Vermonters and Reading of Food Labels
Vermonter Poll 2004

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CENTER FOR RURAL STUDIES

Introduction

Just in the last 200 years of human history, advances in food production, processing, storage and distribution, have provided many societies greater variety of diet choices. These expanded selections have allowed society the luxury of selecting foods they prefer as opposed to eating what is available. This increased capacity has been the focus of research studies, many of which indicate the current food choices being made in society may lead to "the development of several major chronic diseases" (Beaton et al, 1991).

Scientific studies have indicated that obesity is a major cause of diabetes, gallstones, hypertension, heart disease and stroke as well as worsening many chronic conditions such as hypertension, renal failure, dyslipedemia and osteoarthritis (Wolf & Coditz, 1996; Field et al, 2001). In 1990, the cost of obesity to the United States was estimated at $45.8 billion in health care costs and $4 billion to employers due to lost productivity associated with obesity (Wolf & Coditz 1996). One attempt to counter the trend toward obesity is a consideration by the Food and Drug Administration to revise current food labels to "prominently highlight calories and serving size or listing the total calories per container" (Gilcrest, 2003). Not all studies agree that food labels will help reduce the obesity rate in the United States. Still some believe that food labels can be productive if the label design is based on consumer research. "[The National Food Processors Association's] research indicates that consumers prefer 'descriptors' on labels such as 'low calories' and 'reduced fat' to help them control their weight, and added that studies done during the 1990's suggest that people do not react well to graphics to convey nutritional messages" (Gilcrest, 2003).

The purpose of this paper is to analyze who is reading food labels and what they are reading on the labels. Once this is better understood, future action can be taken to try to increase the rate of label reading and better communicate the nutritional messages presented, so consumers can make informed decisions about the foods they choose.

Methodology

The data used in this report came from this year's Vermonter Poll, a telephone survey conducted annually by the Center for Rural Studies at the University of Vermont. The 2004 Vermonter Poll asked residents questions on issues related to public policy in Vermont as well as questions about demographics. Trained and supervised interviewers administered the survey using Computer-Aided Telephone Interviewing (CATI) software. The survey took place between the hours of 4:00pm and 9:00pm during the last two weeks of February 2004. Telephone numbers were selected through random digit dialing from a list of all Vermont households with active, land-based phone lines. The survey required its respondents to be Vermont residents who were 18 years of age or older. The sample was statistically representative of the adult Vermont population with a 95 percent level of confidence.

The sample contained 693 respondents, and 646 of those who were called completed the entire survey. Forty-five percent (45%) of the sample were male, and 55% were female. The average age in the sample was 50 years old. The median household income category was $35,001 to $50,000. The median education level completed was some college with no degree, and 41% of respondents reported completing a bachelor's degree or higher. The majority of households consisted of two adults, with only 37 percent of respondents with one child or more in the house.

Analysis

This study investigated the frequency of label reading in Vermont, what type of person reads labels and whether interest in reading labels is related to a person's weight. We used questions from the Vermonter Poll on label reading frequency and label information read most often. The demographic characteristics of gender, age, income, education and presence of children enabled us to profile Vermonters with label reading interest and to examine possible relationships of these characteristics with weight status. We also examined what people believed to be their daily calorie needs, and how these perceptions related to weight status, label reading frequency and interest in specific label information.

We used two categories for education: "high school degree or less," and "some college or more." The frequency of label reading also had two categories. Those who always or mostly read labels were grouped into a category called "frequently read labels" (FRL), while those who sometimes, rarely, or never read labels were grouped into the category "low level of reading labels" (LLRL). Our study defined overweight people as those having a Body Mass Index (BMI) greater than 26. Body Mass Index is a function of height and weight, and the index is commonly used in the sciences to determine overweight criteria. A healthy BMI level ranges from 18.5 to 21.9. Adults with BMIs between 25 and 29.9 have been found to be at significantly increased risk of developing numerous health conditions (Field et al, 2001).

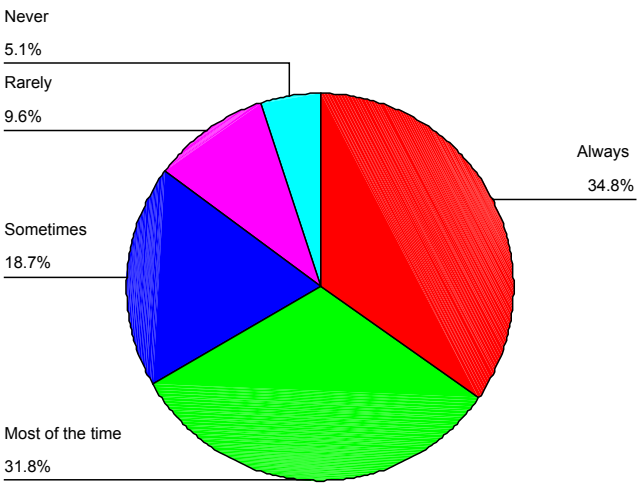
We used the Statistical Package for Social Scientists (SPSS) to conduct our analysis. Significance values noted throughout the report indicate findings at confidence levels of 90% or greater. For example, a significance value of 0.05 indicates a result significant at a 95% level of confidence.

Results

What percentage of Vermonters read labels?

Two thirds of Vermonters in our sample said they read labels frequently—"always" or "most of the time." Of the remaining third who read labels less frequently, about nineteen percent reported reading labels sometimes, while almost 15% said they rarely or never read labels. (Figure 1)

Figure 1: Label Reading Frequency (n=647)

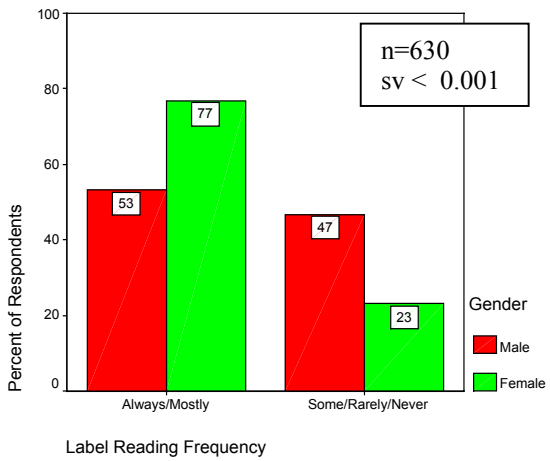


Source: Center for Rural Studies, University of Vermont, 2004 Vermonter Poll

Which Vermonters read labels?

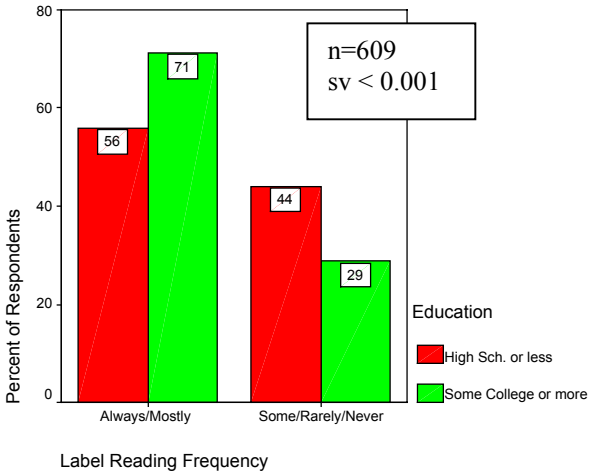
Our analysis determined that labels were more frequently read by women (significance value <0.001) and those with a higher education level (significance value < 0.001). Vermonters that were overweight, (BMI >26), tended to read labels less frequently than Vermonters that were not overweight (significance value=0.037). (Figures 2, 3, and 4)

Figure 2: Gender and label reading



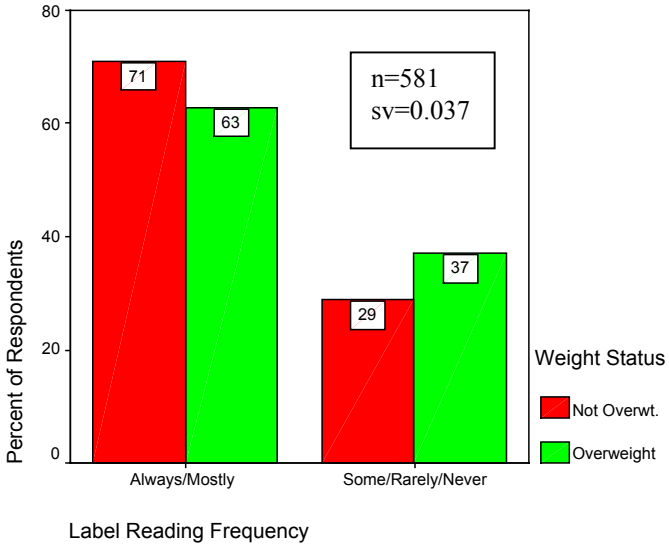
Source: Center for Rural Studies UVM, 2004 Vermonter Poll

Figure 3: Education and label reading



Source: Center for Rural Studies UVM, 2004 Vermonter Poll

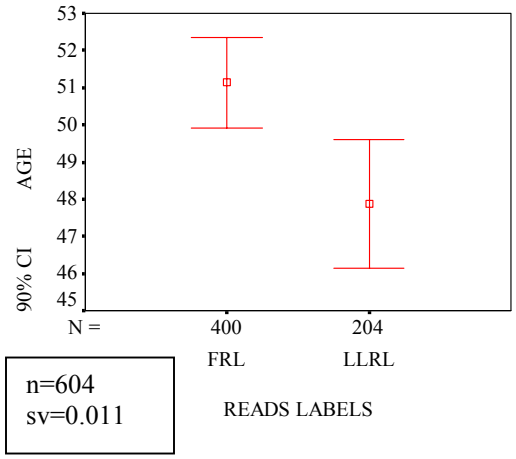
Figure 4: Weight status and label reading frequency



Source: Center for Rural Studies, UVM, 2004 Vermonter Poll

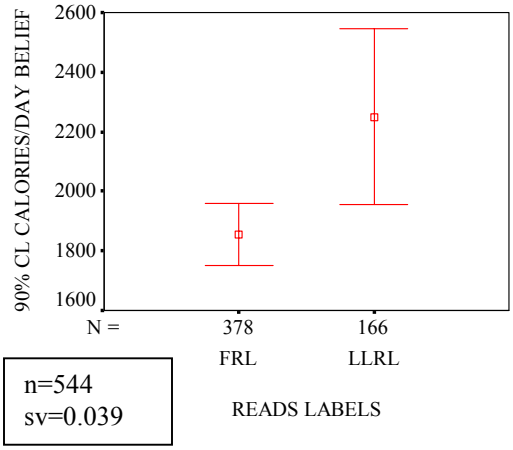
Age was also a significant factor when examined with label reading frequency. Those who frequently read labels (FRL) tended to be older, averaging 51 years of age, while the lower level readers of labels (LLRL) averaged 48 years old (significance value=0.011). (Figure 5)

Figure 5: Mean ages for Frequently Read Labels (FRL) and Low Level of Reading Labels (LLRL)



Source: Center for Rural Studies, UVM 2004 Vermonter Poll

Figure 6: Mean calorie/day belief comparison between FRL and LLRL



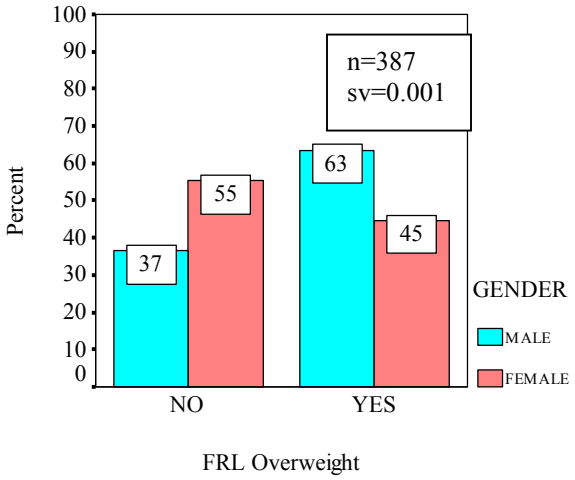
Source: Center for Rural Studies, UVM 2004 Vermonter Poll

Figure 6 shows that FRL respondents had a lower perception of calories needed in a day (1,856 calories/day) while the LLRL respondents anticipated they would need on average 2,249 calories/day (significance value=0.039).

No relationship was evident between the frequency with which people read labels and household income level, nor was there any relationship between label reading and the presence of children in the household.

When considering only those in the FRL category, we determined that there was no significant difference between the average ages of each gender. The average age for males was 50, and the average for females was 52. There was, however, a significant difference between the genders in the FRL category in terms of weight status. The males in the FRL group were more apt to be overweight (significance value=0.001). (Figure 7)

Figure 7: FRL Weight Status & Gender

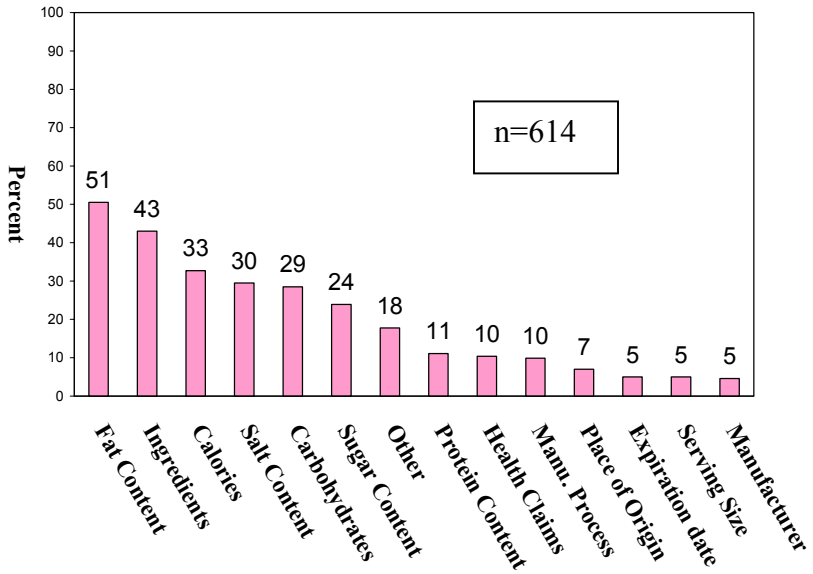


Source: Center for Rural Studies UVM, 2004 Vermonter Poll

What are Vermonters reading on labels?

The survey had a list of 13 items commonly found on labels and an "other" category provided for responses not listed. The question was open-ended, so the participants were not given a recall mechanism to aid their responses. Multiple responses were possible for this question. The actual number of categories read on labels ranged from 0 to 14, and the mean number of label items read was 3. The most commonly read item on a food product was "fat content," read by 50.5% of all label readers. The least read item was "manufacturer"; only 4.6% of label readers sought out information about the maker of the product. (Figure 8)

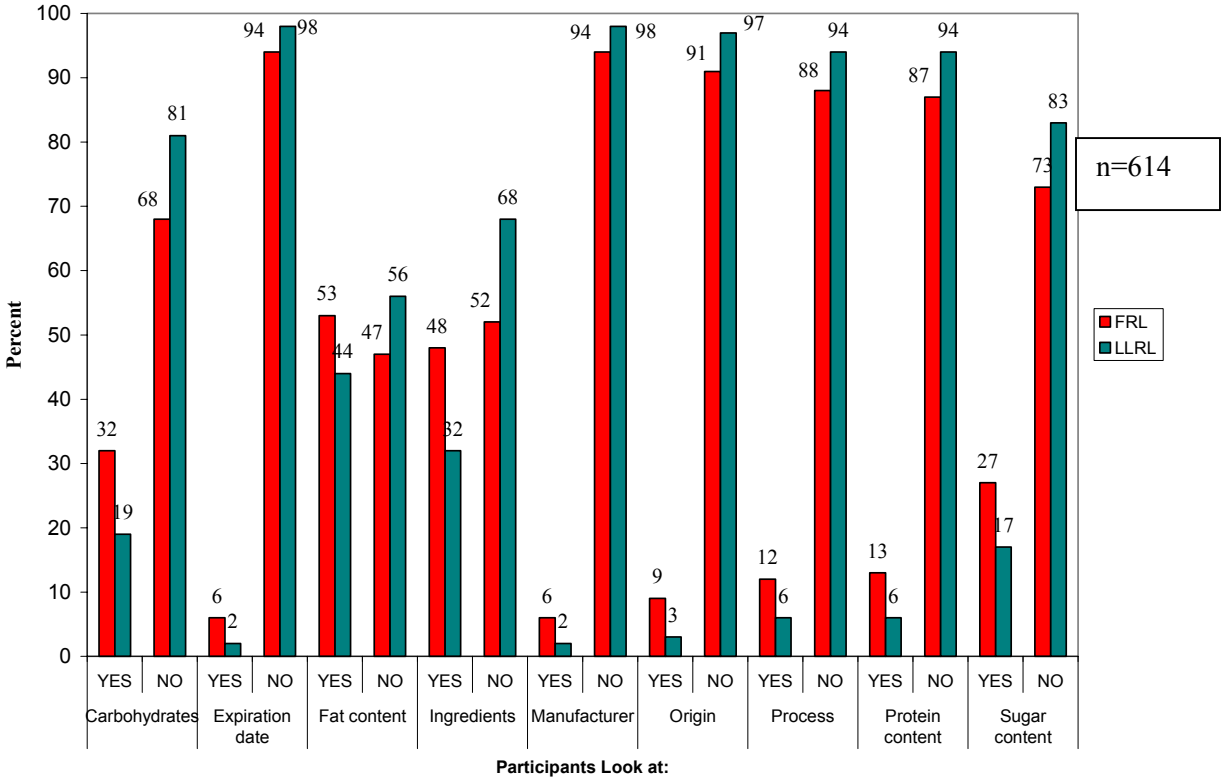
Figure 8: What Vermonters read on food labels



Source*: Center for Rural Studies, UVM, 2004 Vermonter Poll*

For those who did read labels, the "frequently read label" (FRL) participants displayed tendencies to read the following categories more than "low level reads labels" (LLRL) participants: carbohydrate content (significance value=0.001), fat content (significance value=0.044), expiration date (significance value=0.035), ingredients (significance value=0.001), manufacturer (significance value=0.066), origin of product (significance value=0.007), process (such as organic grown or environmentally friendly process) (significance value=0.034), protein content (significance value=0.009), and sugar content (significance value=0.008). The four items for which we did not find a significant difference between the FRL and LLRL groups were calories, health claims, salt and serving size. (Figure 9)

Figure 9: What frequent label readers read significantly more than occasional label readers?



Source: Center for Rural Studies, UVM, 2004 Vermonter Poll

Discussion

Through analysis of the 2004 Vermonter Poll, we found that the typical Vermonter profile of the high frequency food label reader is older, female, and better educated. Those who were overweight were inclined to read labels less frequently. Women who frequently read labels (FRL) were more apt to be in the higher education category than the males who frequently read labels. The males in the FRL group had a higher tendency to be overweight than the females. These findings lead to an interesting dilemma: is being a frequent label reader associated with lower BMI in women? Or is a high BMI for males the cause for a higher frequency of reading labels? The scope of this study cannot determine cause or effect, but future studies may choose to look at the motivation behind reading the food labels.

While the majority of consumers reported reading food label information, one may wonder if food labels are having any effect on people's eating habits. Aron (1999) found that, even when the information was

provided, it did not result in lower calorie or fat consumption. Other papers have looked at the lack of response to nutrition knowledge. Food Insight publication (IFIC, Sept/Oct 1999) reported: "…consumer research studies indicate that most people DO care about nutrition and health but are having trouble translating interest into behavior change…There is a dichotomy between what they know they should do and what they are actually doing. Part of this 'nutritional schizophrenia' may, in[fact], be because people feel they have heard so much confusing and conflicting information. It may also be that they perceive the barriers to achieving 'nutritional utopia' are too great for them to overcome." This statement points towards a need for the provision of accurate and non-conflicting information for the public. What makes this difficult is the fact that science is continually evolving. As knowledge increases in the nutritional field, previous beliefs have been found to be inaccurate. The public sees this as confusing and no longer knows who or what to trust.

An important finding in this study was the low number of calories people in the FRL group believed they needed compared to the higher number the LLRL group believed they required. This finding seems to agree with Susan Cummings of the American Dietetic Association's criticism of current government nutritional advice. "…Food labels' Percent Daily Values… [are] based on a 2,000-calorie daily diet [which is] usually more than weight-conscious Americans eat" (Gilcrest, 2003). This suggests a need for further examination of the 2,000-calorie per day recommendation by the FDA.

Our analysis of the Vermonter Poll data also identified which food label items people read most. This analysis confirmed the IFIC (Sept/Oct1999) statement that "fat is, by far, consumers' number one concern about diet." Slightly more than half of those who said they read labels looked at fat content, coming in ahead of the second most looked at category (ingredients) by eight percentage points. This information suggests that many consumers have an interest in buying food products with lower fat content. Our study also indicated that serving size information is not used by most people (only 0.5% reported reading serving size information). IFIC (Nov/Dec 1999) stated that "part of [the] confusion has to do with the amount of food considered a 'serving' and consumers' perception of standard food portions. Portion and serving sizes may sound like the same thing but for many Americans may actually be very different." They went on to explain that a serving size is a base unit, while a portion may be made up of several serving sizes. To maintain a healthy weight, people need to determine what portion size is appropriate for them. With restaurant "value meals" now coming in super size, it has caused a shift in the consumers' view of what a single serving looks like, thereby leading to excess calorie consumption. A concerted effort will be needed to help consumers read food labels correctly and utilize label information to make appropriate food choices.

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