

PURCHASING HABITS, CONSUMPTION PATTERNS
AND ATTITUDES OF OKLAHOMA HOMEMAKERS
TOWARD WHEAT PRODUCTS

By

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CHAPTER I

INTRODUCTION

Wheat is the most important of the cereal grains, and provides more nourishment for the people of the world than any other food (Wheat Flour Institute, 1981; Nelson, 1985). Because of its abundance, it is also the most economical food.

Although wheat is nutritious and economical, a study of consumption trends between the years of 1909 and 1981 revealed that the use of wheat products in the early 1900s to late 1950s decreased by about one-half and continued decreasing until 1972 (Welsh and Martson, 1982). Other studies (Wheat Industry Council, 1983) showed that between the years 1972 and 1981, certain wheat-based products declined in consumption, while others increased. Why have we seen a decline in consumption of wheat products? Why is the consumption of some wheat products on the increase while others are decreasing?

Variation in consumption behavior is very important to dietitians, nutritionists, and many other people involved in health and nutrition, and it is constantly being examined. Information relating to why people consume the food that they do can be obtained by studying people's demographic characteristics and attitudes regarding food consumption (Foley, Hertzler, and Anderson, 1979).

One way to study food consumption patterns is to look at family units and study the person who is most likely to make the decisions

about family food purchases and consumption. Studies indicate that in families, the woman is more influential about food decisions than the man. Women typically take major responsibility for making food decisions and establishing food patterns (Schafer and Keith, 1982; Goodman and Malamuth, 1986).

There are studies relating to women's consumption patterns of food, based on their demographic variables and attitudes. There is, however, a limited amount of research relative to purchasing habits, consumption patterns and attitudes of homemakers toward specific food products such as bread or pasta made from wheat.

With the 1980 Dietary Guidelines for Americans (USDA and HHS, 1984) suggesting that our intake of complex carbohydrates, which includes whole grain products be increased, it seems that more emphasis could be placed on this specific area than has been in the past (Cahill, 1986). Results of this study of purchasing habits, consumption patterns and attitudes of homemakers toward wheat products could be a basis for educating the public on their nutritional needs and to increase the marketability and consumption of wheat products.

Purpose and Objectives

The purpose of this study was to gain knowledge about the attitudes, purchasing habits, and consumption patterns of specific wheat products made from hard red winter and durum wheat, by selected homemakers in Oklahoma. The specific objectives are as follows:

1. To obtain information regarding consumer purchasing habits and consumption patterns of specific wheat products when certain demographic variables are present.

2. To determine consumer attitudes toward specific wheat products when certain demographic variables are present.
3. To identify how consumer attitudes affect purchasing habits and consumption patterns concerning wheat products.
4. To make recommendations to increase the marketability of wheat products.

Hypotheses

The following Hypotheses are postulated for this research:

- H₁ : There is no significant difference in purchasing habits and consumption patterns of wheat products by Oklahoma homemakers based on selected demographic variables: a) Age b) Marital Status c) Education d) Community Size e) Employment Status f) Income g) Household Size.
- H₂ : There is no significant difference in consumer attitudes of Oklahoma homemakers toward specific wheat products based on selected demographic variables in H₁ .
- H₃ : There is no significant difference in Oklahoma homemakers' purchasing habits and consumption patterns based on consumer attitudes.

Assumptions and Limitations

It was assumed that homemakers in this study would complete the questionnaire and give actual information rather than what they perceive as ideal. It was further assumed that variables including age, marital status, education, community size, employment status, income, and household size may affect attitudes, purchasing patterns, and consump-

tion patterns within this population. The study was limited to members of Extension Homemakers Clubs in Oklahoma and therefore, results of this research can only be generalized to this group.

Definitions of Terms

Consumption Patterns: The actual process of consuming food products in a way that is characteristic of the person or group of people.

Durum Wheat: An amber-colored wheat which is high in protein and is used for macaroni, spaghetti, lasagna noodles, and other alimentary pastas.

All-Purpose Flour: Flour that is made from a blend of hard and soft flours, meant for use in a wide range of foods (McGee, 1984).

Hard Red Winter Wheat: Wheat that is planted in the fall and yields grain that has an amber color. Hard Red Winter Wheat is the variety grown in Oklahoma and is a wheat that has a higher protein to starch ratio. It is preferred for bread making.

Oklahoma Extension Homemaker: A member of an organized community of homemakers across Oklahoma, with clubs on the city and county level. This is organized by the Cooperative Extension Service of Oklahoma, with members in every county of the State.

Purchasing Habits: The actual behavior pattern that is acquired when food is obtained by paying money.

Whole Wheat Flour: Also known as graham flour or entire wheat flour. Contains essentially the entire wheat kernel and may be ground to different degrees of fineness.

CHAPTER II

LITERATURE REVIEW

The scope of this study encompassed attitudes about specific wheat products by women who were members of Extension Homemaker Clubs across the State of Oklahoma. Since it is generally believed that attitudes determine, or at least influence behavior, and that poor dietary habits could be caused by poor food attitudes (McCullough, 1980), it is important to focus on existing attitudes, the process of measuring food attitudes, and the validity of attitude measurements from conducted research studies. A summary of current purchasing habits and consumption patterns of individuals is also included in this review.

Attitudes

Definition of Attitudes

Attitudes are defined as a disposition toward objects, situations, actions, or ideas (Giffit, Washbon, and Harrison, 1972), or as matters of taste, directed toward broad aspects of reality, and based on emotions, (McGuire, 1980). Attitudes are depicted as important links between nutritional knowledge and application (Foley, Hertzler, and Anderson, 1979), and are classified into definitional categories and attitudinal measures in food habit research. They are: 1) attitudes as preferences, likes, or dislikes, feelings 2) attitudes as food behavior

3) attitudes as flexibility versus rigidity to change 4) attitudes as agreement or similarity within the family, and 5) attitudes as complexity of meanings.

Attitudes are said to be based on determining factors described by McGuire (1980). While it is thought that attitudes are developed through life experiences, some variances between people are probably due to genetics. An example of this is the differences in individual taste preferences. Physiological aspects also affect a person's food attitude and behavior. Research indicates that illness, fatigue level, substance depletion, blood alcohol, pregnancy and so on, affect general and specific food attitudes.

A third factor in attitude development is the person's direct experiences with food or eating situations (Peterson, 1972). An important principle is familiarity breeds liking: people show a general tendency to prefer the kind of food they have eaten as children.

To an extent, society imprints food attitudes (Mead, 1949; Lee, 1957). This is especially the case for "total" institutions in one's life and to a lesser extent the settings such as a workplace cafeteria, a college dining room, or military mess hall. These attitudes are usually present without conscious effort.

The last determinant described is persuasive communication (Newell, Fox, Brewer, and Johnson, 1985; Hertzler and Owen, 1976; North, 1985). This is described as influencing people's attitudes toward food by communicating with motivational content in order to change the person's nutritional choices as a more healthful direction.

Measuring Food Attitudes

Attitudes cannot generally be observed. They must be inferred from indirect measurements, usually through questionnaires or other testing instruments (McCullough, 1980, pg. 66).

Surveys do not generally just uncover what consumers think. The objective of most surveys is to determine if a relationship exists between attitude and behavior. Attitudes and behavior must first be studied in the context of their current behavior (Clayton, 1980).

McGuire (1980), and Foley and Vaughan (1979), stated that finding a relationship between people's attitudes and behaviors is difficult to prove and that obtained relationships are often not significant. While it has been claimed that there is substantial correlation between attitudes and behavior, more often what is well predicted is "behavioral intention" rather than actual behavior (McGuire, 1980).

On the other hand, Clayton (1980) states that the relationship between attitudes and behavior may be uncertain in some situations, but potential relationships are the reason that there is so much interest in studying attitudes. Schultz (1980, pg 22) states, "attitudes can be used to determine typical food habits for cultural groups present and past, as well as for subcultures, defined by such characteristics as age, sex, and ethnic groups". Food attitudes can also be used to characterize market segments within a culture, such as to predict food consumption of individual products in a food service setting (Schutz, Fridger, Damrell, 1975; and Tom and Schutz, 1979).

Validity of Attitude-Measuring Instruments

In developing measuring instruments, one may be able to use several compilations of scales and indexes that have been tested (McCullough,

1980; Dawber, 1962; Block, 1982). It may be that entire instruments, or certain items, formats, or procedures may be useful. When direct comparisons with previous measurements are needed to establish trends or to make standardized comparisons, a great deal of care should be taken to replicate the instrument as carefully as possible, assuming that the earlier measure is worth replicating (Wimberly, 1980; Carruth and Anderson, 1977).

Abrams (1966) researched the validity of different scales and found no conclusive evidence that indicated that one type of scale was consistently superior to others for measuring food attitudes. A reliable measure gives consistent or repeatable results in absence of any true change in the object being measured. Scientifically, it can not be assumed that validity or truth can ever be directly known, however, it is something that is sought.

Purchasing Habits

Consumer surveys continue to show that dietary patterns are being changed by nutritional concerns over health consequences of food choices (Jones and Weimer, 1981). Studies indicated that health concerns also affect purchasing habits (Sloane, Leone, Powers, and McNutt, 1984; J. Food Marketing Institute, 1986; Ehlers, and Fox, 1982; Community Nutrition Institute, 1986).

In a recent study by the Wheat Industry Council (1983) which concentrated on nutrition, health, and shopping considerations, women showed more interest in these areas than men. More specifically, white females in households without children were most interested in nutritional information and this interest tended to increase with age. This study

also reviewed common shopping practices of consumers. They found that more consumers were checking dates on products, redeeming coupons, making shopping lists, reading ads, and taking advantage of unit pricing.

Zbytniewski (1979) studied common shopping practices of people over the age of 65 years old, and concluded that they were conscientious consumers. This elderly sample was likely to redeem coupons, make shopping lists, and read store ads. This group showed more "store loyalty," spent more time in the grocery store, but spent less money than consumers younger than age 65. This age group preferred shopping prior to noon and shopping on Thursdays, Fridays, and Saturdays (Miller and Powell, 1985).

What factors determine the food choice by consumers? In the past, the cost of a product was an important factor in deciding which product to buy, however, with the slight easing of the economic situation, consumers are not as price-conscious as they have been in the past (Sloane, 1984). In a survey of 200 women, 35 percent said that they shopped for quality, while only five percent revealed that they shopped only for price. If quality and price are both considered, however, 60 percent agreed that this was most important. Another concern of consumers is that of food safety (J. Food Marketing Institute, 1986), where the majority of food shoppers now check the packaging to make sure that it is safe.

Another area that has been researched is the different influences that effect food selection. In a study involving 1100 women (Cross, Herrmann, Warland, 1975), factors affecting food selection was described in four stages of the lifecycle. For younger women who headed the household, food selections were based on convenience items, a shorter

time period to shop, and shopping for the best buys.

The younger family household's greatest concern was economizing on the food budget. Concerns of limiting calorie intake and cholesterol-producing foods were greatest in middle-aged households. Among the older husband and wife households, concerns of economizing on food budgets and preparation time continued to decrease, while more households were influenced by health concerns. Schafer and Keith (1981) found that although food decisions were made by the person responsible for the purchasing and consumption decisions, family members influenced these decisions over time.

Consumption Patterns

It is a social and economic fact that in times of hardship, there is a great demand for bread. Bread continues to be called the "Staff of Life", conveying the sense of man's dependence upon wheat and its products. Bread is very important, but in times of peace and plenty, there is usually a decline in consumption of bread, the preference being for meat, vegetables, and confectionery (Bailey, 1975; Popkin and Haines, 1981).

The increasing complexity and changing characteristics of the food supply, along with heightened consumer interest in health and nutrition, have increased the need for continuous understanding of consumption patterns (Windham, Wyse, Hurst, and Hansen, 1981). In reference to wheat consumption, there have been low periods of consumption, but recent trends show an increase in flour and cereal products (Roger, 1984). In 1984, total per capita use of flour and cereal products was 149.5 pounds, compared to 139.4 pounds in 1970-1974, 204 pounds in 1945-1949,

and 287 pounds per person in 1910-1915 (Bunch, 1986, Bunch, 1986).

In the 1977-78 Household Food Consumption Survey (Pao, 1981) figures indicated that bread consumption had increased from consumption figures in 1965, where 95 percent of each sex/age group reported consuming bread at least once during the day. In the survey, 79 percent of the individuals consumed breads, 53 percent used baked goods in their diet, 42 percent consumed cereals and pastas, while 19 percent consumed grain mixtures. One-fourth of the energy for all sex/age groups was from the bread and cereal category which also supplied one-fifth of the protein requirements. Total consumption of bread and flour products were higher for children and teens, but not adults, when compared to previous years.

A sample was selected from the individuals in the 1977-78 National Food Consumption Survey, based on demographic variables (Cronin, Krebs-Smith, Wyse, and Light, 1982). An average of 2.4 servings from the bread and cereal groups were consumed daily by almost everyone. Males consumed more bread and cereal products than females, and nonwhites consumed more than whites. White flour products were selected most frequently, while 22 percent of this sample population chose whole grain products. Pasta consumption was reported by 11 percent of the sample population, with most of these people living in the Northeast.

Results have varied as to the effect of demographic variables on consumption patterns. Age however, does seem to be an important factor in determining consumption of wheat products. College-aged women were more likely to exclude bread from their diet (Jacobovits, Halstead, Kelly, Roe, and Young, 1977; Hernon, Skinner, Andrews, Penfield, 1986), however, they did frequently snack on bread and bread products (Khan and

Lipke, 1982). Middle-aged women consumed less than the minimum amount of breads and cereals when compared to the basic four food groups (Sempos, Johnson, and Gilligan, 1984; Roe, Campbell, Sheu, Hale-Wickham, and Jackson, 1982), and also consumed whole grain products well below the recommended minimum intake. The elderly population were likely to consume more whole wheat products than other age groups (Kronl, Lau, Yurkiw, and Coleman, 1982).

There have been contradicting results as to whether the level of education has an affect on wheat product consumption. In a 1986 study (Hanna and Carter, 1986), findings for the consumption of grain products were not influenced by the wife's level of education. This finding was contrary to the findings reported by Abdel-Ghany and Schrimper, (1978).

Popkin and Haines, (1981) concluded that the consumption of bread does not change much with a change in income level. In a study of food used by well-educated young parents, however, respondents consumed higher-priced protein foods more frequently than lower-priced bread and cereals (Bassler and Newell, 1982). Business Trends Analysts (1986) explain that selected grain products have often been cited as inferior commodities because consumption declines as income increases. Pasta however, appeals to low income households and is also becoming popular among more wealthy individuals (U.S. Pasta Market, 1986).

The number of persons in a household seems to affect the foods that are most commonly used. The main differences in consumption of wheat products by single- and multi-person households were evident in whole wheat bread and pasta products (Richardson, Pearson, and Capps, 1985). Multi-person households used pasta more frequently, while single-person households consumed more whole wheat bread.

CHAPTER III

METHODOLOGY

This research is one of several research projects on demands for and consumer behavior towards various food products such as beef, sugar, fruits and vegetables, snacks, dairy products, fish and others which are being explored in the Food, Nutrition and Institution Administration Department, College of Home Economics, Oklahoma State University. This study will determine the purchasing habits, consumption patterns and attitudes of Oklahoma Homemakers toward specific wheat products. The research design, population and sample, data collection, and analysis of data will be included in this chapter.

Research Design

This study is a descriptive status survey which is concerned with hypothesis formulation and testing the analysis of relationships between nonmanipulated variables, and the development of generalizations. Descriptive research is the recording, analysis, and interpretation of conditions that exist (Best, 1981). Dependent variables in this study consisted of the responses to questions obtained from the questionnaire relating to consumer attitudes, purchasing habits, and consumption patterns.

Population and Sample

There are approximately 18,000 members in the Oklahoma Extension Homemaker Clubs based on the 1986 membership roster compiled by the Home Economics Cooperative Extension Office, Oklahoma State University. A stratified random sample of 625 members from the four districts were drawn for this study. Generalizations from the results of this study will only apply to this group.

Data Collection

Research Instrument

The research instrument (Appendix A) was developed after reviewing a wheat consumption questionnaire from the Wheat Industry Council (1983). Several questions were taken from the wheat industry council instrument and modified to meet the objectives in this study.

The first draft of the questionnaire was reviewed by members of the researcher's committee. Content validity, format, and clarity of the questionnaire were reviewed, suggestions were noted, and revisions were made following this review. The revised draft was then given to approximately 25 women of various education and employment back grounds in Stillwater on October 25, 1986 as a pilot test so that further problems could be identified. These women were asked to complete the survey and to comment on any areas that were unclear (Appendix A). Fifteen questionnaires were returned and no changes were made following this pilot test.

Procedure

The final draft of the questionnaire was printed at the Duplicating Center, College of Architecture and Engineering Technology on campus. The questionnaires was designed so that it could be folded, stapled, and the individual's address would appear on the outside of the questionnaire. To return the questionnaire, the respondent refolded the instrument to display the Central Mailing Services return address. Postage was provided to facilitate the return of the questionnaire.

All questionnaires were mailed on November 17, 1986, through the University Central Mailing Services. After two weeks, post cards were sent to individuals who had not yet returned the questionnaire. Those who had completed and returned the questionnaire, were sent wheat recipe booklets which had been donated by Oklahoma, Kansas, and North Dakota Wheat Commissions. Questionnaires were received until January 11, 1987. Of the 625 questionnaires mailed out, 216 were returned which was a 34. percent return rate.

Analysis of Data

Data obtained from the questionnaire were entered on a computer disk and analyzed using the Statistical Analysis System (SAS), (Barr and Goodnight 1979). Frequencies and percentages were derived. Chi Squares were used to determine associations between demographic variables, and consumer attitudes, purchasing patterns, and consumption habits of the Oklahoma homemakers.

CHAPTER IV

RESULTS AND DISCUSSION

This chapter includes the demographic characteristics of the sample. The association between demographic variables and their relationship with purchasing habits and consumption patterns will also be described.

Demographic Characteristics of Sample

Age

About half of the respondents (N=100, 49%) were in the age category of 61 years and older. One hundred and four of the 204 (51%) respondents were in the remaining four age categories. (Table 1.)

Racial and Ethnic Background

Some discrepancies in this question were apparent due to the respondents' inability to distinguish the differences between native American and Caucasian on the questionnaire. Because of the inaccuracy in the responses, racial or ethnic background will not be discussed further.

Table 1

DEMOGRAPHIC CHARACTERISTICS OF SAMPLE

Demographics	Number	Percent*
Age (Years) N=204		
20-30	12	5
31-40	27	13
41-50	28	14
51-60	37	18
61 and Older	100	49
Marital Status N=211		
Single/Never Married	3	1
Married	151	72
Widowed/Divorced/Separated	57	27
Education N=216		
Less than High School Graduate	24	11
High School Graduate	84	39
Attended College		26
College Graduate/Post Graduate	52	24
Community Size N=209		
More than 150,000	11	5
25,000 to 150,000	35	17
2,500 to 24,999	60	29
Less than 2,500	103	49
Employment N=209		
Employed Full-Time	27	13
Employed Part-Time	27	13
Homemaker	66	32
Unemployed	4	2
Retired	65	31
Other	20	10
Total Family Income N=166		
Less than \$10,000	27	14
\$10,000 to \$14,999	31	16
\$15,000 to \$24,999	60	32
\$25,000 to \$39,999	50	26
More than \$40,000	22	12

Table I (Continued)

Demographics	Number	Percent*
Household Size N=213		
1 Person Household	44	21
2 Person Household	100	47
3-4 Person Household	55	26
5-6 Person Household	14	7

*Percentages are based on 100 percent and rounded for convenience

Marital Status and Education

Seventy-two percent (N=151) of the respondents in this study were married. The remaining 27 percent were widowed/divorced/separated, while one percent were single/never married. With respect to education, approximately 50 percent were high school graduates or had less than high school educations, while the other half had either attended college or were college graduates/post graduates. The respondents in the high school graduate category, comprised the largest group. (Table 1).

Community Size and Employment

Those who lived in a community of less than 2,500 people represented the greatest number of respondents (103 out of 209, 99%) in this category, while 29 percent (N=60) of the respondents were from a small city of 2,500 to 24,999 people. In relation to employment status, two-thirds of the respondents were either homemakers or retired individuals, while one-fourth were employed full-time or part-time (Table 1).

Income and Household Size

Nearly 32 percent of the sample earned between \$15,000 to \$24,000 annually, while 61 of the 166 respondents (37%) were in the income level of \$25,000 or higher. Although household sizes varied, 100 of the 213 respondents in this sample, lived in households with two people. Over one-fourth of the sample lived in three-or-four person households, while 21 percent of the respondents lived by themselves (Table 1).

Consumer Characteristics of Sample

The primary responsibility for food purchasing and preparation was that of the respondent. They were most likely to shop on Thursdays and Fridays between 8 am and 4 pm. These purchasing patterns supported the findings of a study conducted by the Wheat Industry Council (1983). The majority of the respondents purchased all-purpose flour in the last six months, in five pound packages. They were aware of the caloric level of white and whole wheat bread but few respondents knew the calorie content for other wheat products (Appendix A).

Purchasing Habits and Consumption Patterns of Wheat Products

Hypotheses 1: There is no significant difference in purchasing habits and consumption patterns of wheat products by Oklahoma homemakers based on selected demographic variables: a) Age b) Marital Status c) Education d) Community Size e) Employment Status f) Income g) Household Size.

Age

Age significantly affected ($p=.02$) nutritional labeling in the older respondents, with 90 percent of the 61 and older age group paying "some" to "a lot" of attention to labeling. Only seven of the 12 respondents in the 20 to 30 year age category were concerned with nutritional labeling. This supports the findings by the Wheat Industry Council (1983). The brand of wheat products purchased also had a significant association ($p=.0001$) with age, where 55 percent ($N=11$) of the 20 to 30 year olds most often purchased the least expensive wheat

TABLE II

CHI SQUARE DETERMINATION INDICATING ASSOCIATIONS BETWEEN
SELECTED DEMOGRAPHIC VARIABLES AND PURCHASING AND
CONSUMPTION PATTERNS

Demographic Variables	Purchasing and Consumption Patterns				
Age	Nutritional Labeling (1)#	Brand (2)	WW Flour-Bread (3)	Entertain Adults(4)	Consumption Now to 2yrs(5)
$\chi^2 =$	18.38	45.46	12.65	25.40	15.65
df =	8	16	4	4	8
p =	0.02*	0.0001***	0.01*	0.0001***	0.05*
Marital Status	Brand (6)	Consumption Now to 2yrs(7)	Appetite Change (8)	Household Change (9)	
$\chi^2 =$	22.31	8.64	4.19	37.74	
df =	4	2	1	1	
p =	0.0001***	0.01*	0.04*	0.0001***	
Education		Coupons (10)	Entertain Adults(11)		
$\chi^2 =$		10.329	8.83		
df =		3	3		
p =		0.02*	0.03*		
Community Size		Coupons (12)			
$\chi^2 =$		8.99			
df =		3			
p =		0.04*			
Employment		Shopping Time(13)			
$\chi^2 =$		44.13			
df =		20			
p =		0.001**			
Income		Personal Recommendations (11)			
$\chi^2 =$		10.04			
df =		4			
p =		0.027*			

TABLE II (continued)

Demographic Variables	Purchasing and Consumption Patterns
Household Size	Brand (15)
$\chi^2 =$	46.30
df =	12
p =	0.0001***

Number in () indicates the number of Chi Square Table in Appendix II.

- * $p \leq 0.05$
- ** $p \leq 0.001$
- *** $p \leq 0.0001$

product while the majority of all other age groups purchased name brand products (Table II). Age significantly affected ($p=.013$) the use of whole wheat flour. Thirty-three percent ($N=12$) of the 20 to 30 year olds used whole wheat flour to make bread, whereas, more than three-fourths ($N=39$) of the 51 to 60 age group used whole wheat flour for bread (Table II).

There was a significant association ($p=.0001$) between age and purchasing wheat products when entertaining adults. Eighty-three percent of the 20 to 30 year olds were most likely to purchase special wheat products when entertaining adults, while only 10 percent of the 41 to 50 year olds, made these special purchases (Table II). Age significantly affected ($p=.048$) wheat product consumption. Nearly 70 per cent of those 61 and older, indicated that they consumed less wheat products now compared to two years ago, while the majority of all other age groups responded to consuming more (Table II).

Marital Status

Chi square determination showed that the marital status of women significantly affected ($p=.0001$) the brand of wheat product most often purchased. Only 36 of the 52 widowed/divorced/separated women purchased name brand wheat products, while 55 percent ($N=146$) of the married women made these purchases (Table II).

In Table II a significant association ($p=.013$) existed between marital status and wheat consumption now, compared to two years ago. Sixty-four percent ($N=151$) of the married women said they consumed the same amount of wheat products now, while only 51 percent ($N=51$) of the widowed/divorced/separated women indicated this.

There was a significant association ($p=.041$) between marital status and consumption of wheat products due to change in appetite. Ten percent ($N=155$) of the married respondents indicated that their consumption of wheat products over the last two years had changed due to change in appetite, while 21 percent ($N=57$) of the widowed/divorced/separated individuals responded to this, (Table II). Marital Status significantly affected ($p=.0001$) wheat consumption because of a change in household size. Of the widowed/divorced/separated women responding, 44 percent ($N=57$) said that change in household size was a reason their consumption had changed, compared to only eight percent ($N=155$) of the married respondents (Table II).

Education

Nearly two-thirds ($N=43$) of the respondents who were college graduates/post graduates said that coupons influenced them when purchasing wheat products, ($p=.016$). On the other hand, five of the 21 individuals with less than a high school education, said that coupons influenced them (Table II). Education significantly affected ($p=.032$) purchasing wheat products when entertaining adults. Between 27 and 35 percent of the respondents ($N=192$) who were high school graduates, attended college, or were graduates/post graduates, indicated that they purchased special wheat products when entertaining adults, while four percent ($N=24$) of those with less than a high school education, made these special purchases (Table II).

Community Size

There was a significant association ($p=.039$) between community size and influence of coupons. Forty percent ($N=91$) of those who lived in a small town were influenced by coupons, whereas 83 percent ($N=6$) of those who lived in large cities were influenced by coupons in purchasing (Table II).

Employment

There was a significant association ($p=.001$) between employment and shopping time where 48 percent ($N=27$) of the respondents who were employed full-time shopped between four pm and eight pm, while 29 of 64 retired persons shopped between eight am and 12 pm. The most popular shopping times for all other groups were between 12 pm and 4 pm (Table II).

Income

Income level significantly affected ($p=.027$) the influence of personal recommendations when purchasing wheat products. More than two-thirds ($N=18$) of those in the above \$40,000 income level indicated that personal recommendations influenced them when purchasing while less than 20 percent of the respondents in the less than \$10,000 income level stated that personal recommendations influenced their purchasing behavior (Table II).

Household Size

The size of household the respondent lived in significantly affected ($p=.0001$) the brand of product most often purchased. Nearly 60

percent (N=14) of those in households of five to six persons most often purchased store brands, while respondents living in one-to-four person households, most likely purchased name brand products (Table II).

Testing of H₁

Based on the results shown in Table II and also in Tables 1-15 in Appendix B, the researcher rejected H₀. Results indicated significant differences in purchasing habits and consumption patterns of specific wheat products by Oklahoma Homemakers, based on selected demographic variables.

Consumer Attitudes Toward Specific Wheat Products

Hypotheses 2: There is no significant difference in consumer attitudes of Oklahoma Homemakers toward specific wheat products based on selected demographic variables in H₁.

Age

Age significantly affected the amount of yeast bread from white flour that was needed in the diet as perceived by Oklahoma homemakers. In Table III, approximately half (N=39) of the 20 to 30 year olds and 31 to 40 year olds indicated that they had the "right amount" of yeast bread from white flour in their diet, in comparison to only one-third (N=104) of the 61 and older age group. There was a significant association ($p=.030$) between age and those who indicated that they had the "right amount" of pasta from white flour in their diet. Seventy-five percent (N=12) of the 20 to 30 year olds said they had the "right amount", compared to 29 of the 103 respondents who were 61 and older

TABLE III

CHI SQUARE DETERMINATION INDICATING ASSOCIATIONS BETWEEN
CONSUMER ATTITUDES AND SELECTED DEMOGRAPHIC VARIABLES

Demographic Variables	Attitudes			
	Yeast Bread- White Flour(16)#	Pasta- White Flour(17)	Pasta WW Flour(18)	Convenience- White Flour(19)
$\chi^2 =$	25.65	22.70	21.60	47.060
df =	12	12	12	12
p =	0.01*	0.03*	0.04*	0.0001***
	White Bread- Children Like(20)	WW Bread- Nutritious(21)	WW Bread- Fresh (22)	WW Bread- Wholesome(23)
$\chi^2 =$	29.42	10.75	16.99	15.22
df =	4	4	4	4
p =	0.0001***	0.03*	0.002*	0.004*
	WW Bread- Toasting(29)	A.P. Flour- Trusted(25)	A.P.Flour Good Value	WW Flour- Nutritious(27)
$\chi^2 =$	11.84	23.21	15.50	16.64
df =	4	4	4	4
p =	0.02*	0.0001***	0.0004*	0.002*
	WW Flour- Trusted(28)	WW Flour- Natural(29)	WW Flour-Few Preservatives (30)	Spaghetti- Children Like(31)
$\chi^2 =$	10.0	16.92	14.06	22.44
df =	4	4	4	4
p =	0.01*	0.002*	0.01*	0.0001***
	Spaghetti- Wholesome(32)	Spaghetti- Starchy(33)	Macaroni- Nutritious (34)	Macaroni- Children Like(35)
$\chi^2 =$	32.04	20.90	10.33	30.71
df =	4	4	4	4
p =	0.0001***	0.0001***	0.04*	0.0001***
	Macaroni- Good Value(36)	Macaroni- Starchy(37)		
$\chi^2 =$	18.34	15.58		
df =	4	4		
p =	0.001**	0.004*		

TABLE III (Continued)

Demographic Variables	Attitudes		
Marital Status	Product Cost (38)	Yeast Bread-White Flour(39)	
$\chi^2 =$	4.55	9.23	
df =	1	3	
p =	0.03*	0.03*	
Education	Concern for Nutrition(40)	Eat Nutritious, Now to 12 yrs(41)	Informed of Nutrition(42)
$\chi^2 =$	33.17	17.01	45.23
df =	9	9	9
p =	0.0001***	0.05*	0.0001***
	Product Quality(43)	Product Cost(44)	Quick Bread-WW Flour(45)
$\chi^2 =$	17.47	8.77	17.68
df =	3	3	9
p =	0.0001***	0.03*	0.04*
	Convenience WW Flour(46)	White Bread-Low Fiber(47)	White Bread-Nutritious(48)
$\chi^2 =$	17.35	12.53	8.80
df =	9	3	3
p =	0.04*	0.01*	0.03*
	WW Bread-Toasting(49)	Spaghetti-Children Liked(50)	Spaghetti-Good Value(51)
$\chi^2 =$	11.03	17.96	12.19
df =	3	3	3
p =	0.01*	0.0001***	0.01*
	Macaroni-Good Value(52)		
$\chi^2 =$	10.31		
df =	3		
p =	0.016*		

TABLE III (Continued)

Demographic Variables	Attitudes		
Employment	Yeast Bread- WW Flour (53)	WW Bread- Nutritious(54)	WW Flour Nutritious(55)
$\chi^2 =$	25.90	15.34	21.21
df =	15	5	5
p =	0.04*	0.01*	0.001**
	Spaghetti- Children Liked()	Macaroni- Children Liked(57)	
$\chi^2 =$	13.04	14.71	
df =	5	5	
p =	0.02*	0.01*	
Income	Concern for Nutrition(58)	Informed about Nutrition(59)	Trust WW Flour(60)
$\chi^2 =$	26.32	23.67	11.27
df =	12	8	4
p =	0.01*	0.01*	0.02*

Number in () indicates the number of Chi Square Table in Appendix B.

- * $p \leq 0.05$
- ** $p \leq 0.001$
- *** $p \leq 0.0001$

(Table III).

In Table III, age significantly affected ($p=.042$) the amount of pasta from whole wheat flour that was needed in the diet. One-third of the 20 to 30 year olds ($N=12$) felt they had the "right amount" of pasta from whole wheat flour in their diet, while less than 10 percent of all other age groups felt they had the "right amount". There was a significant association ($p=.0001$) between age and the amount of convenience food from white flour that was needed in the diet. Fifty-eight percent of the 20 to 30 year olds ($N=12$) indicated they had the "right amount" of convenience food from white flour in their diet, while as age increased, the percentages who felt they had the "right amount" in their diet, decreased (Table III).

Age also significantly affected ($p=.0001$) how respondents described white bread. As age of the respondent increased, those who described white bread as being liked by children, tended to decrease. This supported the results found by the Wheat Industry Council (1983). More than 80 percent of the 20 to 30 years old, described white bread as being liked by children, while less than one-third ($N=108$) of the 65 and older age group indicated this (Table III).

Age significantly affected ($p=.03$) those who described whole wheat bread as nutritious. All of the 20-30 year olds and 92 percent of the 51-60 year olds, described whole wheat as nutritious while nearly 70 percent of all other age groups described it this way (Table III). There was a significant association ($p=.002$) between age and those who described whole wheat bread as fresh. Over 90 percent ($N=12$) of the 20-30 year olds described whole wheat bread as fresh while one-third of the 104 respondents in the 61 and older age group described whole wheat

bread as fresh (Table III).

A significant association ($p=.004$) existed between age and describing whole wheat bread as wholesome. While 82 percent of the 51-60 year olds ($N=39$) described whole wheat bread as wholesome, 100 percent of the 20-30 year olds described whole wheat bread in the same way (Table III). Age significantly affected ($p=.019$) those who described whole wheat bread as good for toasting. More than 80 percent of the 20-30 year olds and 31-40 year olds said that whole wheat bread was good for toasting, while only one-half ($N=29$) of the 41-50 age group said the same (Table III).

There is a significant association ($p=.0001$ and $p=.004$) between age and those who describe all-purpose flour as a product that was "trusted", and as being of "good value" for the money. The two age groups between 20 and 40 years old were more likely to describe flour as being trusted, while the majority of all other age groups did not (Table III). Less than one-third ($N=59$) of the respondents between 31 and older, described all-purpose flour as good value for their money, while over 80 percent of the 20-30 year olds ($N=12$) did describe flour in this way (Table III).

In the age category, there was a significant association ($p=.05$) with the respondents perception of describing whole wheat flour as nutritious, a product they trusted, natural, and having a few preservatives. While only 45 percent ($N=105$) of the 61 and older described whole wheat flour as nutritious, the majority of all other age categories, described whole wheat flour as nutritious (Table III). Less than one-fourth of the individuals in the 61 and older age group described whole wheat flour as a product they trusted whereas up to 58

percent of all other age groups trusted whole wheat flour (Table III). Whole wheat flour was described as natural by 11 of 12 individuals who were 20 to 30 years old, while 37 of the 108 respondents in the 61 and older group described whole wheat flour as natural (Table III). One half (N=39) of the 20 to 40 year olds described whole wheat flour as having few preservative, while less than one-fourth (N=108) of the 61 and older group described whole wheat in the same way (Table III).

Age was significantly associated ($p=.0001$) with those who described spaghetti as being liked by children. Nearly 83 percent of the 20 to 30 year olds (N=12) and one-fifth of the 61 and over age group (N=104) did describe spaghetti as starchy (Table III). Age was significantly associated ($p=.0001$) with those who described spaghetti as being wholesome. As age increased, spaghetti was less likely to be described as wholesome. The chi-square table indicates a significant association ($p=.0001$) between age and those who describe spaghetti as starchy. While 39 of the 108 respondents of the 61 and older age group described spaghetti as starchy, more than 80 percent (N=12) of the youngest age group were likely to describe spaghetti in this way (Table III).

Macaroni was described as nutritious, liked by children, a good value for money, and starchy. There were significant associations ($p \leq .05$), between age and those who described macaroni as nutritious. Between 30 and 50 percent of those who were 31 years old and older, described macaroni as nutritious, while three-fourths (N=12) of the 20 to 30 years olds indicated that macaroni was nutritious (Table III). Macaroni was less likely to be described as being liked by children as age increased (Table III), while macaroni was described as a good value for money by the younger respondents (Table III).

Chi-square determinations indicated that there was a significant association ($p=.004$) between age and describing macaroni as starchy. Ten of the 29 respondents between 41 and 50 years old, described macaroni as starchy, while three-fourths ($N=12$) of the 20 to 30 year olds, described macaroni in this way (Table III).

Marital Status

In Table III, a significant association ($p=.033$) existed between marital status and cost of the product. Almost 72 percent of the married women indicated that cost of the product was important when purchasing, while percent of the widowed/divorced/separated individuals responded to this. A significant association ($p=.026$) existed between marital status and the amount of white yeast bread believed to be needed in the diet. Although 35 percent of all married women or widowed/divorced/separated women indicated that they had the "right amount" of yeast bread from white flour in their diet, the two groups varied when asked if they needed more or less yeast breads in their diet (Table III).

Education

Education significantly affected ($p=.0001$) the concern for nutrition of the Oklahoma homemakers. As the respondents' level of education increased, the concern for nutrition also tended to increase (Table III). There was a significant association ($p=.049$) between education and eating more nutritiously now compared to two years ago. Those who were high school graduates, attended college, or were college graduates/post graduates, were likely to eat more nutritiously now, than

a few years ago (Table III). Education level also had a significant affect ($p=.0001$) on how informed the person was of general nutrition. Again, as the level of education increased, the homemakers tended to be more informed of general nutrition (Table III).

In Table III, education significantly affected ($p=.033$), the concern for product quality. Eighty-two percent ($N=$) of those who attended college had the greatest concern for cost of the product, while 67 percent ($N=52$) of the college graduates/post graduates indicated this concern (Table III).

Education also significantly affected ($p=.038$) the amount of quick breads from whole wheat flour believed to be needed in the diet. Of all who used quick breads from whole wheat flour, only those who had attended college (25%) indicated that they had the "right amount" of quick breads in their diet. All other respondents, regardless of education level, indicated that they needed more quick breads from whole wheat flour in their diet (Table III).

Education significantly affected ($p=.044$) the amount of convenience products from whole wheat flour that was needed in the diet. As education increased, those who attended college or were college graduates/post graduates indicated that they had the "right amount" of convenience products from whole wheat flour. On the other hand, high school graduates and those with less than high school education, "needed more" products from whole wheat flour (Table III).

A significant association ($p=.006$) existed between education and describing white bread as low in fiber (Table III). As education level increased, those who described white bread as low in fiber, also increased.

Education significantly affected ($p=.032$) those who described white bread as nutritious. Of those who attended college or were college graduates/post graduates, nearly half ($N=108$) described white bread as nutritious, while only 32 of 108 with high school educations and below, described white bread in this way (Table III). A significant association ($p=.012$) existed between education and describing whole wheat bread as good for toasting. Of those who were college graduates/post graduates, almost 80 percent ($N=52$) described whole wheat bread as good for toasting, while only half ($N=84$) of those who were high school graduates described whole wheat bread in this way (Table III).

Education significantly affected ($p=.0001$) those who described spaghetti as being liked by children. As the level of education increased, those who described spaghetti as being liked by children tended to increase (Table III). Education also significantly affected ($p=.007$) describing spaghetti as a good value for the money. About half of those who attended college or were college graduates/post graduates described spaghetti as a good value for the money, while less than 30 percent of those with high school education and below, described spaghetti in this way (Table III).

A significant association ($p=.016$) existed between the level of education and those who described macaroni as a good value for the money. More than half of those who were college graduates/post graduates, described macaroni as a good value for the money while 23 of 84 high school graduates described macaroni in the same way (Table III).

Employment

Employment significantly affected ($p=.039$) the amount of yeast bread from whole wheat flour that was needed in the diet. The majority of all employment groups excluding retired individuals, indicated that they had the "right amount" of yeast bread from whole wheat flour in their diet, while 41 percent of the retired respondents said they "needed more" whole wheat yeast bread in their diet (Table III).

There was a significant association ($p=.009$) between employment and describing whole wheat bread as nutritious. Forty-four out of 68 retired respondents described whole wheat bread as nutritious, compared to 100 percent of the unemployed and "other" categories ($N=4$ and $N=20$ respectively) (Table III). There was a significant association ($p=.001$) between employment and describing whole wheat flour as nutritious. Again, the retired individuals were least likely to describe whole wheat flour as nutritious (34%) while 70 percent ($N=27$) of the part-time worker described whole wheat flour as nutritious (Table III).

A significant association ($p=.023$) existed between employment and describing spaghetti as being liked by children. Spaghetti was described as being liked by children by 59 percent ($N=54$) of both full-time and part-time workers, while only 24 of 69 retired persons described spaghetti in this way (Table III). Part-time workers and homemakers were more likely to describe macaroni as being liked by children with percent and 59 percent respectively, while 20 of the 69 retired persons described macaroni as being liked by children. This was based on a significant association ($p=.012$) between employment and describing macaroni as being liked by children. (Table III).

Income

There was a significant association ($p=.010$) between income and concern for nutrition now as compared to a few years ago. The \$10,000 to \$14,000 income group showed the greatest concern for nutrition, with 25 of the 31 responding to being "more concerned" about nutrition (Table III). In Table 59 (Appendix II), more than half of those with income of \$25,000 and above, indicated that they were "very well informed" about general nutrition, while less than 35 percent ($N=18$) of those below \$25,000 were "very well informed" about general nutrition. This was based on the significant association ($p=.003$) between income and how informed the person was on general nutrition.

Income significantly affected ($p=.029$) if the respondents trusted whole wheat flour. When describing whole wheat flour as a product they trusted, those with income levels above \$24,999 were more likely to indicate they trusted whole wheat flour (45 to 48 percent) while those below \$25,000 were not as likely to describe whole wheat flour as a product they trusted (Table III).

Testing of H_2

The attitudes of Oklahoma Homemakers toward specific wheat products were not significantly ($p=.05$) different, based on community size and household size. Significant differences in attitudes about specific wheat products were however, evident based on age, marital status, employment, and income (Table III, and Tables 16-60 in Appendix B). Therefore, based on the results, the researcher rejected H_2 .

Effect of Consumer Attitudes on Purchasing
Habits and Consumption Patterns

Hypotheses 3: There is no significant difference in Oklahoma Homemakers' purchasing habits and consumption patterns based on consumer attitudes.

Product Quality

The importance of product quality was compared to buying special wheat products for family gatherings, when entertaining adults, and for holidays. A significant association ($p=.001$) existed between product quality and purchasing wheat products for family gathering. Of the 174 who indicated that product quality was important, 116 responded to purchasing wheat products for family gatherings (Table IV). Product quality significantly affected ($p=.011$ and $p=.009$) purchasing wheat products when entertaining adults and for holidays. Nearly one-third ($N=174$) who said that product quality was important, and purchased special wheat products when entertaining adults (Table IV), while 115 of 132 purchased special wheat products for holidays (Table IV).

Cost of Product

Of the 138 responding to cost as being important when purchasing wheat products, a significant association ($p=.039$) existed between cost of product and brand of wheat product that is most often purchased. Seventy-four (54 percent) of the respondents who said that cost was important, purchased name brand wheat products, while 35 percent ($N=48$) were likely to purchase store and least expensive brands (Table IV).

TABLE IV

CHI SQUARE DETERMINATION INDICATING ASSOCIATIONS
BETWEEN CONSUMER ATTITUDES AND SELECTED
PURCHASING HABITS AND CONSUMPTION PATTERNS

CONSUMER ATTITUDES		PURCHASING AND CONSUMPTION PATTERNS		
Product Quality		Family Gatherings(61)#	Entertain Adults(62)	Holidays (63)
$\chi^2 =$		10.68	6.52	8.50
df =		1	1	1
p =		0.001**	0.01*	0.004*
Cost of Product		Brand(64)		
$\chi^2 =$		10.11		
df =		4		
p =		0.04*		
Nutritional Quality		WW Flour Muffins/Biscuits(65)	Entertain Adults(66)	Holidays (67)
$\chi^2 =$		5.13	9.41	4.01
df =		1	1	1
p =		0.02*	0.002*	0.05*
Amount of White Yeast Bread Needed		Brand(68)		
$\chi^2 =$		26.89		
df =		12		
p =		0.01*		
Amount of WW Yeast Bread Needed		Entertain Adults(69)		
$\chi^2 =$		9.57		
df =		3		
p =		0.02*		
Amount of WW Quick Bread Needed		WW Flour - Bread(70)	Entertain Adults(71)	
$\chi^2 =$		9.27	8.60	
df =		3	3	
p =		0.03*	0.04*	

TABLE IV (Continued)

Consumer Attitudes	Purchasing and Consumption Patterns	
WW Bread as Nutritious	Holidays(72)	
$\chi^2 =$	4.83	
df =	1	
p =	0.03*	
WW Flour as Nutritious	WW Flour Pancakes/waffles(73)	
$\chi^2 =$	3.88	
df =	1	
p =	0.05*	
WW Bread as Fresh	Family Gatherings(74)	
$\chi^2 =$	7.63	
df =	1	
p =	0.01*	
Trust All-Purpose Flour	Holidays(75)	
$\chi^2 =$	8.58	
df =	1	
p =	0.003*	
Trust WW Flour	Holidays(76)	
$\chi^2 =$	3.83	
df =	1	
p =	0.05*	
Trust Spaghetti	Brand(77)	Wheat Consumption-now(78)
$\chi^2 =$	10.47	6.79
df =	4	2
p =	0.03*	0.03*
WW Bread as Wholesome	Brand(79)	Holidays(80)
$\chi^2 =$	9.77	3.98
df =	4	1
p =	0.05*	0.05*

TABLE IV (Continued)

Consumer Attitudes	Purchasing and Consumption Patterns		
All-Purpose Flour as Wholesome	WW Flour Pancakes/Waffles(81)		
$\chi^2 =$	4.22		
df =	1		
p =	0.04*		
WW Flour As Wholesome	WW Flour Muffins/Biscuits(82)	WW Flour Pancakes/Waffles(83)	Wheat Consumption Now (84)
$\chi^2 =$	3.99	4.66	6.07
df =	1	1	2
p =	0.05*	0.03*	0.05*
White Bread Low in Fiber	Brand(85)		
$\chi^2 =$	11.96		
df =	4		
p =	0.02*		
Spaghetti Liked By Children	Family Gatherings(86)	Holidays(87)	
$\chi^2 =$	11.96	11.96	
df =	1	1	
p =	0.001**	0.001**	
Macaroni Liked By Children	Family Gatherings(88)	Holidays(89)	
$\chi^2 =$	8.65	8.65	
df =	1	1	
p =	0.003*	0.01*	
All-Purpose Flour Good Value For Money	Family Gatherings(90)		
$\chi^2 =$	4.18		
df =	1		
p =	0.04*		
Macaroni Good Value For Money	Family Gatherings(91)		
$\chi^2 =$	5.30		
df =	1		
p =	0.02*		

TABLE IV (Continued)

Consumer Attitudes	Purchasing and Consumption Patterns	
WW Bread As Good For Toasting	Family Gatherings(92)	
$\chi^2 =$	5.75	
df =	1	
p =	0.02*	
Spaghetti As Starchy	Brand(93)	Holidays(94)
$\chi^2 =$	16.64	4.32
df =	4	1
p =	0.002*	0.04*
Macaroni As Starchy	Holidays(95)	
$\chi^2 =$	6.74	
df =	1	
p =	0.01*	

Number in () indicates the number of Chi Square Table in Appendix II.

- * $p \leq 0.05$
- ** $p \leq 0.001$
- *** $p \leq 0.0001$

Nutritional Quality

Nutritional quality significantly affected ($p=.024$) using whole wheat flour for muffins and biscuits. Of the 127 who responded to nutritional quality being important when purchasing, 61 percent were not likely to use whole wheat flour for making muffins or biscuits (Table IV).

There was a significant association ($p=.002$) between nutritional quality and purchasing wheat products when entertaining adults. Only 36 percent ($N=127$) who indicated that nutritional quality was important, purchased special wheat products when entertaining adults (Table IV). Nutritional quality significantly affected ($p=.045$) purchasing wheat products for holidays. Of the 127 who said that nutritional quality was important, two-thirds were likely to make special wheat purchases for holidays (Table IV).

Amount of White Yeast Bread Needed

A significant association ($p=.006$) existed between the amount of yeast bread from white flour needed and the brand most often purchased. Of the 69 who responded to having the right amount of yeast bread from white flour in their diet, more than half (58 percent) were most likely to purchase name brand wheat products (Table IV).

Amount of Whole Wheat Yeast Bread Needed

The amount of yeast bread needed in the diet significantly affected ($p=.023$) purchasing wheat products when entertaining adults. More than one-third ($N=98$) of the individuals who indicated that they had the "right amount" of yeast bread from whole wheat flour in their diet, were

most likely to purchase special wheat products when entertaining adults (Table IV).

Amount of Whole Wheat Quick Breads Needed

There was a significant association ($p=.026$) between the amount of whole wheat quick bread believed to be needed in the diet and those who used whole wheat flour in quick breads. Although 119 of 213 of respondents did not use quick breads, 32 (71 percent) individuals who indicated that they "needed more" quick breads from whole wheat flour in their diet, used whole wheat flour for making bread. In contrast, only 21 (55%) of those who said that they had the "right amount" of quick breads, used whole wheat for breads (Table IV).

There was a significant association ($p=.035$) between those who had the right amount of quick breads from whole wheat flour, and purchasing wheat products when entertaining adults. In Table IV, 47 percent ($N=38$) of those who believed they had the "right amount" of quick bread from whole wheat flour, were more likely to purchase special wheat products when entertaining adults, while 29 percent ($N=45$) of those who believed they need more quick bread, purchased special wheat products when entertaining adults.

Whole Wheat Bread as Nutritious

Those who described whole wheat bread a nutritious significantly affected ($p=.028$) the purchasing of wheat products for holidays. Of the 165 who described whole wheat bread as nutritious, 65 percent were more likely to purchase special wheat products for holidays (Table IV).

Whole Wheat Flour as Nutritious

There was a significance association ($p=.049$) between those who described whole wheat bread as nutritious and using whole wheat flour for making pancake and waffles (Table IV). Eighty-seven of 120 responding to whole wheat flour as nutritious, were not likely to use whole wheat flour when making pancakes or waffles.

Whole Wheat Bread as Fresh

Those who described whole wheat bread as fresh were significantly affected ($p=.006$) by those who purchased wheat products for family gatherings. Of the 88 respondents who described whole wheat bread as fresh, 72 percent said that they were more likely to purchase special wheat products for family gatherings (Table IV).

Trust All-Purpose Flour

A significant association ($p=.003$) existed between trusting all-purpose flour and when the respondents purchased wheat products for holidays. Of the 70 who responded to trusting all-purpose flour, 76 percent were more likely to purchase special wheat products for holidays (Table IV).

Trust Whole Wheat Flour

A significant association ($p=.050$) existed between those who trusted whole wheat flour and those who purchased special wheat products for holidays. Seventy-one percent ($N=69$) of the individuals who trusted whole wheat flour, purchased special wheat products for holidays, while 20 respondents who trusted whole wheat flour did not make these special

purchases (Table IV).

Trust Spaghetti

Those who trusted spaghetti significantly affected ($p=.033$) the brand of wheat product purchased. Forty-five percent ($N=62$) who described spaghetti as a product they trusted, purchased name brand wheat products, compared with one-fourth of the individuals who trusted spaghetti and purchased store brand wheat products (Table IV). There was a significant association ($p=.034$) between those who trusted spaghetti and the amount of wheat products consumed now. Nearly 69 percent who trusted spaghetti indicated that they consumed the same amount of wheat products now, while 14 of the 64 consumed more wheat products and six respondents consumed less, compared to two years ago (Table IV).

Whole Wheat Bread as Wholesome

A significant association ($p=.045$) existed between those who described whole wheat bread as wholesome, and the brand of wheat products purchased. Almost 60 percent ($N=128$) who described whole wheat bread as wholesome, purchased name brand products, while 18 percent most often purchased store brand wheat products (Table IV). Two-thirds ($N=138$) of the respondents who described whole wheat bread as wholesome, purchased special wheat products for holidays, while one-third did not make these special purchases. This was based on the significant association ($p=.046$) between those who described whole wheat bread as wholesome and those who purchased wheat products for holidays (Table IV).

All-Purpose Flour As Wholesome

Those who described all-purpose flour as wholesome significantly affected ($p=.040$) the use of whole wheat flour for pancakes and waffles. Respondents were less likely to use whole wheat flour for pancakes and waffles, when all-purpose flour was described as wholesome. Thirty-three percent ($N=55$) who described all-purpose flour as wholesome, used whole wheat flour for pancakes and waffles, while the majority of these individuals did not use whole wheat flour in this way (Table IV).

Whole Wheat Flour as Wholesome

A significant association ($p=.046$) existed between those who described whole wheat flour as wholesome and those who used whole wheat flour for pancakes and waffles. Sixty-two of the 103 who described whole wheat flour as wholesome, did not use whole wheat flour for muffins and biscuits, while 41 respondents did use whole wheat flour in this way (Table IV). A significant association ($p=.031$) existed between those who described whole wheat flour as wholesome and those who used whole wheat flour for pancakes and waffles. Less than one-third ($N=103$) who described whole wheat flour as wholesome, used whole wheat flour for pancakes and waffles, while the majority (71%) did not use whole wheat flour in this way (Table IV). In Table IV, a significant association ($p=.031$) existed between those who described whole wheat flour as wholesome and the consumption of wheat products now. Sixty of 100 who described whole wheat flour as wholesome, consumed the same amount of wheat products now as compared to two years ago.

White Bread as Low in Fiber

A significant association ($p=.018$) existed between those who described white bread as low in fiber and the brand of wheat products most often purchased. Of the 80 respondents who described white bread as low in fiber, one-half were most likely to purchase name brand wheat products (Table IV).

Spaghetti as Liked by Children

Those who described spaghetti as liked by children significantly affected ($p=.001$) the purchase of wheat products for family gatherings. Seventy-nine out of 109 responding to spaghetti as being liked by children, were likely to purchase special wheat products for family gatherings, while 28 percent of the respondents were not likely to make these special purchases (Table IV). A significant association ($p=.001$) existed between those who describe spaghetti as liked by children and those who purchased wheat products for holidays. Nearly 72 percent of the 109 who described spaghetti as liked by children, were more likely to make special wheat purchases for holidays, while 30 respondents were not likely to make these special purchases (Table IV).

Macaroni as Liked by Children

A significant association ($p=.003$) existed between those who described macaroni as liked by children and those who were likely to purchase special wheat products for family gatherings. Seventy-two percent ($N=99$) of those who described macaroni as liked by children indicated that they were more likely to make special wheat purchases for family gatherings (Table IV). In Table IV a significant association

($p=.003$) existed between those who described macaroni as liked by children and those who purchased wheat products for holidays. Seventy-one of the 99 who described macaroni as liked by children were more likely to purchase special wheat products for holidays.

All-Purpose Flour as Good Value for Money

The chi square table indicated a significant association ($p=.041$) between all-purpose flour as a good value for money and those who purchased special wheat products for holidays. Of the 69 who described all-purpose flour as a good value, 49 also purchased special wheat products for family gatherings (Table IV).

Macaroni as a Good Value for Money

A significant association ($p=.021$) existed between macaroni as a good value for money and those who purchased wheat products for family gatherings. Of the 85 respondents who described macaroni as being a good value for money, 71 percent were likely to purchase special wheat products for family gatherings. Less than 30 percent who described macaroni in this way, were not likely to make special wheat purchases for family gatherings (Table IV).

Whole Wheat Bread as Good for Toasting

A significant association ($p=.016$) existed between those who described whole wheat bread as good for toasting and those who purchased special wheat products for family gatherings. More than two-thirds ($N=137$) who described whole wheat bread as good for toasting, were more likely to purchase special wheat products for family gatherings (Table

IV).

Spaghetti as Starchy

Chi-square table determined a significant association ($p=.002$) between spaghetti as starchy and the brand of wheat products purchased. Those who described spaghetti as starchy, were more likely to purchase store brand and least expensive brand wheat products (Table IV). In Table IV, more than half (54 percent) of those who described spaghetti as starchy ($N=132$) were likely to purchase special wheat products for holidays. This was based on a significant association ($p=.038$) between purchasing wheat products for holidays.

Macaroni as Starchy

In Table IV a significant association ($p=.009$) existed between macaroni as starchy and purchasing wheat products for holiday. Fifty-four percent of those who described macaroni as starchy were likely to purchase special wheat products for holidays.

Testing of H_3

Chi-square analysis indicated significant differences in Oklahoma Homemakers' purchasing habits and consumption patterns based on consumer attitudes. Based on the results shown in Table IV and also in Tables 61-95 in Appendix B, the researcher rejected H_3 .

CHAPTER V

SUMMARY, RECOMMENDATIONS, AND IMPLICATIONS

Summary of Demographic Variable and Attitudes

This research was a study of the demographic variables and attitudes of Oklahoma Homemakers and their effect on purchasing habits and consumption patterns of specific wheat products. Quality of the product, cost, and nutritional quality were important to the respondents when purchasing wheat products. The more educated respondents were interested in product quality and cost, while the married respondents were mainly concerned with cost. When product and nutritional quality were important, the respondents purchased special wheat products for holidays and when entertaining adults.

The individuals who were 61 years of age and older, not married, and lived in one-to-two person households, most often bought name brand wheat products. Coupons were used by the more educated people who lived in larger communities, while the influence of personal recommendations by wheat products increased as income increased.

The majority of individuals felt that they had the "right amount" of most wheat products in their diet. Those who claimed consuming the "right amount" of yeast bread were younger in age, unmarried, worked full-time, and purchased name brand wheat products, but did not buy special wheat products when entertaining adults. Respondents who had

attended college and used whole wheat flour for bread, believed that they had the "right amount" of whole wheat quick bread.

White bread was viewed as being low in fiber, more suitable for children, and nutritious. On the other hand, whole wheat bread was considered to be nutritious, fresh, wholesome, and good for toasting, and consequently, the attitude about whole wheat bread affected the respondents purchasing habits of wheat products during holidays and family gatherings.

All-purpose flour was considered to be a trusted product, wholesome, and of good economic value. Whole wheat flour was thought of as nutritious, natural, having few preservatives, wholesome and a trusted product. All-purpose and whole wheat flour respondents, were likely to purchase special wheat products for holidays and family gatherings, but the positive attitudes about the flour, did not necessarily increase the use of whole wheat flour in cooking.

Spaghetti and macaroni were seen as starchy, liked by children, and of good economic value. These attitudes surfaced from respondents who were younger, more educated, and worked full or part time. They also made special wheat purchases for holidays and family gatherings.

The majority of respondents indicated that their consumption was the same now as compared with their consumption two years ago. The respondents who were not married, however, felt that their consumption of wheat products had changed due to appetite or change in size of household.

Recommendations

The first recommendation is that other survey instruments need to be examined and additional literature explored to glean all aspects or dimensions of purchasing habits, consumption patterns, and consumer attitudes. This information could then be incorporated into the instrument. Questions relating to demographics need to be clarified, while additional questions about actual wheat product consumption would be beneficial in obtaining accurate consumption information.

The second recommendation is that this study needs to be expanded to a wider audience or region in the country. A survey of a random number of households nationwide could provide further insight relative to actual consumption of wheat products in this country. In addition, different segments of the population could be surveyed to identify the similarities and differences between certain groups.

Implications

Information on actual consumption of specific food needs to be gathered otherwise healthcare providers, legislation, educators, and the public will continue to rely on disappearance data to determine the food consumption needs in the U.S. Food consumption studies would also help determine if the dietitians' efforts to educate the public about the Dietary Guidelines have been affective and what areas need more concentrated efforts.

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APPENDIXES

APPENDIX A

LETTER TO PILOT STUDY GROUP (OCTOBER 28, 1986)

LETTER TO OKLAHOMA HOMEMAKERS (NOVEMBER 17, 1986)

RESEARCH INSTRUMENT

28 OCTOBER 1986

DEAR _____ :

THERE HAS BEEN CONSIDERABLE INTEREST IN CONSUMER ATTITUDES, PURCHASING, AND CONSUMPTION PATTERNS OF WHEAT PRODUCTS FROM A DIET-HEALTH ISSUE PERSPECTIVE.

THE ENCLOSED SURVEY FOCUSES ON WHEAT PRODUCTS AND SURVEYS YOUR ATTITUDES, BUYING PATTERNS, AND CONSUMPTION OF SPECIFIC WHEAT PRODUCTS. SINCE THIS QUESTIONNAIRE IS A PRE-TEST, WE WOULD APPRECIATE IF YOU WOULD TAKE 15 MINUTES TO ANSWER ALL OF THE QUESTIONS. IF THERE ARE SOME THAT ARE UNCLEAR, PLEASE COMMENT ON HOW THEY CAN BE IMPROVED.

ALL RESPONSES WILL BE KEPT STRICTLY CONFIDENTIAL AND NOT LINKED TO ANY PARTICULAR INDIVIDUAL. THE RESPONSES WILL BE AGGREGATED AND ANALYZED AS TO PERCEIVED TRENDS WITH RESPECT TO WHEAT CONSUMPTION.

ONCE THE QUESTIONNAIRE IS COMPLETED, PLEASE RETURN IT IN THE ENCLOSED ENVELOPE BY 15 NOVEMBER 1986.

THANK YOU AGAIN FOR YOUR VALUABLE TIME, AND WE LOOK FORWARD TO HEARING FROM YOU IN THE NEAR FUTURE.

SINCERELY,

LEIA HASENAUER
RESEARCH ASSISTANT

/lh

ENCLOSURES



Oklahoma State University

DEPARTMENT OF FOOD, NUTRITION AND INSTITUTION ADMINISTRATION
COLLEGE OF HOME ECONOMICS

STILLWATER, OKLAHOMA 74078
HOME ECONOMICS WEST 425
(405) 624-5039

November 17, 1986

Hello,

There has been considerable interest in consumer attitudes, purchasing, and consumption patterns of wheat products from a diet-health issue perspective. This survey focuses on attitudes, buying patterns, and consumption of specific wheat products by selected homemakers in Oklahoma. We would appreciate it if you would take a few minutes to answer all the questions and then return this survey by December 1, 1986.

All responses will be kept strictly confidential and will not be linked to any individual. The responses will be analyzed to determine possible trends with respect to wheat consumption.

When the questionnaire is completed, please fold into thirds so that the return address will be visible, and staple it closed. Return postage is provided. To show our appreciation for your active participation, after we receive your completed questionnaire, we will send you some special wheat recipe booklets.

Thank you for participating in this project. Your response will be extremely important to the outcome of this study. We will look forward to hearing from you.

Sincerely,

Leia A. Hasenauer

Leia A. Hasenauer
Graduate Student

Lea L. Ebro
Lea L. Ebro Ph.D.
Major Advisor

Please (✓) the response that is most correct for you. Thank you.

1. GENERAL INFORMATION

1. What is your present age?

- | | | | |
|------|--------------------|-------|-------------------|
| (--) | Under 20 years old | (20) | 41-50 years old |
| (12) | 20-30 years old | (37) | 51-60 years old |
| (27) | 31-40 years old | (100) | 61 years and over |

2. What ethnic or racial background are you?

- | | | | |
|------|-----------------|-------|-----------|
| (3) | Black | (--) | Oriental |
| (51) | Native American | (157) | Caucasian |

3. Your present marital status is.....

- (3) Single/Never Married (151) Married (57) Widowed/Divorced/Separated

4. What is the highest level of education that you received? :

- | | | | |
|------|--------------------------------|------|--------------------------------|
| (24) | Less than high school graduate | (56) | Attended college |
| (84) | High school graduate | (52) | College graduate/post graduate |

5. What size of community do you live in?

- | | | | |
|------|---------------------------------|-------|------------------------------|
| (11) | Large city (More than 150,000) | (60) | Small city (2,500 to 24,999) |
| (35) | Medium city (25,000 to 150,000) | (103) | Rural (Less than 2,500) |

6. You are presently...

- | | | | |
|------|---------------------|------|-----------------------------|
| (27) | Employed full-time | (4) | Unemployed |
| (27) | Employed part-time | (65) | Retired |
| (66) | Full-time homemaker | (20) | Other, please specify _____ |

7. What was your net family income from all sources, before 1985 taxes?

- | | | | |
|------|--------------------|------|--------------------|
| (27) | Less than \$10,000 | (50) | \$25,000-\$39,999 |
| (31) | \$10,000-\$14,999 | (22) | More than \$40,000 |
| (60) | \$15,000-\$24,999 | | |

8. The number of people currently living in your household for more than four months during the year is _____. (Please specify the number, including yourself.)

9. Do you have children under 18 years old living in your household? (53) Yes (163) No

If you have children under 18 living in your household, please specify the age and sex of each person. _____

10. Who has primary responsibility for food purchasing for your household?

- | | | | | | |
|------|---------------------|------|-------------|------|--------|
| (82) | Self | (--) | Child | (27) | Shared |
| (9) | Spouse or housemate | (--) | Your Parent | (2) | Other |

11. What is the age of the principle shopper?

- | | | | |
|------|--------------------|------|-------------------|
| (2) | Under 20 years old | (29) | 41-50 years old |
| (10) | 20-30 years old | (42) | 51-60 years old |
| (30) | 31-40 years old | (07) | 61 years and over |

12. The last day you went shopping was on a ...

- | | |
|----------------|--------------------|
| (18) Monday | (45) Friday |
| (22) Tuesday | (24) Saturday |
| (46) Wednesday | (4) Sunday |
| (50) Thursday | (8) Not applicable |

13. The last time you went shopping was between ...

- | | |
|-----------------------------|--------------------------|
| (67) 8:00 am and 12:00 noon | (4) 8:00 pm and Midnight |
| (93) 12:00 noon and 4:00 pm | (1) Midnight and 8:00 am |
| (46) 4:00 pm and 8:00 pm | (5) Not applicable |

14. Who has the primary responsibility for cooking in your household?

- | | | |
|-------------------------|-------------|------------|
| (198) Self | (--) Child | (8) Shared |
| (5) Spouse or Housemate | (--) Parent | (2) Other |

II. WHEAT SURVEY

For questions 15-18, first (✓) the individual that makes up your household. Then (✓) the statements that fit each person in your household.

	Persons in Household			
	Yourself ()	Your Spouse ()	Teen Boys ()	Teen Girls ()
15. Compared to a few years ago, how do you think this person feels about nutrition?				
More Concerned	(164)	(94)	(10)	(9)
Less Concerned	(8)	(5)	(3)	(5)
No Real Change	(40)	(48)	(7)	(10)
Not Sure	(3)	(7)	(-)	(1)
16. Compared to a few years ago, how do you think this person's eating habits are now?				
They Eat More Nutritiously	(141)	(103)	(6)	(10)
They Eat Less Nutritiously	(13)	(5)	(6)	(7)
No Real Change	(57)	(45)	(8)	(6)
Not Sure	(4)	(2)	(-)	(2)
17. How informed is this person about general nutrition?				
Very Well Informed	(87)	(32)	(5)	(5)
Fairly Well Informed	(121)	(94)	(14)	(16)
Not Well Informed	(6)	(21)	(-)	(2)
Not Sure	(1)	(9)	(1)	(1)
18. Which statement best describes this person's weight status?				
Trying to gain more than 10 pounds	(1)	(5)	(5)	(1)
Trying to gain 1-10 pounds	(6)	(5)	(-)	(1)
Satisfied with weight	(62)	(85)	(12)	(19)
Trying to lose 1-10 pounds	(88)	(36)	(2)	(3)
Trying to lose more than 10 pounds	(57)	(26)	(1)	(1)

19. When you purchase wheat products, what is important to you? (✓) all that apply.

- | | |
|---------------------------------------|-----------------------------------|
| (17) Product Quality | (10) Personal Food Preference |
| (6) Product Brand | (69) Household Food Preference |
| (14) Cost of Product | (19) Brand Loyalty |
| (10) Package Size | (13) Nutritional Quality |
| (43) Number of Items Per Package | (98) Amount Already on Hand |
| (10) Nutritional Information on Label | (53) Enriched |
| (61) Budget for Groceries | (64) Preparation Time |
| (48) Convenience of Product | (107) Best Buy |
| (88) Occasion it is used for | (27) Who Will Consume the Product |

20. How much attention do you pay to nutritional labeling on wheat products?

- (88) A lot (05) Some (23) None

21. In your opinion, how do wheat products compare with other grain products (oats, rye, corn, rice) in terms of price?

- (33) Cheaper (61) Same (28) More Expensive (87) No Opinion

22. The last time you did major shopping, which of the following did you do? (✓) all that apply.

- (194) Made a shopping list at home
 (151) Used a shopping list while shopping
 (165) Read ads to see what the specials were
 (88) Made use of nutrition labels on packages or cans
 (150) Looked for dates on food packages or cans
 (135) Redeemed coupons
 (74) Made use of unit pricing
 (-) None of the above

23. Which of the following do you most often buy?

- | | |
|----------------------------------|-------------------------------------|
| (12) Name Brand Wheat Products | (34) Store Brand Wheat Products |
| (5) Generic Brand Wheat Products | (31) Least Expensive Wheat Products |

24. Which of the following influences you when purchasing wheat products? (✓) all that apply.

- | | |
|-------------------------|---|
| (16) Weekly Specials | (37) Appearance of the Display |
| (75) Discounts | (34) Daily Specials |
| (92) Coupons | (84) Personal Recommendations about Product |
| (13) Aroma in the Store | (38) None of the Following |

25. Where do you purchase the following items? (✓) one for each product,

	In-Store Shelf	Bakery	Thrift Store	Quick Stop Store	Restaurant/ Cafeteria	Do Not Buy	Make Homemade
White Bread	(100)	(2)	(15)	(1)	(-)	(30)	(16)
Wheat Bread	(140)	(3)	(23)	(1)	(1)	(5)	(16)
English Muffins	(66)	(4)	(21)	(-)	(-)	(65)	(2)
Dinner Rolls	(89)	(12)	(17)	(3)	(-)	(16)	(46)
Hamburger Buns	(134)	(7)	(21)	(-)	(1)	(21)	(1)
French Bread	(86)	(23)	(13)	(3)	(-)	(38)	(7)

26. (✓) the amount of wheat products you believe you need in your diet.

	Need More	Need Less	Have Right Amount	Do Not Use
Yeast Bread Made From White Flour	(4)	(44)	(76)	(31)
Yeast Bread Made From Whole Wheat Flour	(74)	(7)	(102)	(12)
Quick Breads Made From White Flour	(5)	(33)	(63)	(50)
Quick Bread Made From Whole Wheat Flour	(47)	(10)	(39)	(65)
Pasta Made From Processed Flour	(6)	(35)	(70)	(33)
Pasta Made From Whole Wheat Flour	(40)	(9)	(18)	(82)
Convenience Products Made From White Flour	(12)	(32)	(59)	(49)
Convenience Products Made From Whole Wheat	(44)	(5)	(42)	(69)

27. (✓) all of the statements that best describe each of the products listed across the top.

	White Bread	Whole Wheat Bread	All- Purpose Flour	Whole Wheat Flour	Spaghetti	Macaroni
Nutritious	(75)	(165)	(65)	(120)	(88)	(79)
Fresh	(81)	(91)	(44)	(45)	(27)	(28)
Provides Quick Energy	(32)	(62)	(23)	(32)	(51)	(50)
Product I trust	(55)	(99)	(72)	(71)	(67)	(64)
Wholesome	(54)	(140)	(57)	(107)	(65)	(63)
Natural	(105)	(94)	(97)	(94)	(19)	(17)
Expensive	(42)	(8)	(36)	(10)	(9)	(21)
High in Fat	(4)	(5)	(1)	(16)	(18)	(14)
Junk Food	(1)	(5)	(5)	(13)	(12)	(9)
High in Salt	(11)	(7)	(7)	(2)	(11)	(13)
Low in Fiber	(85)	(56)	(60)	(6)	(60)	(87)
Liked by Children	(84)	(22)	(17)	(14)	(109)	(99)
Good Source of Protein	(63)	(14)	(46)	(31)	(30)	(29)
Liked Especially by Adults	(42)	(112)	(46)	(43)	(52)	(43)
Has Few Preservatives	(83)	(23)	(68)	(65)	(34)	(33)
Good Value for Money	(75)	(73)	(69)	(89)	(89)	(85)
Fattening	(46)	(22)	(21)	(16)	(54)	(7)
Low Calorie	(48)	(47)	(28)	(27)	(10)	(8)
Good for Toasting	(14)	(137)	(12)	(12)	(1)	(1)
Cheap	(50)	(13)	(41)	(11)	(56)	(58)
Firm Texture	(37)	(10)	(4)	(23)	(25)	(24)
For Sandwiches	(104)	(129)	(4)	(9)	(-)	(-)
Not for People on a Diet	(66)	(14)	(22)	(8)	(57)	(56)
Starchy	(63)	(22)	(61)	(22)	(104)	(10)
Soft and Spongy	(57)	(56)	(70)	(24)	(40)	(20)

28. (✓) the number of calories you believe are contained in each of the products listed.

	1 Slice White Bread	1 Slice Wheat Bread	1 Cup Cooked Spaghetti	1 Cup Cooked Macaroni	1 English Muffin	1 Hamburger Bun
Under 25 Calories	(5)	(15)	(2)	(2)	(2)	(1)
25-49 Calories	(24)	(20)	(8)	(8)	(11)	(3)
50-74 Calories	(75)	(77)	(23)	(23)	(27)	(23)
75-99 Calories	(31)	(31)	(17)	(14)	(30)	(32)
100-149 Calories	(15)	(6)	(35)	(36)	(35)	(44)
150-199 Calories	(3)	(2)	(27)	(26)	(18)	(23)
200-249 Calories	(-)	(-)	(19)	(21)	(3)	(4)
250-299 Calories	(-)	(-)	(-)	(1)	(1)	(3)
Do Not Know	(33)	(38)	(49)	(50)	(49)	(49)

29. In Column A below, (✓) the flours that you purchase. Then, in Column B, (✓) the size of the package that you purchase most often.

Column A		Column B				
Purchased in the Last 6 Months	Do Not Buy		5 lb.	10 lb.	25 lb.	Other (Specify)
(181)	(30)	All-Purpose Flour	(155)	(29)	(14)	(4)
(27)	(112)	Bread Flour	(27)	(2)	(3)	(-)
(75)	(91)	Whole Wheat Flour	(82)	(14)	(2)	(1)
(46)	(109)	Self-Rising Flour	(42)	(8)	(1)	(2)

30. How do you use whole wheat flour in your household? (✓) all that apply.

(120) Breads	(17) Sauces or Gravies
(36) Cookies	(19) Pastries
(20) Cakes	(13) As Thickening Agent
(73) Muffins and Discuits	(68) Do Not Use Whole Wheat Flour
(27) Breading/Coating	(2) Other (Please Specify)
(57) Pancakes or Waffles	

31. When are you most likely to purchase special wheat products such as fancy breads and rolls? (✓) all that apply.

(136) Family Gatherings	(19) Picnics
(34) On Weekends	(4) When Entertaining Teens
(64) When Entertaining Adults	(43) For Covered Dish Dinners
(134) Holidays	(18) Do Not Purchase
(63) No Special Reason	(4) Other (Please Specify)

32. Compared to two years ago, what is your wheat product consumption now? (✓) one.

(43) It is the same (30) I consume more (27) I consume less

33. If you consume more or consume less wheat products than compared to two years ago, the reason (s) is (are)... (✓) all that apply.

(30) Change in Appetite	(38) Change in Size of Household
(27) Change in Weight	(11) Change in Work Habits
(28) Medical Reasons	(1) Change in Eating Habits
(20) Eating a Variety of Carbohydrates	(22) Eating Different Foods
	(5) Other (Please Specify)

Please make sure that you have completed the front and back portions of each page. Thank you for your time and participation. Please fold the questionnaire in thirds and staple it closed. The return address should be visible after stapling. Return postage is provided. Thank you very much.



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STILLWATER OK 74075-9988



1-1-56100-6000



Oklahoma State University
FNIA Department
425 Home Economics West
Stillwater, Oklahoma 74078

1-1-56100-6000

APPENDIX B

CHI SQUARE DETERMINATIONS

1.

TABLE OF AGE BY Q20

AGE		Q20			TOTAL
FREQUENCY ROW PCT COL PCT	1	2	3		
2	2 15.57 2.33	7 58.33 8.86	3 25.00 3.84	12	
3	3 11.54 3.44	19 73.08 18.67	4 15.38 13.33	26	
4	11 37.83 12.79	16 55.17 15.69	2 6.90 6.70	29	
5	17 33.59 19.77	18 46.15 17.55	4 12.26 17.39	39	
6	53 50.48 61.63	42 40.00 47.18	10 9.52 11.48	105	
TOTAL	86	102	23	211	
FREQUENCY MISSING = 8					
STATISTIC		DF	VALUE	PROB	
CHI-SQUARE		8	18.382	0.019	

2.

TABLE OF AGE BY Q23

AGE		Q23					TOTAL
FREQUENCY ROW PCT COL PCT	1	2	3	4	5		
2	4 36.36 3.39	0 0.00 0.00	1 9.09 3.23	5 54.55 20.00	0 0.00 0.00	11	
3	10 38.46 8.47	0 0.00 0.00	7 26.72 17.71	5 19.23 16.67	4 15.38 16.67	26	
4	13 33.33 12.71	0 0.00 0.00	7 25.00 17.71	5 17.86 16.67	1 3.57 6.67	26	
5	15 31.82 12.71	0 0.00 0.00	10 27.78 30.33	7 19.44 23.33	4 11.11 26.67	36	
6	74 34.00 62.71	5 5.00 100.00	8 8.00 24.24	7 7.00 23.33	6 6.00 40.00	100	
TOTAL	119	5	33	30	15	202	
FREQUENCY MISSING = 15							
STATISTIC		DF	VALUE	PROB			
CHI-SQUARE		16	43.459	0.000			

3.

TABLE OF AGE BY Q30_1

AGE		Q30_1		TOTAL
FREQUENCY ROW PCT COL PCT	0	1		
2	8 66.67 8.08	4 33.33 3.45	12	
3	16 59.26 16.16	11 40.74 9.48	27	
4	13 44.83 13.13	16 55.17 13.79	29	
5	9 23.08 9.09	20 76.92 25.86	29	
6	53 49.07 53.54	55 50.93 47.41	108	
TOTAL	89	118	218	
FREQUENCY MISSING = 1				
STATISTIC		DF	VALUE	PROB
CHI-SQUARE		4	12.649	0.013

4.

TABLE OF AGE BY 031_3

AGE		031_3			TOTAL
FREQUENCY	ROW PCT	COL PCT	1	2	
2	16.67	1.30	83.33	16.39	12
3	62.96	11.04	37.04	16.39	27
4	89.66	16.88	10.24	4.72	29
5	56.67	16.88	33.33	21.31	39
6	16.65	53.90	23.15	40.98	108
TOTAL		154	61		215
FREQUENCY MISSING = 1					
STATISTIC	DF	VALUE	PROB		
CHI-SQUARE	4	25.295	0.000		

5.

TABLE OF AGE BY 032

AGE		032			TOTAL		
FREQUENCY	ROW PCT	COL PCT	1	2		3	
2	54.33	5.60	33.33	10.00	8.33	2.50	12
3	53.85	11.20	26.92	17.50	19.23	12.50	26
4	25.86	17.60	17.24	12.50	6.90	3.00	29
5	53.46	17.60	23.73	27.50	10.91	10.00	37
6	52.41	48.00	12.87	32.50	27.72	70.00	101
TOTAL		125	40	40			205
FREQUENCY MISSING = 11							
STATISTIC	DF	VALUE	PROB				
CHI-SQUARE	8	15.645	0.018				

6.

TABLE OF MS BY 023

MS		023					TOTAL	
FREQUENCY	ROW PCT	COL PCT	1	2	3	4		5
2	55.48	69.23	0.00	0.00	19.85	17.12	7.53	146
3	17.23	30.77	9.62	5.77	5.77	7.69	7.69	52
TOTAL		117	3	32	29	15		198
FREQUENCY MISSING = 18								
STATISTIC	DF	VALUE	PROB					
CHI-SQUARE	4	27.308	0.000					

7.

TABLE OF MS BY Q32

MS		Q32			
FREQUENCY	ROW PCT	1	2	3	TOTAL
COL PCT					
2	97	32	22		151
	64.24	21.19	14.57		
	78.86	80.00	56.41		
3	26	8	17		51
	50.98	15.69	33.33		
	21.14	20.00	43.59		
TOTAL	123	40	39		202
FREQUENCY MISSING = 14					
STATISTIC		DF	VALUE		PROB
CHI-SQUARE		2	8.828		0.013

8.

TABLE OF MS BY Q32_1

MS		Q32_1			
FREQUENCY	ROW PCT	0	1	TOTAL	
COL PCT					
2	129	16		155	
	89.68	10.32			
	75.54	57.14			
3	45	12		57	
	78.95	21.05			
	24.46	42.86			
TOTAL	184	28		212	
FREQUENCY MISSING = 4					
STATISTIC		DF	VALUE		PROB
CHI-SQUARE		1	4.186		0.041

9.

TABLE OF MS BY Q32_5

MS		Q32_5			
FREQUENCY	ROW PCT	0	1	TOTAL	
COL PCT					
2	143	12		155	
	92.26	7.74			
	81.71	33.43			
3	32	23		57	
	56.14	43.96			
	18.29	67.57			
TOTAL	175	37		212	
FREQUENCY MISSING = 4					
STATISTIC		DF	VALUE		PROB
CHI-SQUARE		1	37.735		0.000

10.

TABLE OF EDUC BY 024_3

EDUC		024_3		
FREQUENCY	ROW PCT	COL PCT		TOTAL
		0	1	
1	16.19	23.81	5	21
	16.84	5.49		
2	39	34	73	
	53.42	46.58		
	41.05	37.26		
3	35	24	49	
	51.02	48.98		
	25.32	26.37		
4	15	28	43	
	24.88	65.12		
	15.79	30.77		
TOTAL	95	91	186	
FREQUENCY MISSING = 30				
STATISTIC		DF	VALUE	PROB
LINELIHOOD RATIO CHI-SQUARE		3	10.329	0.016

11.

TABLE OF EDUC BY 021_3

EDUC		021_3		
FREQUENCY	ROW PCT	COL PCT		TOTAL
		0	1	
1	23	1	24	
	95.83	4.17		
	14.84	1.64		
2	61	23	84	
	72.82	27.38		
	39.35	37.70		
3	37	19	56	
	66.07	33.93		
	23.87	31.15		
4	34	19	52	
	65.38	31.62		
	21.94	28.51		
TOTAL	155	61	216	
STATISTIC		DF	VALUE	PROB
CHI-SQUARE		3	8.921	0.032

12.

TABLE OF COMM_12 BY 024_3

COMM_12		024_3		
FREQUENCY	ROW PCT	COL PCT		TOTAL
		0	1	
1	1	5	6	
	16.87	83.33		
	1.08	5.56		
2	14	17	31	
	45.16	54.84		
	15.05	18.89		
3	23	32	55	
	41.82	38.18		
	24.72	35.56		
4	55	26	91	
	60.44	39.56		
	58.14	40.00		
TOTAL	93	90	183	
FREQUENCY MISSING = 33				
STATISTIC		DF	VALUE	PROB
CHI-SQUARE		3	8.990	0.029

13.

TABLE OF EMPLOY BY 013

EMPLOY 013								
FREQUENCY	ROW PCT	COL PCT	1	2	3	4	5	TOTAL
1	7.44	3.08	33.33	18.18	7.41	3.70		27
2	32.00	12.31	34.07	32.00	0.00	0.00	0.00	35
3	24.82	24.82	60.00	15.38	0.00	0.00	0.00	65
4	50.00	3.08	50.00	0.00	0.00	0.00	0.00	4
5	45.21	44.62	10.42	12.50	1.56	0.00	0.00	64
6	38.12	12.31	38.10	19.05	4.76	0.00	0.00	21
TOTAL	65	93	43	4	1			204
FREQUENCY MISSING = 10								
STATISTIC		DF	VALUE	PROB				
CHI-SQUARE		20	44.122	0.001				

14.

TABLE OF INCOME BY 024_7

INCOME 024_7					
FREQUENCY	ROW PCT	COL PCT	0	1	TOTAL
1	80.77	33.33	19.23	6.58	26
2	53.85	15.56	46.15	15.79	26
3	50.84	30.00	49.06	34.21	53
4	51.16	24.44	48.84	27.63	43
5	33.33	6.67	66.67	15.79	19
TOTAL	90	76			164
FREQUENCY MISSING = 50					
STATISTIC		DF	VALUE	PROB	
CHI-SQUARE		4	10.929	0.027	

15.

TABLE OF H-SZ BY 023

H-SZ 023								
FREQUENCY	ROW PCT	COL PCT	1	2	3	4	5	TOTAL
1	73.17	25.64	7.32	4.88	12.20	16.13	7.44	41
2	67.37	54.70	1.05	12.63	12.63	38.71	6.32	95
3	44.00	18.80	0.00	32.00	24.00	38.71	10.00	50
4	7.14	0.89	0.00	57.14	14.29	6.45	21.43	14
TOTAL	117	4	33	31	18			200
FREQUENCY MISSING = 16								
STATISTIC		DF	VALUE	PROB				
CHI-SQUARE		12	46.300	0.000				

16.

TABLE OF AGE BY 026_1

AGE		026_1				
FREQUENCY	ROW PCT	1	2	3	4	TOTAL
COL PCT						
2	1	2	7	7	2	12
	8.33	16.67	58.33	16.67		
	25.00	4.35	9.59	2.22		
3	1	7	13	6	27	
	3.70	29.93	48.15	22.22		
	25.00	15.91	17.81	6.67		
4	1	11	9	8	29	
	3.45	37.93	31.03	27.59		
	25.00	25.00	12.33	8.89		
5	1	9	10	19	39	
	2.56	23.08	25.64	48.72		
	25.00	20.45	13.70	21.11		
6	0	15	34	55	104	
	0.00	14.42	32.69	52.88		
	0.00	34.08	46.56	61.11		
TOTAL		44	73	80	211	
FREQUENCY MISSING = 8						
STATISTIC						
CHI-SQUARE						
			DF	VALUE	PROB	
			12	25.647	0.012	

17.

TABLE OF AGE BY 026_5

AGE		026_5				
FREQUENCY	ROW PCT	1	2	3	4	TOTAL
COL PCT						
2	0	1	9	2	12	
	0.00	8.33	75.00	16.67		
	0.00	2.86	11.69	2.15		
3	0	7	14	6	27	
	0.00	29.93	51.85	22.22		
	0.00	20.00	18.18	6.45		
4	1	7	11	10	29	
	3.45	24.14	37.93	34.48		
	20.00	20.00	14.29	10.78		
5	1	7	14	17	39	
	2.56	17.95	35.90	43.59		
	20.00	20.00	18.18	18.28		
6	3	13	29	58	103	
	2.91	12.62	28.16	56.31		
	60.00	37.14	37.64	62.37		
TOTAL		26	77	83	210	
FREQUENCY MISSING = 6						
STATISTIC						
CHI-SQUARE						
			DF	VALUE	PROB	
			12	22.698	0.030	

18.

TABLE OF AGE BY 026_8

AGE		026_8				
FREQUENCY	ROW PCT	1	2	3	4	TOTAL
COL PCT						
2	2	0	4	6	12	
	16.67	0.00	33.33	50.00		
	5.12	0.00	22.22	4.14		
3	6	1	2	16	27	
	29.63	3.70	7.41	59.26		
	20.91	11.11	11.11	11.03		
4	6	3	3	17	29	
	20.69	10.34	10.34	58.62		
	15.38	33.33	16.67	11.72		
5	10	2	3	24	39	
	25.64	5.13	7.69	61.54		
	23.84	22.22	16.67	16.58		
6	12	3	6	82	104	
	12.50	2.88	5.77	78.85		
	33.33	33.33	33.33	56.55		
TOTAL		39	18	148	211	
FREQUENCY MISSING = 5						
STATISTIC						
CHI-SQUARE						
			DF	VALUE	PROB	
			12	21.991	0.042	

19.

TABLE OF AGE BY 026_7

AGE		026_7				TOTAL	
FREQUENCY	ROW PCT	COL PCT	1	2	3		4
2	0	4	7	1		12	
	0.00	33.33	58.33	8.33			
	0.00	12.50	12.07	0.81			
3	0	9	14	4		27	
	0.00	33.33	51.85	14.81			
	0.00	28.13	24.14	3.64			
4	3	6	8	12		29	
	10.34	20.69	27.59	41.78			
	27.27	18.75	13.79	10.91			
5	1	5	8	25		39	
	3.56	12.87	20.51	64.10			
	9.09	15.63	13.79	22.73			
6	7	8	21	68		104	
	6.73	7.69	22.19	65.38			
	63.64	25.00	36.21	61.82			
TOTAL	11	32	58	110		211	
FREQUENCY MISSING = 8							
STATISTIC		DF		VALUE	PROB		
CHI-SQUARE		12		47.040	0.000		

20.

TABLE OF AGE BY 027_12_1

AGE		027_12_1		TOTAL	
FREQUENCY	ROW PCT	COL PCT	0		1
2	2	10		12	
	16.67	83.33			
	1.53	11.90			
3	8	19		27	
	29.63	70.37			
	6.11	22.62			
4	19	10		29	
	65.52	34.48			
	14.50	11.90			
5	22	17		39	
	56.41	43.59			
	16.79	20.34			
6	80	28		108	
	74.07	25.93			
	61.07	23.33			
TOTAL	131	84		215	
FREQUENCY MISSING = 1					
STATISTIC		DF		VALUE	PROB
CHI-SQUARE		4		29.417	0.000

21.

TABLE OF AGE BY 027_1_2

AGE		027_1_2		TOTAL	
FREQUENCY	ROW PCT	COL PCT	0		1
2	0	12		12	
	0.00	100.00			
	0.00	7.37			
3	8	19		27	
	29.63	70.37			
	17.02	11.52			
4	8	21		29	
	27.59	72.41			
	17.02	12.73			
5	3	36		39	
	7.69	92.31			
	6.38	21.82			
6	28	77		105	
	26.67	73.33			
	59.57	46.67			
TOTAL	47	165		212	
FREQUENCY MISSING = 4					
STATISTIC		DF		VALUE	PROB
CHI-SQUARE		4		10.750	0.030

22.

TABLE OF AGE BY 027_2_2

AGE 027_2_2

FREQUENCY	ROW PCT	COL PCT	TOTAL
2	1	11	12
8	33	91	67
0	0	12	50
3	13	14	27
48	15	51	85
10	37	15	91
4	17	12	29
58	62	41	38
13	83	13	64
5	22	17	39
56	41	43	59
17	89	18	32
6	70	34	104
67	31	32	59
56	91	28	64
TOTAL	123	88	211

FREQUENCY MISSING = 5

STATISTIC	DF	VALUE	PROB
CHI-SQUARE	4	16.997	0.002

23.

TABLE OF AGE BY 027_5_2

AGE 027_5_2

FREQUENCY	ROW PCT	COL PCT	TOTAL
2	0	12	12
0	0.00	100	00
0	0.00	8	70
3	9	18	27
33	33	66	67
12	33	13	04
4	13	16	29
44	83	53	17
17	81	11	59
5	7	32	39
17	85	82	05
9	59	23	19
6	44	60	104
42	31	57	69
60	27	43	48
TOTAL	73	128	211

FREQUENCY MISSING = 5

STATISTIC	DF	VALUE	PROB
CHI-SQUARE	4	15.218	0.004

24.

TABLE OF AGE BY 027_19_2

AGE 027_19_2

FREQUENCY	ROW PCT	COL PCT	TOTAL
2	2	10	12
16	67	83	33
2	56	7	30
3	3	22	27
18	52	81	48
6	41	16	06
4	14	15	29
48	28	51	72
17	95	10	95
5	10	29	39
25	64	74	36
12	82	21	17
6	47	61	108
43	52	54	48
60	26	44	53
TOTAL	78	137	215

FREQUENCY MISSING = 1

STATISTIC	DF	VALUE	PROB
CHI-SQUARE	4	11.844	0.019

25.

TABLE OF AGE BY Q27_4_3

AGE		Q27_4_3		TOTAL
FREQUENCY	ROW PCT	COL PCT		
2	25 00	75 00	12	12
	2.13	12.86		
3	40 74	59 28	27	27
	7.80	22.86		
4	68 97	31 03	29	29
	14.18	12.86		
5	87 05	17 25	39	39
	22.70	10.00		
6	72 12	27 88	104	104
	53.19	41.43		
TOTAL			141	70
FREQUENCY MISSING = 9				
STATISTIC		DF	VALUE	PROB
CHI-SQUARE		4	23.207	0.000

26.

TABLE OF AGE BY Q27_16_3

AGE		Q27_16_3		TOTAL
FREQUENCY	ROW PCT	COL PCT		
2	16 67	82 33	12	12
	1.37	14.49		
3	70 37	29 63	27	27
	13.01	11.59		
4	68 97	31 03	29	29
	13.70	13.04		
5	69 23	20 37	39	39
	18.49	17.39		
6	72 22	27 78	108	108
	53.42	43.48		
TOTAL			146	69
FREQUENCY MISSING = 1				
STATISTIC		DF	VALUE	PROB
CHI-SQUARE		4	15.501	0.004

27.

TABLE OF AGE BY Q27_1_4

AGE		Q27_1_4		TOTAL
FREQUENCY	ROW PCT	COL PCT		
2	8 33	91 57	12	12
	1.09	9.17		
3	29 62	10 37	27	27
	8.10	15.87		
4	44 83	55 17	29	29
	14.13	13.33		
5	30 77	69 23	39	39
	13.04	22.50		
6	55 24	44 76	105	105
	52.04	39.17		
TOTAL			92	120
FREQUENCY MISSING = 4				
STATISTIC		DF	VALUE	PROB
CHI-SQUARE		4	16.829	0.002

28.

TABLE OF AGE BY 027_4_3

AGE		027_4_3		
FREQUENCY	ROW PCT	COL PCT		TOTAL
		0	1	
2	5	58.33	10.17	12
	3.55			
3	15	22.22	17.29	27
	10.64			
4	19	32.14	12.21	28
	13.49			
5	23	41.22	23.19	39
	16.31			
6	25	21.01	36.23	108
	15.03			
TOTAL	141	69	210	
FREQUENCY MISSING = 6				
STATISTIC	DF	VALUE	PROB	
CHI-SQUARE	4	10.028	0.010	

29.

TABLE OF AGE BY 027_6_4

AGE		027_6_4		
FREQUENCY	ROW PCT	COL PCT		TOTAL
		0	1	
2	1	91.67	11.70	12
	0.33			
	0.83			
3	12	55.56	15.96	27
	44.44			
	9.92			
4	15	48.28	14.89	29
	51.72			
	12.40			
5	22	43.59	18.09	39
	56.41			
	18.18			
6	71	34.26	39.36	108
	65.74			
	58.68			
TOTAL	121	94	218	
FREQUENCY MISSING = 1				
STATISTIC	DF	VALUE	PROB	
CHI-SQUARE	4	16.922	0.007	

30.

TABLE OF AGE BY 027_15_4

AGE		027_15_4		
FREQUENCY	ROW PCT	COL PCT		TOTAL
		0	1	
2	6	50.00	9.23	12
	4.00			
3	13	51.85	21.54	27
	48.15			
	8.67			
4	7	24.14	10.77	28
	75.86			
	14.67			
5	15	38.46	23.08	39
	61.54			
	16.00			
6	23	21.10	33.38	108
	78.70			
	56.67			
TOTAL	150	69	215	
FREQUENCY MISSING = 4				
STATISTIC	DF	VALUE	PROB	
CHI-SQUARE	4	14.058	0.017	

31.

TABLE OF AGE BY 027_4_3

AGE		027_4_3		
FREQUENCY	ROW PCT	COL PCT		TOTAL
		0	1	
2	2	16.67	83.33	12
		1.37	15.38	
3	15	55.56	44.44	27
		10.27	18.46	
4	20	68.97	31.03	29
		13.70	13.85	
5	27	69.27	30.73	29
		18.49	18.46	
6	82	78.85	21.15	104
		94.16	33.85	
TOTAL	146		68	211
FREQUENCY MISSING = 8				
STATISTIC		DF	VALUE	PROB
CHI-SQUARE		4	22.425	0.000

32.

TABLE OF AGE BY 027_12_3

AGE		027_12_3		
FREQUENCY	ROW PCT	COL PCT		TOTAL
		0	1	
2	1	8.33	81.67	12
		0.94	10.09	
3	4	14.81	85.19	27
		3.77	21.10	
4	12	41.38	58.62	29
		11.32	15.60	
5	19	48.72	51.28	39
		17.92	18.35	
6	70	64.81	35.19	108
		66.04	34.86	
TOTAL	108		108	216
FREQUENCY MISSING = 1				
STATISTIC		DF	VALUE	PROB
CHI-SQUARE		4	32.037	0.000

33.

TABLE OF AGE BY 027_24_3

AGE		027_24_3		
FREQUENCY	ROW PCT	COL PCT		TOTAL
		0	1	
2	2	16.67	83.33	12
		1.80	9.62	
3	8	39.63	70.37	27
		7.21	18.27	
4	17	58.63	41.38	29
		15.32	11.54	
5	15	38.46	61.54	39
		12.91	22.08	
6	69	62.89	37.11	109
		62.16	37.80	
TOTAL	111		104	215
FREQUENCY MISSING = 1				
STATISTIC		DF	VALUE	PROB
CHI-SQUARE		4	20.861	0.000

34.

TABLE OF AGE BY Q27_1_6

AGE		Q27_1_6		TOTAL
FREQUENCY	ROW PCT	COL PCT		
		0	1	
2	3	25.00	75.00	12
		2.24	11.54	
3	8	66.67	33.33	27
		13.43	11.54	
4	18	55.17	44.83	28
		11.84	16.67	
5	24	61.54	38.46	39
		17.81	18.23	
6	73	69.52	30.48	108
		54.48	41.03	
TOTAL		134	78	212
FREQUENCY MISSING = 4				
STATISTIC		DF	VALUE	PROB
CHI-SQUARE		4	10.328	0.039

35.

TABLE OF AGE BY Q27_12_6

AGE		Q27_12_6		TOTAL
FREQUENCY	ROW PCT	COL PCT		
		0	1	
2	2	16.67	83.33	12
		1.72	10.10	
3	6	22.22	77.78	27
		5.17	21.21	
4	14	48.28	51.72	29
		12.07	15.15	
5	18	46.15	53.85	39
		15.52	21.21	
6	76	70.37	29.63	108
		65.52	32.32	
TOTAL		116	89	215
FREQUENCY MISSING = 1				
STATISTIC		DF	VALUE	PROB
CHI-SQUARE		4	30.706	0.000

36.

TABLE OF AGE BY Q27_16_6

AGE		Q27_16_6		TOTAL
FREQUENCY	ROW PCT	COL PCT		
		0	1	
2	1	8.33	91.67	12
		0.77	12.94	
3	13	48.15	51.85	27
		10.00	16.27	
4	18	62.07	37.93	29
		13.85	12.84	
5	24	61.54	38.46	39
		18.46	17.65	
6	74	68.52	31.48	108
		56.92	40.00	
TOTAL		130	85	215
FREQUENCY MISSING = 1				
STATISTIC		DF	VALUE	PROB
CHI-SQUARE		4	18.236	0.001

37.

TABLE OF AGE BY Q27_24_6

AGE		Q27_24_6		TOTAL
FREQUENCY	ROW PCT	COL PCT		
		0	1	
2		3	8	12
		25.00	75.00	
		2.63	8.91	
3		9	18	27
		33.33	66.67	
		7.88	17.82	
4		19	10	29
		65.52	34.48	
		16.67	9.90	
5		16	23	39
		41.03	58.97	
		14.04	22.77	
6		87	41	108
		62.04	37.96	
		58.77	40.88	
TOTAL		114	101	215
FREQUENCY MISSING = 1				
STATISTIC				

CHI-SQUARE		4	15.940	0.004

38.

TABLE OF MS BY Q19_3

MS		Q19_3		TOTAL
FREQUENCY	ROW PCT	COL PCT		
		0	1	
2		44	111	155
		28.39	71.61	
		63.77	77.62	
3		25	32	57
		47.86	56.14	
		36.23	22.38	
TOTAL		69	143	212
FREQUENCY MISSING = 4				
STATISTIC				

CHI-SQUARE		1	4.544	0.033

39.

TABLE OF MS BY Q26_1

MS		Q26_1				TOTAL
FREQUENCY	ROW PCT	COL PCT				
		1	2	3	4	
2		4	37	54	58	153
		2.61	24.18	35.29	37.91	
		102.00	88.10	72.87	65.17	
3		0	5	19	31	55
		0.00	9.09	34.55	56.36	
		0.00	11.90	26.03	34.83	
TOTAL		4	42	73	89	208
FREQUENCY MISSING = 8						
STATISTIC						

CHI-SQUARE		3	9.228	0.024		

40.

TABLE OF EDUC BY V15

EDUC		V15					
FREQUENCY	ROW PCT	COL PCT	1	2	3	4	TOTAL
1	16	3	2	3	3	3	24
	66.67	12.50	8.33	12.50	12.50	12.50	
	10.00	42.86	5.00	100.00			
2	60	2	19	0	0	0	81
	74.07	2.47	23.26	0.00	0.00	0.00	
	37.50	28.57	47.50	0.00	0.00	0.00	
3	44	1	11	0	0	0	56
	78.57	1.79	19.64	0.00	0.00	0.00	
	27.50	14.29	27.50	0.00	0.00	0.00	
4	40	1	8	0	0	0	49
	81.63	2.04	16.33	0.00	0.00	0.00	
	25.00	14.29	20.00	0.00	0.00	0.00	
TOTAL	160	7	40	3			210
FREQUENCY MISSING = 6							
STATISTIC							
CHI-SQUARE							
			8	23.169			0.000

41.

TABLE OF EDUC BY V16

EDUC		V16					
FREQUENCY	ROW PCT	COL PCT	1	2	3	4	TOTAL
1	11	1	10	2			24
	45.83	4.17	41.67	8.33			
	8.00	8.33	17.54	50.00			
2	51	6	22	1			80
	63.75	7.50	27.50	1.25			
	37.23	50.00	28.60	25.00			
3	43	4	8	1			56
	76.79	7.14	14.29	1.79			
	21.39	33.33	14.04	25.00			
4	22	1	11	0			30
	64.00	2.00	24.00	0.00			
	22.96	8.33	29.82	0.00			
TOTAL	137	12	57	4			210
FREQUENCY MISSING = 6							
STATISTIC							
CHI-SQUARE							
			8	17.012			0.049

42.

TABLE OF EDUC BY V17

EDUC		V17					
FREQUENCY	ROW PCT	COL PCT	1	2	3	4	TOTAL
1	2	14	3	1			24
	14.67	58.33	20.83	4.17			
	4.82	11.67	83.33	100.00			
2	20	50	0	0			80
	37.50	62.50	0.00	0.00			
	24.24	41.67	0.00	0.00			
3	23	32	1	0			56
	41.07	57.14	1.79	0.00			
	27.71	26.67	16.67	0.00			
4	26	24	0	0			50
	52.00	48.00	0.00	0.00			
	24.23	22.00	0.00	0.00			
TOTAL	83	120	6	1			210
FREQUENCY MISSING = 6							
STATISTIC							
CHI-SQUARE							
			9	45.231			0.000

43.

TABLE OF EDUC BY 019_1

EDUC		019_1		
FREQUENCY	ROW PCT	COL PCT		TOTAL
			0	1
1	11	17	24	35
	45.83	54.17		
	26.83	7.47		
2	18	24	83	101
	22.89	77.11		
	46.24	36.78		
3	6	30	36	42
	10.71	89.29		
	14.63	28.74		
4	5	47	52	57
	9.62	90.38		
	12.20	27.01		
TOTAL	41	174	215	
FREQUENCY MISSING = 1				
STATISTIC	DF	VALUE	PROB	
CHI-SQUARE	3	17.468	0.001	

44.

TABLE OF EDUC BY 019_3

EDUC		019_3		
FREQUENCY	ROW PCT	COL PCT		TOTAL
			0	1
1	10	14	24	34
	41.67	58.33		
	14.08	9.66		
2	24	52	76	100
	40.68	59.32		
	47.89	34.48		
3	10	46	56	66
	17.86	82.14		
	14.08	31.72		
4	17	35	52	69
	32.69	67.31		
	22.94	24.14		
TOTAL	61	143	214	
STATISTIC	DF	VALUE	PROB	
CHI-SQUARE	3	8.765	0.033	

45.

TABLE OF EDUC BY 026_4

EDUC		026_4					
FREQUENCY	ROW PCT	COL PCT	1	2	3	4	TOTAL
1	2	0	2	20	24		
	8.33	0.00	8.33	83.33			
	4.44	0.00	8.33	16.81			
2	18	6	14	44	83		
	22.89	7.23	16.87	53.01			
	42.22	54.55	36.84	36.97			
3	10	0	14	32	56		
	17.86	0.00	25.00	57.14			
	22.22	0.00	36.84	26.88			
4	14	5	8	23	50		
	28.00	10.00	16.00	46.00			
	31.11	48.48	21.08	18.33			
TOTAL	45	11	38	118	213		
FREQUENCY MISSING = 3							
STATISTIC	DF	VALUE	PROB				
CHI-SQUARE	8	17.877	0.038				

46.

TABLE OF EDUC BY 026_8

EDUC		026_8					
FREQUENCY	ROW PCT	COL PCT	1	2	3	4	TOTAL
1	3	0	0	2	2	19	24
	12.50	0.00	0.00	8.33	8.33	79.17	
	6.98	0.00	0.00	4.88	4.88	15.45	
2	16	4	4	10	10	52	82
	19.51	4.88	4.88	12.20	12.20	63.41	
	37.21	80.00	80.00	34.29	34.29	42.38	
3	14	0	0	17	17	25	56
	23.00	0.00	0.00	30.26	30.26	44.84	
	32.56	0.00	0.00	41.46	41.46	30.32	
4	10	1	1	12	12	27	90
	20.00	2.00	2.00	24.00	24.00	54.00	
	23.26	20.00	20.00	29.37	29.37	21.88	
TOTAL	43	5	5	41	41	123	212
FREQUENCY MISSING = 4							
STATISTIC		DF	VALUE	PROB			
CHI-SQUARE		3	17.390	0.044			

47.

TABLE OF EDUC BY 027_11_1

EDUC		027_11_1			
FREQUENCY	ROW PCT	COL PCT	0	1	TOTAL
1	18	6	6	24	24
	75.00	25.00	25.00	75.00	
	13.74	7.04	7.04	13.74	
2	55	29	29	84	84
	65.48	34.52	34.52	65.48	
	41.98	34.12	34.12	41.98	
3	37	19	19	56	56
	66.07	32.82	32.82	66.07	
	28.24	22.25	22.25	28.24	
4	21	31	31	52	52
	40.38	59.62	59.62	40.38	
	16.03	36.47	36.47	16.03	
TOTAL	131	85	85	216	
STATISTICS FOR TABLE OF EDUC BY 027_11_1					
STATISTIC		DF	VALUE	PROB	
CHI-SQUARE		3	12.528	0.006	

48.

TABLE OF EDUC BY 027_12_1

EDUC		027_12_1			
FREQUENCY	ROW PCT	COL PCT	0	1	TOTAL
1	19	5	5	24	24
	79.17	20.83	20.83	79.17	
	14.39	5.95	5.95	14.39	
2	57	37	37	84	84
	67.86	32.14	32.14	67.86	
	43.18	32.14	32.14	43.18	
3	29	37	37	56	56
	51.79	48.21	48.21	51.79	
	21.97	32.14	32.14	21.97	
4	37	25	25	52	52
	51.92	48.08	48.08	51.92	
	20.45	29.76	29.76	20.45	
TOTAL	133	84	84	216	
STATISTICS FOR TABLE OF EDUC BY 027_12_1					
STATISTIC		DF	VALUE	PROB	
CHI-SQUARE		3	8.797	0.032	

49.

TABLE OF EDUC BY 027_19_3

EDUC 027_19_3

FREQUENCY ROW PCT COL PCT	0	1	TOTAL
1	8 33.33 10.13	16 66.67 11.60	24
2	41 48.81 51.90	43 51.19 31.39	84
3	19 33.97 24.05	37 66.03 27.01	56
4	11 21.15 13.82	41 78.85 29.82	52
TOTAL	79	137	216

STATISTIC	DF	VALUE	PROB
CHI-SQUARE	3	11.029	0.012

50.

TABLE OF EDUC BY 027_12_5

EDUC 027_12_5

FREQUENCY ROW PCT COL PCT	0	1	TOTAL
1	16 64.67 14.95	8 33.33 7.34	24
2	52 61.90 48.60	32 38.10 29.35	84
3	24 47.86 22.43	32 52.14 29.36	56
4	15 28.85 14.02	37 71.15 32.94	52
TOTAL	107	109	216

STATISTIC	DF	VALUE	PROB
CHI-SQUARE	3	17.962	0.000

51.

TABLE OF EDUC BY 027_16_5

EDUC 027_16_5

FREQUENCY ROW PCT COL PCT	0	1	TOTAL
1	17 70.83 12.98	7 28.17 8.24	24
2	61 72.82 46.36	23 27.18 27.06	84
3	28 90.00 21.37	0 0.00 32.94	28
4	25 48.08 19.06	27 51.92 31.76	52
TOTAL	131	65	196

STATISTICS FOR TABLE OF EDUC BY 027_16_5

STATISTIC	DF	VALUE	PROB
CHI-SQUARE	3	12.191	0.007

52.

TABLE OF EDUC BY 027_16_6

EDUC 027_16_6

FREQUENCY		01		11		TOTAL
ROW PCT	COL PCT					
1		15	9			24
		62.50	37.50	31.25	12.50	
2		61	23			84
		72.62	27.38	45.56	27.04	
3		31	25			56
		53.76	44.64	23.66	29.41	
4		24	28			52
		46.15	53.85	18.32	32.84	
TOTAL		121	85			216

STATISTIC	DF	VALUE	PROB
CHI-SQUARE	3	10.312	0.016

53.

TABLE OF EMPLOY BY 026_2

EMPLOY 026_2

FREQUENCY		11		21		31		41		TOTAL
ROW PCT	COL PCT									
1		8	2	16	1					27
		29.63	7.41	59.26	3.70					
2		10	0	12	5					27
		37.04	0.00	44.44	18.52					
3		21	0	26	10					67
		31.34	0.00	53.73	14.93					
4		0	0	4	0					4
		0.00	0.00	100.00	0.00					
5		28	6	20	14					68
		41.18	8.82	29.41	20.59					
6		6	0	10	4					20
		20.00	0.00	50.00	20.00					
TOTAL		72	8	88	34					213

FREQUENCY MISSING = 3

STATISTIC	DF	VALUE	PROB
CHI-SQUARE	18	25.801	0.029

54.

TABLE OF EMPLOY BY 027_1_2

EMPLOY 027_1_2

FREQUENCY		01		11		TOTAL
ROW PCT	COL PCT					
1		6	31			27
		22.22	77.78	12.50	12.73	
2		3	24			27
		11.11	88.89	6.25	14.55	
3		15	32			67
		22.38	77.61	31.25	31.32	
4		0	4			4
		0.00	100.00		3.42	
5		24	44			68
		35.29	64.71	50.00	24.67	
6		0	20			20
		0.00	100.00		12.12	
TOTAL		48	148			213

FREQUENCY MISSING = 3

STATISTIC	DF	VALUE	PROB
CHI-SQUARE	5	18.944	0.008

55.

TABLE OF EMPLOY BY 027_1_4

EMPLOY		027_1_4		
FREQUENCY	ROW PCT	COL PCT		TOTAL
		0	1	
1	9	19		27
	33.33	66.67		
	9.68	15.00		
2	8	19		27
	29.63	70.37		
	8.60	15.83		
3	32	45		67
	32.84	67.16		
	23.66	37.50		
4	1	3		4
	25.00	75.00		
	1.08	2.50		
5	45	23		68
	66.18	33.82		
	48.39	19.17		
6	8	12		20
	40.00	60.00		
	8.60	10.00		
TOTAL	93	120		213

FREQUENCY MISSING = 3

STATISTIC	DF	VALUE	PROB
CHI-SQUARE	5	21.213	0.001

56.

TABLE OF EMPLOY BY 027_12_5

EMPLOY		027_12_5		
FREQUENCY	ROW PCT	COL PCT		TOTAL
		0	1	
1	11	16		27
	40.74	59.26		
	10.28	14.68		
2	11	16		27
	40.74	59.26		
	10.28	14.68		
3	26	42		68
	38.24	61.76		
	24.30	38.53		
4	3	4		4
	75.00	25.00		
	2.90	0.92		
5	45	24		68
	65.22	34.78		
	42.06	22.07		
6	11	10		21
	52.38	47.62		
	10.28	9.17		
TOTAL	107	108		216

STATISTIC	DF	VALUE	PROB
CHI-SQUARE	5	12.038	0.023

57.

TABLE OF EMPLOY BY 027_12_6

EMPLOY		027_12_6		
FREQUENCY	ROW PCT	COL PCT		TOTAL
			0	1
1	13	14		27
	48.15	51.85		
	11.11	14.14		
2	12	15		27
	44.44	55.56		
	10.26	15.15		
3	28	40		68
	41.18	58.82		
	33.93	40.40		
4	3	1		4
	75.00	25.00		
	2.56	1.01		
5	49	20		69
	71.01	28.99		
	41.88	20.20		
6	12	8		20
	87.14	42.86		
	10.26	8.08		
TOTAL	117	98		216
STATISTIC		DF	VALUE	PROB
CHI-SQUARE		8	14.707	0.012

58.

TABLE OF INCOME BY Y15

INCOME		Y15					
FREQUENCY	ROW PCT	COL PCT	1	2	3	4	TOTAL
1	20	0	4	3			27
	74.07	0.00	14.81	11.11			
	13.89	0.00	10.81	100.00			
2	25	1	5	0			31
	80.65	3.23	16.13	0.00			
	17.36	20.00	13.51	0.00			
3	45	0	15	0			60
	75.00	0.00	25.00	0.00			
	31.25	0.00	40.54	0.00			
4	39	2	8	0			49
	79.59	4.08	16.33	0.00			
	27.04	40.00	21.62	0.00			
5	15	2	5	0			22
	48.18	9.09	22.73	0.00			
	10.42	40.00	13.51	0.00			
TOTAL	144	5	37	3			189
FREQUENCY MISSING = 27							
STATISTIC		DF	VALUE	PROB			
CHI-SQUARE		12	26.324	0.010			

59.

TABLE OF INCOME BY Y17

INCOME		Y17					
FREQUENCY	ROW PCT	COL PCT	1	2	3	4	TOTAL
1	6	18	3	0			27
	22.22	66.67	11.11	0.00			
	8.11	16.51	60.00				
2	11	19	1	0			31
	25.48	61.29	3.23	0.00			
	14.86	17.43	20.00				
3	18	42	0	0			60
	70.00	70.00	0.00	0.00			
	24.32	38.53	0.00				
4	26	22	0	0			48
	54.17	45.83	0.00	0.00			
	35.14	20.18	0.00				
5	12	8	1	0			22
	59.09	36.36	4.55	0.00			
	17.57	7.34	20.00				
TOTAL	74	108	5	0			188
FREQUENCY MISSING = 20							
STATISTIC		DF	VALUE	PROB			
CHI-SQUARE		8	23.673	0.003			

60.

TABLE OF INCOME BY Q27_4_4

INCOME		Q27_4_4		TOTAL
FREQUENCY	ROW PCT	COL PCT		
		0	1	
1	21	6		27
	77.78	22.22		
	16.80	9.52		
2	20	11		31
	64.52	35.48		
	16.00	17.46		
3	47	13		60
	78.33	21.67		
	37.60	20.63		
4	26	24		50
	52.00	48.00		
	20.80	38.10		
5	11	9		20
	55.00	45.00		
	8.80	14.29		
TOTAL	125	63		188
FREQUENCY MISSING = 28				
STATISTIC	DF	VALUE	PROB	
CHI-SQUARE	4	11.272	0.024	

61.

TABLE OF Q31_1 BY Q19_1

Q31_1		Q19_1		TOTAL
FREQUENCY	ROW PCT	COL PCT		
		0	1	
0	25	58		83
	30.12	69.88		
	60.98	33.33		
1	18	116		132
	12.12	87.88		
	39.02	66.67		
TOTAL	41	174		215
FREQUENCY MISSING = 1				
STATISTIC	DF	VALUE	PROB	
CHI-SQUARE	1	10.697	0.001	

62.

TABLE OF Q31_3 BY Q19_1

Q31_3		Q19_1		TOTAL
FREQUENCY	ROW PCT	COL PCT		
		0	1	
0	36	118		154
	23.38	76.62		
	87.80	67.82		
1	5	56		61
	8.20	31.80		
	12.70	32.18		
TOTAL	41	174		215
FREQUENCY MISSING = 1				
STATISTIC	DF	VALUE	PROB	
CHI-SQUARE	1	6.524	0.011	

63.

TABLE OF 031_4 BY 019_1

031_4		019_1		TOTAL
FREQUENCY	ROW PCT	COL PCT		
0	24	59		83
	29 32	71 09		
	30 34	33 81		
1	17	113		132
	12 88	81 12		
	4 26	64 09		
TOTAL		41	174	215
FREQUENCY MISSING = 1				
STATISTIC				
CHI-SQUARE				
DF				
VALUE				
P-VALUE				
0.492				
0.004				

64.

TABLE OF 023 BY 019_3

023		019_3		TOTAL
FREQUENCY	ROW PCT	COL PCT		
1	44	74		118
	37 39	61 71		
	40 75	53 62		
2	3	2		5
	60 00	40 00		
	4 69	1 45		
3	10	23		33
	30 30	69 70		
	15 63	16 67		
4	6	25		31
	19 35	80 85		
	9 38	18 12		
5	1	14		15
	6 67	93 33		
	1 56	10 14		
TOTAL		64	138	202
FREQUENCY MISSING = 14				
STATISTIC				
CHI-SQUARE				
DF				
VALUE				
P-VALUE				
10.108				
0.039				

65.

TABLE OF 030_4 BY 019_13

030_4		019_13		TOTAL
FREQUENCY	ROW PCT	COL PCT		
0	67	76		143
	46 21	57 19		
	16 14	61 42		
1	21	49		70
	30 00	70 00		
	23 86	38 54		
TOTAL		88	127	215
FREQUENCY MISSING = 1				
STATISTIC				
CHI-SQUARE				
DF				
VALUE				
P-VALUE				
9.129				
0.024				

66.

TABLE OF Q31_3 BY Q19_13

Q31_3		Q19_13		TOTAL
FREQUENCY	RW PCT	COL PCT		
0	73	81	84	154
	47 40	52 60		
	87 95	63 72		
1	15	46	61	61
	24 39	75 41		
	17 05	36 23		
TOTAL	88	127	215	

FREQUENCY MISSING = 1

STATISTICS FOR TABLE OF Q31_3 BY Q19_13

STATISTIC	DF	VALUE	PROB
CHI-SQUARE	1	8 405	0 032

67.

TABLE OF Q31_4 BY Q19_13

Q31_4		Q19_13		TOTAL
FREQUENCY	RW PCT	COL PCT		
0	41	42	83	83
	49 40	50 60		
	46 59	33 07		
1	47	65	112	112
	35 41	64 39		
	53 41	66 93		
TOTAL	88	127	215	

FREQUENCY MISSING = 1

STATISTIC	DF	VALUE	PROB
CHI-SQUARE	1	4 007	0 045

68.

TABLE OF Q23 BY Q26_1

Q23		Q26_1				TOTAL
FREQUENCY	RW PCT	COL PCT	1	2	3	
1	1	19	20	56	116	116
	0 24	15 34	34 48	48 74		
	25 02	46 34	57 97	63 88		
2	0	0	1	3	4	4
	0 00	0 00	25 00	75 00		
	0 00	0 00	1 45	3 53		
3	0	12	15	6	33	33
	0 00	26 36	45 45	18 18		
	0 00	29 27	21 74	7 06		
4	3	5	10	13	31	31
	9 48	16 13	32 24	41 94		
	75 00	12 20	14 48	15 29		
5	0	5	3	7	15	15
	0 00	33 33	20 00	46 67		
	0 00	12 20	4 31	8 24		
TOTAL	4	41	67	85	199	

FREQUENCY MISSING = 17

STATISTICS FOR TABLE OF Q23 BY Q26_1

STATISTIC	DF	VALUE	PROB
CHI-SQUARE	12	26 885	0 008

69.

TABLE OF 031_3 BY 026_2

031_3		026_2					
FREQUENCY	ROW PCT	COL PCT	1	2	3	4	TOTAL
0	57	7	65	28			152
	37.50	4.44	39.47	18.42			
	78.00	87.50	61.22	82.25			
1	16	1	38	6			61
	24.23	1.64	42.32	9.84			
	21.92	12.50	28.78	11.65			
TOTAL	73	8	98	34			213
FREQUENCY MISSING = 3							
STATISTIC							
CHI-SQUARE							
			3	9.579			0.029

70.

TABLE OF 030_1 BY 026_4

030_1		026_4					
FREQUENCY	ROW PCT	COL PCT	1	2	3	4	TOTAL
0	13	4	17	65			99
	13.13	4.04	17.17	65.66			
	28.89	26.26	44.74	54.82			
1	32	7	21	54			114
	28.07	6.14	18.42	47.37			
	71.11	63.64	55.26	45.38			
TOTAL	45	11	38	119			213
FREQUENCY MISSING = 3							
STATISTIC							
CHI-SQUARE							
			3	9.268			0.026

71.

TABLE OF 031_3 BY 026_4

031_3		026_4					
FREQUENCY	ROW PCT	COL PCT	1	2	3	4	TOTAL
0	32	8	20	82			152
	31.05	9.26	13.16	65.53			
	71.11	72.73	52.63	77.31			
1	13	3	18	27			61
	21.31	4.92	29.51	44.26			
	28.89	27.27	47.37	72.69			
TOTAL	45	11	38	119			213
FREQUENCY MISSING = 3							
STATISTIC							
CHI-SQUARE							
			3	8.595			0.035

72.

TABLE OF 031_4 BY 027_1_2

031_4		027_1_2			
FREQUENCY	ROW PCT	COL PCT	0	1	TOTAL
0	25	57			82
	30.49	69.51			
	52.04	34.55			
1	33	108			141
	17.54	82.44			
	47.82	65.45			
TOTAL	48	165			213
FREQUENCY MISSING = 3					
STATISTIC					
CHI-SQUARE					
			1	4.830	0.028

73.

TABLE OF 030_6 BY 027_1_4

030_6		027_1_4		TOTAL
FREQUENCY	ROW PCT	COL PCT		
0	78	87		165
	47.27	93.73		
	63.07	73.50		
1	15	32		48
	31.25	68.75		
	16.13	27.50		
TOTAL	93	120		213
FREQUENCY MISSING = 2				

STATISTIC	DF	VALUE	PROB
CHI-SQUARE	1	3.061	0.048

74.

TABLE OF 031_1 BY 027_2_3

031_1		027_2_3		TOTAL
FREQUENCY	ROW PCT	COL PCT		
0	57	24		81
	70.37	29.63		
	45.87	37.37		
1	67	64		131
	51.15	48.85		
	54.03	72.73		
TOTAL	124	88		213
FREQUENCY MISSING = 4				

STATISTIC	DF	VALUE	PROB
CHI-SQUARE	1	7.630	0.006

75.

TABLE OF 031_4 BY 027_4_3

031_4		027_4_3		TOTAL
FREQUENCY	ROW PCT	COL PCT		
0	64	17		81
	78.01	20.99		
	45.07	24.29		
1	79	53		131
	59.54	40.46		
	54.93	75.71		
TOTAL	143	70		213
FREQUENCY MISSING = 4				

STATISTIC	DF	VALUE	PROB
CHI-SQUARE	1	8.578	0.003

76.

TABLE OF 031_4 BY 027_4_4

031_4		027_4_4		TOTAL
FREQUENCY	ROW PCT	COL PCT		
0	61	20		81
	75.31	24.69		
	42.95	28.99		
1	81	49		120
	62.31	37.69		
	57.04	71.01		
TOTAL	142	69		211
FREQUENCY MISSING = 2				

STATISTIC	DF	VALUE	PROB
CHI-SQUARE	1	3.873	0.050

77.

TABLE OF Q23 BY Q27_4_5

Q23		Q27_4_5		TOTAL
FREQUENCY	ROW PCT	COL PCT		
		0	1	
1	88	28	116	
	72 86	24 14		
	64 23	45 16		
2	4	0	4	
	100 00	0 00		
	3 92	0 00		
3	17	16	33	
	31 22	48 48		
	12 41	25 81		
4	19	12	31	
	61 29	38 71		
	13 67	19 35		
5	9	6	15	
	60 00	40 00		
	6 57	9 69		
TOTAL	137	62	199	
FREQUENCY MISSING = 17				
STATISTIC	DF	VALUE	PROB	
CHI-SQUARE	4	10 466	0 033	

78.

TABLE OF Q23 BY Q27_4_5

Q23		Q27_4_5		TOTAL
FREQUENCY	ROW PCT	COL PCT		
		0	1	
1	79	44	123	
	64 23	35 77		
	56 83	68 75		
2	25	14	39	
	64 10	35 30		
	17 99	21 88		
3	35	6	41	
	85 37	14 63		
	25 18	8 38		
TOTAL	139	64	203	
FREQUENCY MISSING = 13				
STATISTIC	DF	VALUE	PROB	
CHI-SQUARE	2	6 792	0 034	

79.

TABLE OF Q23 BY Q27_5_2

Q23		Q27_5_2		TOTAL
FREQUENCY	ROW PCT	COL PCT		
		0	1	
1	41	75	116	
	35 34	64 64		
	57 75	58 59		
2	4	0	4	
	100 00	0 00		
	5 63	0 00		
3	10	23	33	
	30 30	89 70		
	14 08	17 97		
4	13	18	31	
	41 94	58 06		
	18 31	14 06		
5	9	12	19	
	20 00	80 00		
	4 23	9 38		
TOTAL	71	128	199	
FREQUENCY MISSING = 17				
STATISTIC	DF	VALUE	PROB	
CHI-SQUARE	4	9 168	0 045	

80.

TABLE OF Q31_4 BY Q27_3_2

Q31_4		Q27_3_2		TOTAL
FREQUENCY	ROW PCT	COL PCT		
0	35	46	81	81
1	39	92	131	
TOTAL	74	138	212	

FREQUENCY MISSING = 4

STATISTIC	DF	VALUE	PRDF
CHI-SQUARE	1	3.978	0.046

81.

TABLE OF Q30_6 BY Q27_3_3

Q30_6		Q27_3_3		TOTAL
FREQUENCY	ROW PCT	COL PCT		
0	126	37	163	163
1	39	18	48	
TOTAL	165	55	211	

FREQUENCY MISSING = 5

STATISTIC	DF	VALUE	PRDF
CHI-SQUARE	1	4.215	0.040

82.

TABLE OF Q30_4 BY Q27_3_4

Q30_4		Q27_3_4		TOTAL
FREQUENCY	ROW PCT	COL PCT		
0	79	62	141	141
1	29	41	70	
TOTAL	108	103	211	

FREQUENCY MISSING = 5

STATISTIC	DF	VALUE	PRDF
CHI-SQUARE	1	3.991	0.046

83.

TABLE OF Q30_6 BY Q27_3_4

Q30_6		Q27_3_4		TOTAL
FREQUENCY	ROW PCT	COL PCT		
0	90	73	163	163
1	18	30	48	
TOTAL	108	103	211	

FREQUENCY MISSING = 5

STATISTIC	DF	VALUE	PRDF
CHI-SQUARE	1	4.637	0.031

84.

TABLE OF 032 BY 031_3_4

032		031_3_4		TOTAL
FREQUENCY	ROW PCT	COL PCT		
1	62	60	122	
	50 82	49 18		
2	14	25	39	
	35 90	64 10		
3	26	15	41	
	63 41	26 39		
	25 49	15 00		
TOTAL	102	100	202	
FREQUENCY MISSING = 14				
STATISTIC	DF	VALUE	PROB	
CHI-SQUARE	2	6 047	0 048	

85.

TABLE OF 033 BY 031_11_1

033		031_11_1		TOTAL
FREQUENCY	ROW PCT	COL PCT		
1	78	40	118	
	66 10	33 90		
2	5	0	5	
	100 00	0 00		
3	14	19	33	
	42 42	57 58		
4	19	12	31	
	61 29	38 71		
5	6	9	15	
	40 00	60 00		
	4 92	11 25		
TOTAL	122	80	202	
FREQUENCY MISSING = 14				
STATISTIC	DF	VALUE	PROB	
CHI-SQUARE	4	11 850	0 018	

86.

TABLE OF 031_1 BY 031_12_5

031_1		031_12_5		TOTAL
FREQUENCY	ROW PCT	COL PCT		
0	54	30	84	
	64 29	35 71		
1	53	79	132	
	40 15	59 85		
	49 53	72 48		
TOTAL	107	109	216	
STATISTIC	DF	VALUE	PROB	
CHI-SQUARE	1	11 861	0 001	

87.

TABLE OF Q31_4 BY Q27_12_3

Q31_4		Q27_12_3		TOTAL
FREQUENCY	ROW PCT	COL PCT		
0	54	30	84	84
1	53	79	132	
TOTAL	107	109	216	

STATISTIC	DF	VALUE	PROB
CHI-SQUARE	1	11.861	0.001

88.

TABLE OF Q31_1 BY Q27_12_8

Q31_1		Q27_12_8		TOTAL
FREQUENCY	ROW PCT	COL PCT		
0	56	28	84	132
1	51	71	132	
TOTAL	117	99	216	

STATISTIC	DF	VALUE	PROB
CHI-SQUARE	1	0.651	0.003

89.

TABLE OF Q31_2 BY Q27_12_5

Q31_2		Q27_12_5		TOTAL
FREQUENCY	ROW PCT	COL PCT		
0	56	28	84	132
1	51	71	132	
TOTAL	117	99	216	

STATISTIC	DF	VALUE	PROB
CHI-SQUARE	1	0.651	0.003

90.

TABLE OF Q31_1 BY Q27_16_3

Q31_1		Q27_16_3		TOTAL
FREQUENCY	ROW PCT	COL PCT		
0	64	20	84	132
1	62	49	132	
TOTAL	147	68	216	

STATISTIC	DF	VALUE	PROB
CHI-SQUARE	1	4.184	0.041

91.

TABLE OF Q31_1 BY Q27_16_6

Q31_1		Q27_16_6		TOTAL
FREQUENCY	ROW PCT	COL PCT		
0	59	25	84	84
1	72	29	74	
TOTAL		131	85	216

STATISTIC	DF	VALUE	PROB
CHI-SQUARE	1	5.287	0.021

92.

TABLE OF Q31_1 BY Q27_19_2

Q31_1		Q27_19_2		TOTAL
FREQUENCY	ROW PCT	COL PCT		
0	39	45	84	132
1	40	92	132	
TOTAL		79	127	216

STATISTICS FOR TABLE OF Q31_1 BY Q27_19_2

STATISTIC	DF	VALUE	PROB
CHI-SQUARE	1	8.754	0.018

93.

TABLE OF Q27_24_5 BY Q23

Q27_24_5		Q23					TOTAL
FREQUENCY	ROW PCT	COL PCT	1	2	3	4	
0	51	5	8	17	10	105	97
1	23	0	25	14	5	97	
TOTAL		119	5	33	31	19	202

FREQUENCY MISSING = 14

STATISTICS FOR TABLE OF Q27_24_5 BY Q23

STATISTIC	DF	VALUE	PROB
CHI-SQUARE	4	16.644	0.002

94.

TABLE OF 027_24_5 BY 031_4

027_24_5		031_4		TOTAL
FREQUENCY	ROW PCT	COL PCT		
		0	1	
0	51	54	61	112
	45.54	54.46		
	60.71	46.31		
1	33	71		104
	31.73	68.27		
	39.29	53.79		
TOTAL	84	132		216

STATISTICS FOR TABLE OF 027_24_5 BY 031_4

STATISTIC	DF	VALUE	PROB
CHI-SQUARE	1	4.324	0.038

95.

TABLE OF 027_24_6 BY 031_4

027_24_6		031_4		TOTAL
FREQUENCY	ROW PCT	COL PCT		
		0	1	
0	54	53	61	115
	46.86	53.04		
	64.29	46.21		
1	30	71		101
	29.70	70.30		
	35.71	53.79		
TOTAL	84	132		216

STATISTICS FOR TABLE OF 027_24_6 BY 031_4

STATISTIC	DF	VALUE	PROB
CHI-SQUARE	1	8.796	0.008

VITA 2

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