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Awareness of the Recent Change in the Nutrition Label

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Abstract

Background: The Nutrition Facts panel as it is recognized today was developed by Dr. David Kessler in 1994 during his tenure as the commissioner of the FDA. A new label was announced on May 20, 2016 to increase awareness about food content, clarify the amount of food in a package, and to present information that has been recently and scientifically updated. Several studies have researched the food label and the association between knowledge and dietary intake. However, these studies examined the 1994 version of the label and results fell short of desired outcomes. Since the announcement of the new label, very little promotion has taken place to make consumers aware of the changes that have taken place.

Objective: To identify whether consumers have been made aware of the 2016 nutrition label update.

Design: An anonymous, self-administered questionnaire was provided to participants via email or in person consisting of 18 questions divided into two sections: nutrition label and demographics.

Participants: Data were collected on 232 participants 18-years and above.

Statistics: Data were tested using chi-squared test of homogeneity and Fisher's Exact Test.

Results: A significant difference in the awareness of the recent change in the nutrition label by income level ($P = 0.002$).

Conclusion: Our findings suggest most participants are not aware of the updated nutrition label change. However, when presented with the images of the old and new nutrition label, most participants were able to identify the updated version. Early and adequate nutrition education could improve shopping and healthful eating habits. The intent of the new label to bring awareness of realistic serving sizes and their calorie load appears to have not been met.

Introduction

Approximately \$1.5 billion is spent annually on nutrition research, growing at an average annual rate of three percent from 1985 to 2009.¹ While this expenditure may seem to only benefit the health and welfare of the country, upon dissection, the number is misleading. The data reveal that government research in nutrition through the United States Department of Agriculture (USDA) has been cut in half, while research on addressing chronic conditions and diseases within the Department of Health and Human Services (DHHS) has risen by almost seven and a half percent annually.¹ Even as financial support for nutrition research has been declining, the bulk of the resources within this area is dedicated to research in food science, which includes “food processing, preservation, and food-related technologies.”¹

The demand for convenience and speed through the twentieth century drove the food and beverage industry to focus on providing packaged and processed foods. As these demands were met and increasing numbers of processed foods became available for purchase, consumers needed a way to understand the foods they were purchasing. However, the initial concern for developing food labels was not to provide information on the healthfulness of food, but rather, to prevent the adulteration or contamination of food; the passages of two acts in 1906 addressed these issues. The Food and Drugs Act and Federal Meat Inspection Act prohibited misbranding or adulteration of food and enforced sanitary conditions for slaughter, respectively.² The Food and Drugs Act was then replaced by the Federal Food, Drug and Cosmetic Act of 1938, which tightened restrictions on the information provided on food labels and prohibited false or misleading statements.² The Act also authorized the Food and Drug Administration (FDA) to require additional label information on foods meant for special dietary needs. Additional special dietary

regulations were added in 1941, which included the Minimum Daily Requirements, governing the labeling of fortified and enriched foods and their added vitamins and minerals.²

In 1973, the Food and Nutrition Board (FNB) of the National Academy of Sciences introduced the public to the Recommended Daily Allowances (RDAs), which is the estimated average daily nutrient intake sufficient to meet the needs of 97% to 98% of healthy adults. With the introduction of this requirement, food labeling requirements were once again changed to only require nutrition labeling on a packaged food if the manufacturer of a food added or made a claim about a nutrient in the food.³ The Nutrition Labeling and Education Act (NLEA) of 1990 was made the largest stride toward modern-day food labeling. NLEA authorized the FDA to require nutrition labeling on most food packages and specified the nutrients to be listed.² It also required that the specific nutrients be listed in the context of the RDAs and that serving sizes represent “an amount customarily consumed and which is expressed in a common household measure that is appropriate to the food.”² Finally, in 1994, the Nutrition Facts panel and Daily Values, as they are recognized today, were developed by Dr. David Kessler during his tenure as the commissioner of the FDA.

Since the final designing and widespread application of the Nutrition Facts panel, very few changes have been made to its appearance. The only major change has been the inclusion of trans fat, which was implemented in 2003. The current nutrition label found on packaged food products is over twenty years old. The changes that are being implemented into the new label are occurring to give the public easy access to newer, more applicable nutrition information. Each change is based on recent scientific evidence, expert nutrition and dietary recommendations, and ideas from the general public. The new label was announced on May 20, 2016. Manufacturers will have until 2020 or 2021, depending on their company’s annual revenue, to bring products into compliance.⁴

Each change is being made in order to enable consumers to make better, well-informed food choices. The most noticeable change is in the font size of the calories, serving sizes, and number of servings. The font for these categories is being enlarged and bolded to catch the attention of the consumer and create awareness about how much of each category the package actually contains.⁴ Additionally, the serving size on labels is being increased or decreased, depending on the food's serving size typically consumed by the public, and according to how much is typically consumed on a regular basis.⁴ Both of these changes will make it easier for the consumer to see exactly what they are eating. For products that are larger than a single-serving, a dual column label is utilized to give information for the consumption of the entire product, or just a portion.⁵ Other general changes include a rewording of the footnote to better explain what percent daily value means. The daily values for certain nutrients, including sodium, fiber, and vitamin D will also be updated according to new evidence provided by the Institute of Medicine (IOM).⁴

Other major changes will be in the macronutrient breakdown. The FDA will continue to include "total fat," "saturated fat," and "trans-fat" on the label. However, "calories from fat" is no longer on the label.⁴ This change is due to the fact that the *type* of fat consumed is more important and has more effect on the body, than the *amount* of fat consumed by the public on a regular basis as revealed by the National Health and Nutrition Examination Survey (NHANES) studies. "Added sugars" will also be included and listed on a separate line in a gram amount under "total sugars," and include a percent daily value.⁴ The FDA defines added sugars as "sugars that are either added during the processing of foods, or are packaged as such, and include sugars (free, mono- and disaccharides), sugars from syrups and honey, and sugars from concentrated fruit or vegetable juices that are in excess of what would be expected from the same volume of 100 percent fruit or vegetable juice of the same type."⁴ The typical American diet provides an excess of carbohydrates

and sugars on a regular basis. The FDA estimates that the average American consumes about thirteen percent of their total caloric intake from added sugars daily.⁴ By including added sugars on the label, the goal is to increase consumer awareness about the amount of added sugar being eaten.

With regard to micronutrients, the nutrition label will now state the total gram amount of calcium, vitamin D, iron, and potassium.⁴ This enables consumers to see exactly how much of each nutrient they are receiving with each serving. It also helps them to better choose foods that may be high in a certain nutrient they need. Furthermore, vitamins A and C will be replaced by potassium and vitamin D on the label.⁴ Potassium and vitamin D are currently considered to be two major nutrients that most Americans are lacking. Including these on the label and encouraging the public to purchase foods high in these nutrients can help to alleviate any deficiencies. Vitamin A and C deficiencies are uncommon and intake no longer needs to be monitored as closely.

The changes in the nutrition label are occurring in order to make consumers more knowledgeable about what they are eating. According to the FDA, the amendments are being made to “... the nutrition labeling of conventional foods and dietary supplements to help consumers maintain healthy dietary practices.”⁶ Each change has been made in order to increase awareness about content, clarity about amount, and to present information that has been recently and scientifically updated. Food content and nutrient information is available to anyone with access to food packaging. Several studies have researched the food label and the association between knowledge and dietary intake.

The influence of the Nutrition Facts panel was examined related to an earlier version of the panel. Attempts were made to reveal the impact of the label on consumer purchasing habits and the effectiveness in improving dietary choices.^{7,8,9} However, results have fallen short of desired

outcomes. In 2010, the American Dietetic Association examined the association between the food label and nutrient intake. Over 5,500 participants were surveyed with an in-home interview to identify the frequency with which they looked at the food label. The interview was followed by two twenty-four hour dietary recalls. The data showed 61.5% reported looking at the label at least sometimes prior to purchasing. The ingredients list was perused by 51% of grocery shoppers, while 47% noted the serving size.⁷

Another significant determining factor in the frequency of nutrition label use is motivation. It is possible that consumers are less likely to use the labels if the way in which the information is presented is stagnant and fails to evolve with the consumers. Consumers may have either purchased an item frequently enough to ignore the label or simply lose the internal or external motivation to read the label over time. Ni Mhurchu et al. examined the effects of three different nutrition labels when consumers purchased food. The study referred to three different labels including the Traffic Light labels, Health Star Rating labels, and Nutrition Information Panels. A smartphone app was used so participants were able to scan barcodes and view and record food purchases, if made. Results of this study showed that labels were viewed only twenty-three percent of the time, and as the weeks of the study progressed, there was a decrease in label viewing/recording.¹⁰ Results also suggested that participants made more healthful choices when products were viewed and purchased during the same trip compared to those who viewed the product label yet did not purchase items during the same shopping trip.¹⁰

Due to the recent appearance of the updated Nutrition Facts panel, research must now identify the effectiveness of the change. The purpose of this graduate student research study is to identify whether consumers have been made aware of the changes that have taken place and the degree to which the updated label has or has not affected purchasing habits. Finally, the study will

allow the participant to identify or include information that he or she finds most relevant when purchasing foods.

Methods

Data were collected through an anonymous online, self-administered questionnaire that was provided to participants via email and in person. Participants agreed to the consent by partaking in the questionnaire. Statistical analysis was completed using SPSS.

Participants

The sample was collected in several communities in Southern California, including participants who are ages eighteen years and older. Data were stratified by age, gender, marital status, parental status, education, level of income, physical activity level, and previous participation in formal nutrition education. Participants were excluded if they were unable to read or write English fluently.

Questionnaire

The questionnaire, developed by graduate students, consisted of 18 questions that were divided into two sections: demographics and Nutrition Facts panel. Questions included frequency of observation of the food label, main purchaser for the household, perceived importance of the nutrition label, awareness of changes to the label, and purchasing habits. Subjective knowledge was measured by a Likert scale ranging from 'never' (=0) to 'always' (=10) (e.g., "When shopping, do you look at nutrition labels? "Does the information on the label influence your purchasing habits"). Other questions provided were used to test awareness (e.g., "Are you aware that there has been a recent change in the information that is included on the nutrition label?") (See Appendix). This questionnaire was distributed via Qualtrics and paper form. The questionnaire took approximately five minutes to complete.

Procedures

Subjects received the anonymous survey and questionnaire by email or in person. Clicking on the link to answer the questionnaire implies consent. If completed in person, verbal consent was given. Additionally, a paragraph in the questionnaire stated that consent was acknowledged if the respondent began the questions. The questionnaire took approximately five minutes to complete.

Results

Table 1. Frequency (%) of Demographic Characteristics (N=232).

	Frequency (%)		Frequency (%)		Frequency (%)
Gender		Exercise		Occupation	
Male	84 (36.6)	I agree	169 (73.8)	Agriculture	1 (0.4)
Female	148 (63.8)	I do not agree	60 (26.2)	Arts/ Entertainment	12 (5.4)
Race		Special Diet		Construction	2 (0.9)
White/Caucasian	112 (48.7)	Yes, for medical condition	17 (7.4)	Education	42 (18.8)
African American	4 (1.7)	Yes, for fitness/ health goals	87 (38.0)	Engineering/ Science	4 (1.8)
Asian/Pacific Islander	37 (16.1)	No	125 (54.6)	Finance	7 (3.1)
Native American	2 (0.9)	Nutrition Education		Government	4 (1.8)
Latino	62 (27.0)	Yes	118 (51.3)	Health Care/ Fitness	22 (9.8)
Other	6 (2.6)	No	112 (48.7)	Hotel/ Food Service	5 (2.2)
Number of Children		Marital Status		Human Resources	1 (0.4)
0	150 (64.7)	Single	120 (51.7)	Legal/Law	5 (02.2)
1	27 (11.6)	Married	101 (43.5)	Military	
2	38 (16.4)	Divorced	11 (4.7)	Real Estate	2 (0.9)
3	11 (4.7)	Number in Household		Retail/ Sales	20 (8.9)
4	5 (2.2)	1	32 (13.8)	Student	47 (21.0)
		2	75 (32.3)	Technology	7 (3.1)
		3	53 (22.8)	Transportation	
		4 or more	72 (31.0)	Unemployed	5 (2.2)
				Other	34 (15.2)

The data extracted from the questionnaire confirmed our hypothesis that the majority of respondents would not have been made aware of the nutrition label update. The data revealed 74% of those surveyed were not aware that the nutrition label had been updated in 2016. It was expected that the lack of awareness would be associated with education, ethnicity, and income level, but results indicated that there was a significant difference only by income level (P=0.002) (Table 2). There was no significant difference in awareness by gender (P=0.245), education level (P=0.124), or ethnicity (P=0.230) (Table 2).

Table 2. Frequency (%) of Awareness of Recent Change of Nutrition Label by Group (N=232).

Group	Frequency (%)		P- Value
	YES	NO	
Gender			0.245
Male	19 (22.6)	65 (77.4)	
Female	41 (27.7)	107 (72.3)	
Education			0.124
Some college or below	14 (20.0)	56 (80.0)	
College graduate or higher	46 (28.2)	117 (71.8)	
Income			0.002
<\$24,000	15 (45.5)	18 (54.5)	
\$25,000-99,999	27 (29.0)	66 (71.0)	
>\$100,000	15 (15.5)	82 (84.5)	
Ethnicity			0.23
White/Caucasian	37 (33.0)	75 (67.0)	
African American	0 (0.0)	4 (100)	
Asian	9 (24.3)	28 (75.7)	
Native American	0 (0.0)	2 (100.0)	
Latino	13 (21.0)	49 (79.0)	
Other	0 (0.0)	6 (100.0)	

Table 3. Frequency (%) of Identification of New Nutrition Label by Group (N=232).

Group	Frequency (%)		P- Value
	OLD LABEL	NEW LABEL	
Gender			0.312
Male	14 (16.7)	70 (83.3)	
Female	30 (20.3)	118 (79.7)	
Education			0.547
Some college or below	13 (18.6)	57 (81.4)	
College graduate or higher	31 (19.0)	132 (81.0)	
Income			0.146
<\$24,000	9 (27.3)	24 (72.7)	

\$25,000-99,999	20 (21.5)	73 (78.5)	
>\$100,000	13 (13.4)	84 (86.6)	
Ethnicity			0.202
White/Caucasian	21 (18.8)	91 (81.3)	
African American	0 (0.0)	4 (100.0)	
Asian	8 (21.6)	29 (78.4)	
Native American	1 (50.0)	1 (50.0)	
Latino	12 (19.4)	50 (80.6)	
Other	0 (0.0)	6 (100.0)	

As shown in Table 3, there was no significant difference in the successful identification of the new nutrition label by gender (P=0.312), education level (P=0.547), income level (P=0.146), or ethnicity (P=0.202).

Discussion

The purpose of the study was to identify whether consumers have been made aware of the 2016 nutrition label update. Although most respondents were identified as not being aware of the nutrition label update, the majority were able to successfully identify the newer label when the two versions were presented. This outcome may have been due to a few possible factors. The labels were arranged with the old label to the left of the new label, leading participants to follow a pattern similar to reading from left to right and choose the label on the right. Respondents may have chosen the new label simply because it appeared to be different than the old label, with larger numbers and added information. Many of the correct answers could have also been the result of guessing. Regardless, we did not expect the ability of the participants to correctly identify the new label to be associated with any other factors.

Relative to the length of time that nutrition labels have been implemented on food packaging, the aforementioned updates are fairly new. However, adequate time has passed for the appropriate agencies to promote and raise awareness of the 2016 updates. We showed, for the first time to our knowledge, that there is limited awareness of the nutrition label updates. Lack of awareness is likely due to the infrequency of nutrition label use. A study conducted by Christoph

et al.¹¹ identified approximately two-thirds of participants as label non-users. Consumers in the general public may not have a complete understanding of how to make the information provided on nutrition labels applicable or relevant, leading to lack of use. Simplifying the information with graphics and reducing the volume of numerical information may lead to increased label use. A systematic review by Cowburn and Stockley¹² revealed that consumers found nutrition labels to be confusing, particularly how numerical information was to be incorporated into their diets. Although the primary purpose of updating the nutrition label was to make the provided information more relevant to consumers, a disconnect still exists between public health agencies and consumers in *how* the information is relevant. Greater awareness of the new nutrition label in the general population and its application in the diet created through social media, radio, and television may increase its effectiveness. Increasing the proportion of funding allocated for primary and secondary prevention measures, such as education in elementary schools and promotion of improved shopping and eating habits, will likely reduce the cost and need for tertiary measures.

Limitations of this study include a small sample size in a limited geographical area. Future research should reexamine conclusions drawn from studies conducted with the old label to evaluate whether similar results are produced with the new label. In addition, researchers should concentrate on identifying which sections of the label are deemed less applicable by consumers and if public health markers, such as obesity rates and diabetes prevalence, begin to trend downward in association with new label implementation. Research should also be conducted on a broader population with economically and culturally diverse backgrounds.

Conclusion

The majority of study participants were unaware of new updates to the nutrition label. It appears increased funding for advertisement of the updated label, as well as early and adequate nutrition education in adolescence, could improve shopping and healthful eating habits throughout adulthood. The changes to the label, including realistic serving sizes and their calorie load, make it easier for the public to achieve and maintain a healthy weight. By implementing practical nutrition education (e.g., label reading and meal planning) in schools, the updated label would begin to fulfill its purpose and be of greater service to the general public. Increasing advertisement of the new nutrition label would also increase awareness and enable the public to utilize the label.

References

1. Toole, Andrew A. and Fred Kuchler. *Improving Health Through Nutrition Research: An Overview of the U.S. Nutrition Research System, ERR-182*. U.S. Department of Agriculture, Economic Research Service. January 2015.
2. Institute of Medicine. *Dietary Reference Intakes: Guiding Principles for Nutrition Labeling and Fortification*. Washington, DC: The National Academies Press. 2003.
3. Institute of Medicine. *Nutrition Labeling: Issues and Directions for the 1990s*. Washington, DC: The National Academies Press. 1990.
4. Center for Food Safety and Applied Nutrition. *Labeling & Nutrition - Changes to the Nutrition Facts Label*. U S Food and Drug Administration Home Page. <https://www.fda.gov/Food/GuidanceRegulation/GuidanceDocumentsRegulatoryInformation/LabelingNutrition/ucm385663.htm>. Accessed April 2, 2018.
5. Center for Food Safety and Applied Nutrition. *Labeling & Nutrition - Industry Resources on the Changes to the Nutrition Facts Label*. U S Food and Drug Administration Home Page. <https://www.fda.gov/Food/GuidanceRegulation/GuidanceDocumentsRegulatoryInformation/LabelingNutrition/ucm513734.htm>. Accessed April 15, 2018.
6. *Food Labeling: Revision of the Nutrition and Supplement Facts Labels*. Vol 81. 103rd ed. College Park, MD: Federal Register; 2016:33742-33999.
7. Ollberding NJ, Wolf RL, Contento I. Food Label Use and Its Relation to Dietary Intake among US Adults. *J Amer Diet Asso*. 2011;111(5, Supplement):S47-S51.
8. Fitzgerald N, Damio G, Segura-Pérez S, Pérez-Escamilla R. Nutrition Knowledge, Food Label Use, and Food Intake Patterns among Latinas with and without Type 2 Diabetes. *J Amer Diet Assoc*. 2008;108(6):960-967.

9. Lewis J, Arheart K, LeBlanc W, et al. Food label use and awareness of nutritional information and recommendations among persons with chronic disease. *Amer J Clin Nutri.* 2009;90(5):1351–1357.
10. Ni Mhurchu C, Eyles H, Jiang Y, Blakely T. Do nutrition labels influence healthier food choices? Analysis of label viewing behavior and subsequent food purchases in a labelling intervention trial. *Appetite.* 2018;121:360-365.
11. Christoph MJ, Larson N, Laska MN, Neumark-Sztainer D. Nutrition Facts Panels: Who Uses Them, What Do They Use, and How Does Use Relate to Dietary Intake? *J Acad Nutr Diet.* 2018;118(2):217-228.
12. Cowburn G, Stockley L. Consumer understanding and use of nutrition labelling: a systematic review. *Pub Heal Nutr.* 2005;8(1):21-8.

Appendix

Nutrition Label Questionnaire

This graduate student research study is to identify the influence of the nutrition label on food purchasing habits. Your participation is voluntary, and data will be anonymous, confidential, and used for research purposes only. By taking this survey, you are consenting to the usage of any information that you provide on this paper.

Nutrition Facts Label questions:

1. Who does the grocery shopping in your household?

- Self
- Spouse/roommate
- Someone else

2. When you shop for groceries, do you look at nutrition labels? (Please check the applicable box).

Never	Sometimes	About half of the time	Most of the time	Always

3. Does the information on the label influence your purchasing habits?

Never	Sometimes	About half of the time	Most of the time	Always

4. Using a number scale, please indicate the three most important parts of the Nutrition Facts panel that are most important to you. If none, check None. [1= most important]

- Servings/Serving size
- Calories
- Total fat/Saturated fat/Trans fat
- Cholesterol
- Sodium
- Total carbohydrates/Sugars/Dietary fiber
- Protein

- Vitamins/Minerals
- Ingredients
- None
- Other

5. Are you aware that there has been a recent change in the information that is included on the nutrition label?

- Yes
- No

6. Please identify which one is the new label:

- A
- B

A

B

Nutrition Facts	
Serving Size 2/3 cup (55g) Servings Per Container About 8	
Amount Per Serving	
Calories 230	Calories from Fat 72
% Daily Value*	
Total Fat 8g	12%
Saturated Fat 1g	5%
<i>Trans</i> Fat 0g	
Cholesterol 0mg	0%
Sodium 160mg	7%
Total Carbohydrate 37g	12%
Dietary Fiber 4g	16%
Sugars 1g	
Protein 3g	
Vitamin A	10%
Vitamin C	8%
Calcium	20%
Iron	45%
* Percent Daily Values are based on a 2,000 calorie diet. Your daily value may be higher or lower depending on your calorie needs.	
	Calories: 2,000 2,500
Total Fat	Less than 65g 80g
Sat Fat	Less than 20g 25g
Cholesterol	Less than 300mg 300mg
Sodium	Less than 2,400mg 2,400mg
Total Carbohydrate	300g 375g
Dietary Fiber	25g 30g

Nutrition Facts	
8 servings per container	
Serving size	2/3 cup (55g)
Amount per serving	
Calories	230
% Daily Value*	
Total Fat 8g	10%
Saturated Fat 1g	5%
<i>Trans</i> Fat 0g	
Cholesterol 0mg	0%
Sodium 160mg	7%
Total Carbohydrate 37g	13%
Dietary Fiber 4g	14%
Total Sugars 12g	
Includes 10g Added Sugars	20%
Protein 3g	
Vitamin D 2mcg	10%
Calcium 260mg	20%
Iron 8mg	45%
Potassium 235mg	6%
* The % Daily Value (DV) tells you how much a nutrient in a serving of food contributes to a daily diet. 2,000 calories a day is used for general nutrition advice.	

7. On average, does reading the nutrition label influence what you purchase?

- It has helped me decide to buy the product
- It has helped me decide to NOT buy the product
- It did not change my mind

8. Do you think the updated information on the new nutrition label will influence your purchasing habits?

Yes

No

9. If you could change the Nutrition Label, what other information would you like to include

Demographic questions:

10. Please select your age group:

18-24

25-30

31-35

36-40

41-45

46-50

51-55

56-60

61 and older

11. Which gender do you identify with?

Male

Female

12. Please indicate which of the following categories best describes your race (check all that apply):

White/Caucasian

African American

Asian/Pacific Islander

Native American

Latino

Other

13. What is your marital status?

Single/never married

Married/cohabitating

Divorced/separated/widowed

14. How many children do you have?

- 0
- 1
- 2
- 3
- 4 or more

15. How many people, including yourself, live in your household?

- 1
- 2
- 3
- 4 or more

16. What is the highest level of education you have completed?

- 8th grade
- High school graduate or equivalent
- Some college
- Trade/technical/vocational degree
- College graduate
- Some post-graduate work
- Post-graduate degree

17. Which of the following categories contains your total annual household income from all sources before taxes?

- <\$24,000
- 25,000-49,999
- 50,000-74,999
- 75,000-99,999
- 100,000-149,999
- 150,000-199,999
- >\$200,000

18. Do you agree with the following statement?

I accumulate 30 minutes or more of moderate physical activity 5 days per week or vigorous physical activity 3 days per week.

- I agree
- I do not agree

19. Do you follow a special diet?

- Yes, for a medically diagnosed condition
- Yes, for a health/fitness goal
- No, I do not follow a special diet

20. Have you ever had formal nutrition education, i.e. classroom instruction?

- Yes
- No

21. What is your current occupation?

- Agriculture
- Arts/ Entertainment
- Construction
- Education
- Engineering/ Science
- Finance
- Government
- Health Care/Fitness
- Hotel/Food Service
- Human Resources
- Legal/Law
- Military
- Real Estate
- Retail/Sales
- Student
- Technology
- Transportation
- Unemployed
- Other

22. What is your zip code?