specific information about their credit cards. Data from both instruments were compared. Although almost three-fourths (72.46%) "always knew" the balance on the credit card and the grace period (44.79%), the majority of students did not know the APR (59.38%).

Conclusions

College students at Southwest Texas State University are similar to college students at other universities in that they have easy access to credit cards and are accumulating large debts. College students in the study are similar to the average consumer in relation to credit usage--they tend not to know the interest rate on the credit card and they tend not to pay the full balance on the credit cards.

Implications

Although credit card companies say that students are at least as responsible as other card holders, it seems that college students are quick to fall prey to the "buy now, pay later" frame of mind that many other credit card users have. College students need to learn proper use of credit card so as not to leave the college years in debt.

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Endnotes
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A Healthy Body If We Eat Well:
ih tai so kis to miop a sok soi yoi ki

A teaching package, A Healthy Body If We Eat Well "ih tai so kis to miop a sok soi yoi ki", was developed to address the needs of Blackfoot natives in southern Alberta. The package contains information that will assist an instructor to conduct a two hour workshop on nutrition and food shopping in a culturally appropriate way. The development of the teaching package included input from Blackfoot natives and their elders as well as professionals in the field. Designed to be used by College instructors working with native adult students in life skills classes, it also has broader potential to be helpful to community health nurses, home economists, and other professionals working with Native groups.

Glenda Everett, Lethbridge Community College[1]

Canada's food supply offers all the nutrients necessary for a healthy diet. Inspite of this, many people do not get the required nutrients from the food they eat. This may be due to lack of knowledge about the impact on health, poor motivation to make changes in their eating habits and/or lack of income to purchase nutritious foods (Health and Welfare Canada, 1990).

Over the past eight years all these factors were evident to the author when teaching food and nutrition concepts to life skills classes for native people in southern Alberta. It became increasingly apparent that there was a need for nutrition education materials that would address these issues in a culturally relevant way. An informal survey of two local native communities reinforced the need for such a package.

The development of the package was based partly on information found in Health and Welfare Canada's Nutrition Recommendations (1990) and corresponding recommendations for implementation. It stressed the need to target programs to specific social and lifestyle subgroups in the population: "Special programs which address the cultural differences, divergent lifestyles, more limited life-skills and resources and socio-economic constraints of these vulnerable groups are needed." (Health and Welfare Canada, 1990, page 8). Because of its design, the package also had broader potential to be helpful to community health nurses, home economists, and other professionals working with Native groups or individuals. Although some of the background material was based on the Blackfoot experience, it was designed to be adapted to suit other native groups.

The developers of the package also took into account some basic assumptions when writing this package. The facilitators would not need to be trained in the area of nutrition. The focus would be a few relevant issues rather than many details that could confuse the workshop participants with "information overload". The developers also felt that the skill development addressed in the package would be most successful coupled with appropriate personal development of the participant, such as participation in a life skills course.

Input for the package came from Blackfoot natives and their elders as well as professionals in the field. In addition to addressing culturally relevant issues, it also focussed on issues associated with teaching the adult learner, low-income audiences and individuals from dysfunctional families. Although not all students would be expected to have these life experiences, it was likely that the facilitator would encounter some students who had had these experiences. All of this information was contained in the background reading section so the facilitator

presenting the lesson on food and nutrition would be better prepared to relate to the participants. In addition, the facilitator has been provided with a lesson plan, suggestions for time usage, overhead and handout masters and suggestions for extra activities.

The package or parts of it, have been used to teach life skills classes over the past two years. Both instructors and participants have rated the workshop appropriate and enjoyable. Students have demonstrated a keen interest in the historical eating habits of the Blackfoot people and have appreciated that the instructor has taken the time to learn something about their culture. Often times there have been one or two participants who have helped to reinforce or enhance this historical perspective and their pride related to it. Discussion about current eating habits and the occurrence of nutrition - related diseases in their own communities has helped them to identify with the reality of the link between diet and health. Participants have also enjoyed the games and activities that encourage social interaction and downplay academic abilities. Informal discussion about food shopping has been interspersed throughout the workshop to help the participants relate actual food purchasing decisions to nutrition issues. At the close of the workshop, this information has been integrated into an activity where the participants help to summarize food shopping tips on a flip chart.

To develop a culturally relevant teaching package has required a good understanding of the cultural group's habits, interests and preferred learning styles. How effective this package will be in promoting long-term behaviour change is not known. However, a first step has been achieved - the target audience has been reached.

References

Health and Welfare Canada. (1990). Action towards healthy eating... Ottawa, ON.

Endnotes
1. Consumer Education Programmer.