

Familiarity, Confidence, Knowledge, and Attitudes towards the Top Food Allergens: A Needs Assessment

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Introduction

Food Insecurity

- A household-level economic and social condition of limited or uncertain access to adequate food (United States Department of Agriculture, 2025a).
- In 2023, 13.5%, or 18 million households, in the United States were food insecure at some point during the year (Rabbitt et al., 2024).

Food Allergies

- In 2021, the Centers for Disease Control and Prevention reported that 16 million adults and 4 million children in the United States had diagnosed food allergies (Ng & Boersma, 2023; Zablotsky et al., 2023).
- The top food allergens are milk, egg, fish shellfish, tree nuts, peanuts, wheat, soybean, and sesame (Food and Drug Administration, 2025).

Charitable Food Assistance

- Food distribution provided by food banks, food pantries, or other private food assistance programs (Feeding America, 2024b).

Purpose

To assess the knowledge base of individuals who provide charitable food resources to food insecure households who avoid at least one of the top food allergens. In particular, the aspects of familiarity, confidence, knowledge, and attitudes towards the top food allergens were assessed.

Materials and Methods

Participants

- Great Plains Food Bank (GPFB) employees and volunteers
- Partner agencies of GPFB
- Inclusion criteria:
 - Employee or volunteer at GPFB or one of their partner agencies
 - Over 18 years of age

Procedures

- This study was approved by the Concordia College Institutional Review Board
- Data Collection Period: November 7 - December 2, 2024
- Survey links were distributed by the principal investigator and their capstone mentor
- Needs Assessment Instrument
 - Available on Qualtrics and in paper form at the GPFB Fargo offices
 - 19-question survey with sections related to familiarity, confidence, knowledge, and attitudes
 - Multiple choice, Likert, and open-ended questions

Analysis

- Statistical analyses were performed using the Statistical Package for the Social Sciences (SPSS), version 29.0.1.0
- Data analyses included independent t-tests and descriptive statistics

Results

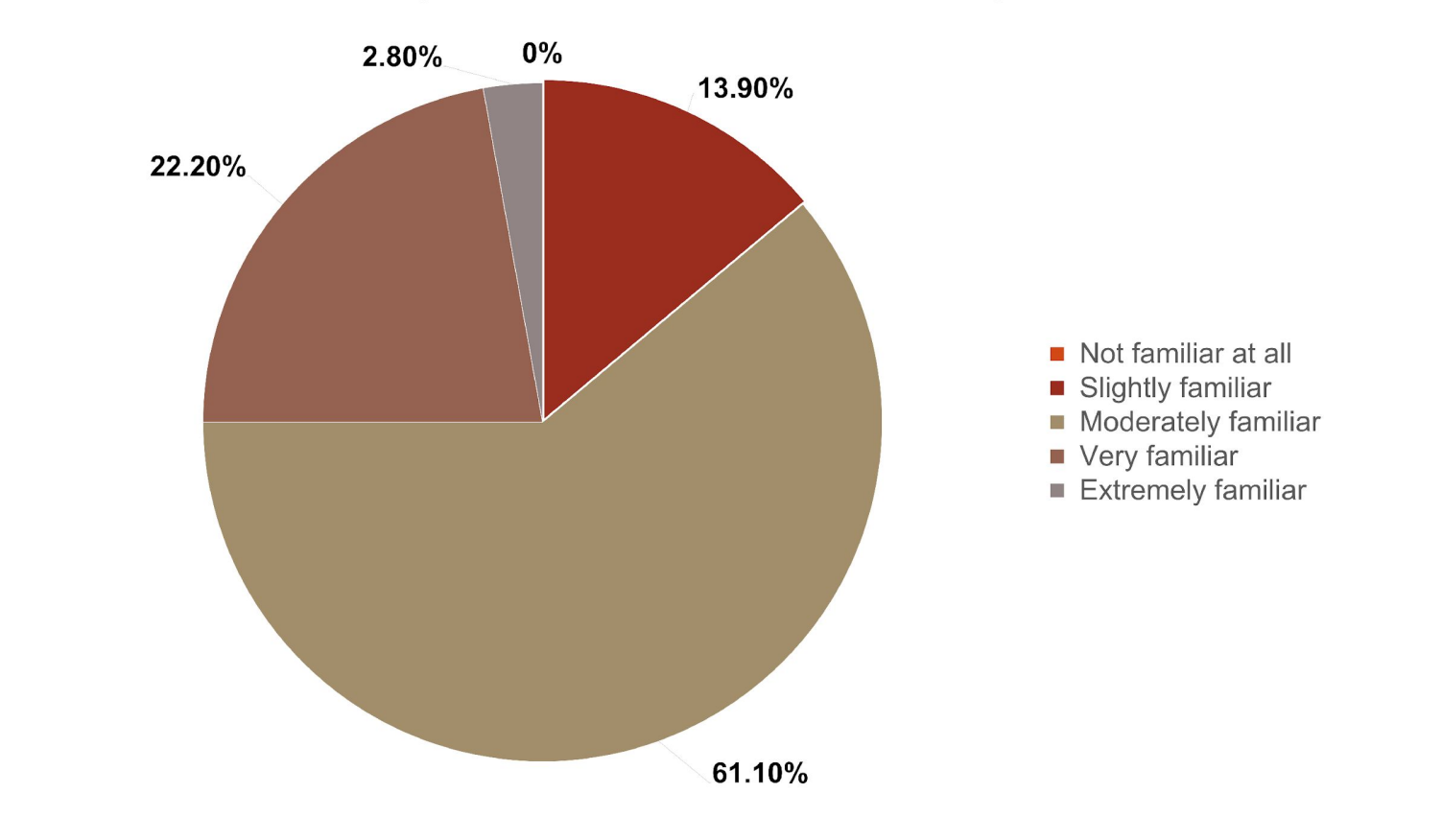
Participants

- Final sample of 36; 33 completed 100% of the instrument
- Participants were 78.8% female ($n = 26$), 18.2% male ($n = 6$), and 3.0% non-binary ($n = 1$)
- 69.4% of participants worked or volunteered for a food bank ($n = 25$)
- 30.6% of participants worked or volunteered at a food pantry ($n = 11$)
- 88.9% of participants were employees ($n = 32$)
- 11.1% of participants were volunteers ($n = 4$)

Familiarity

Figure 1

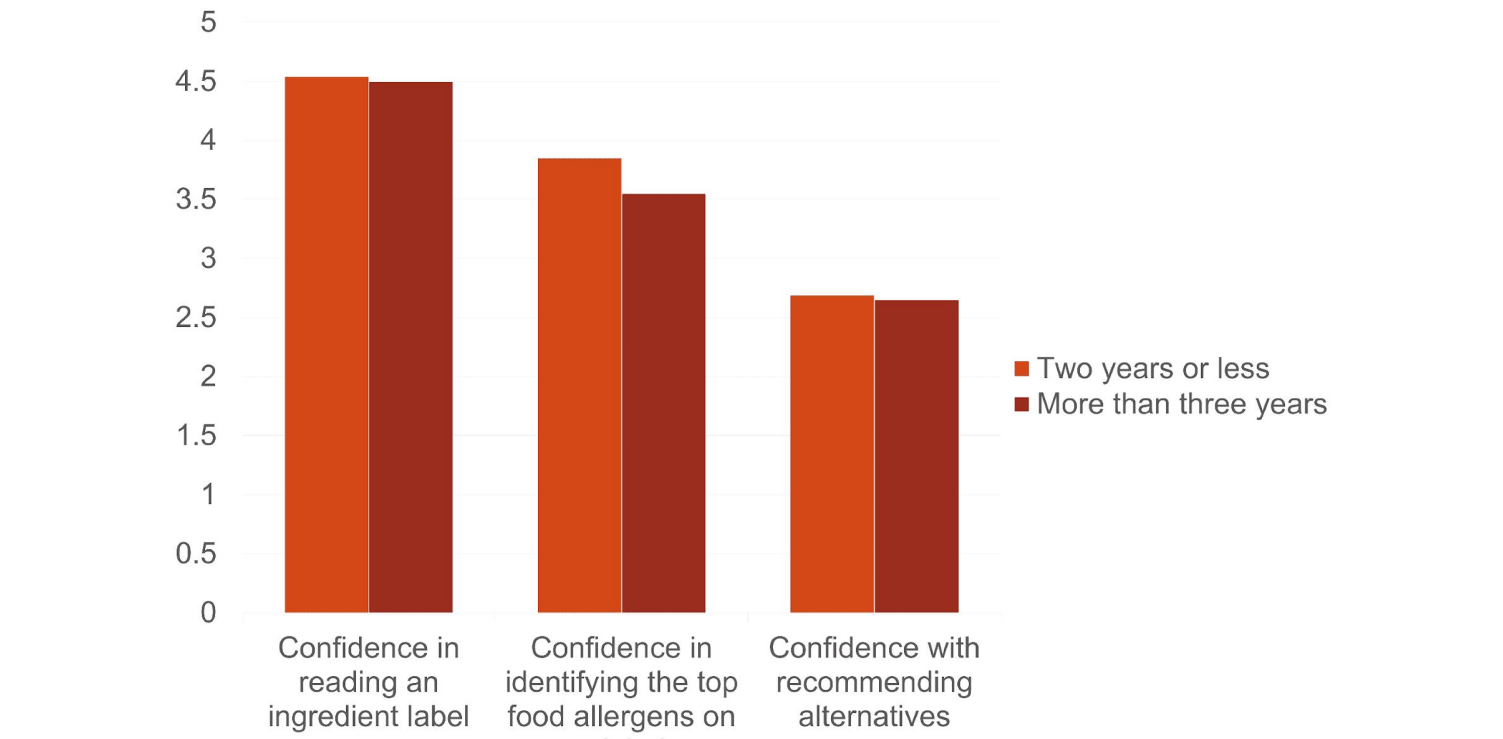
How familiar are you with the top food allergens?



Confidence

Figure 3

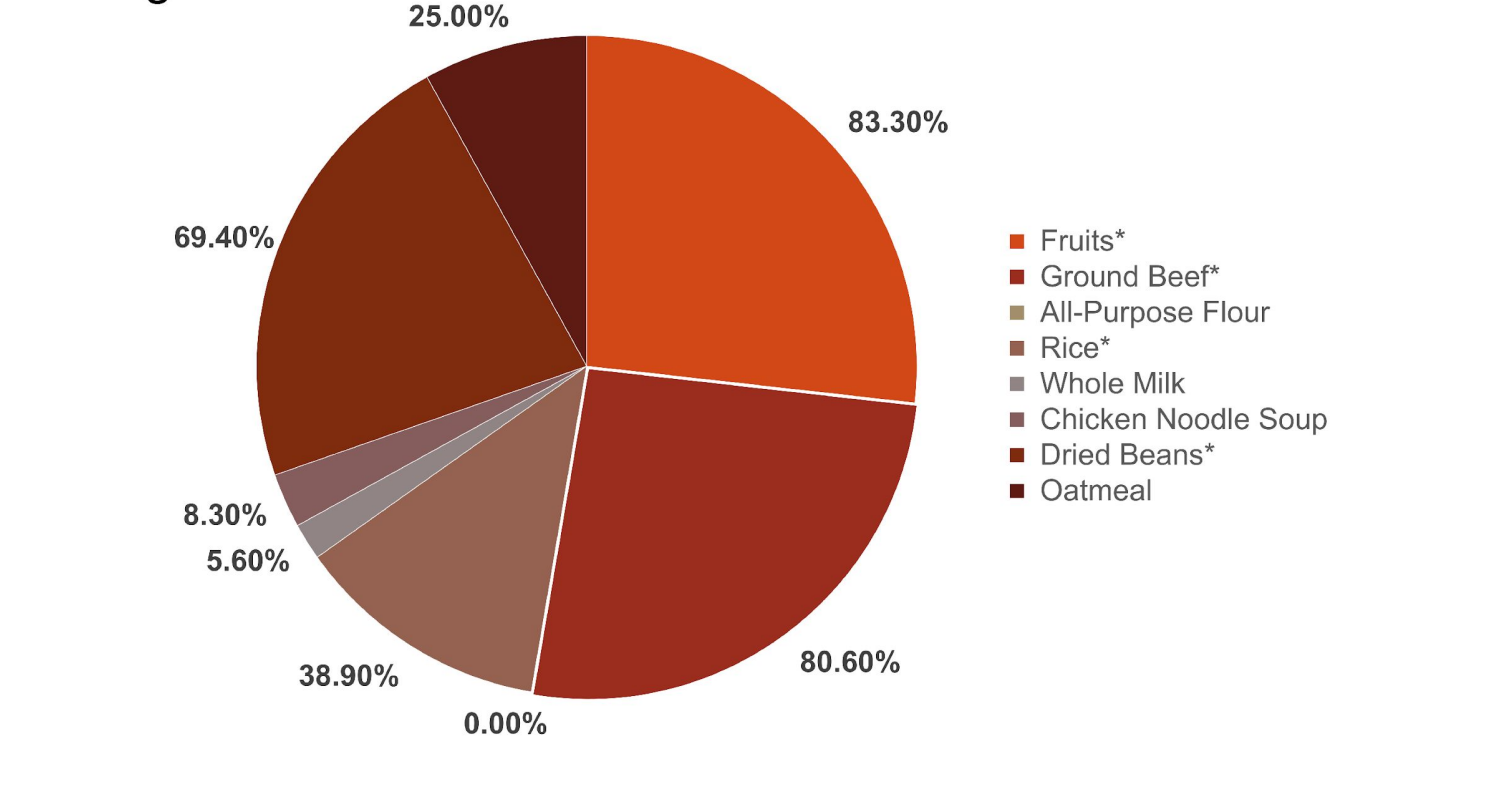
Duration of time spent working or volunteering and confidence



Knowledge

Figure 5

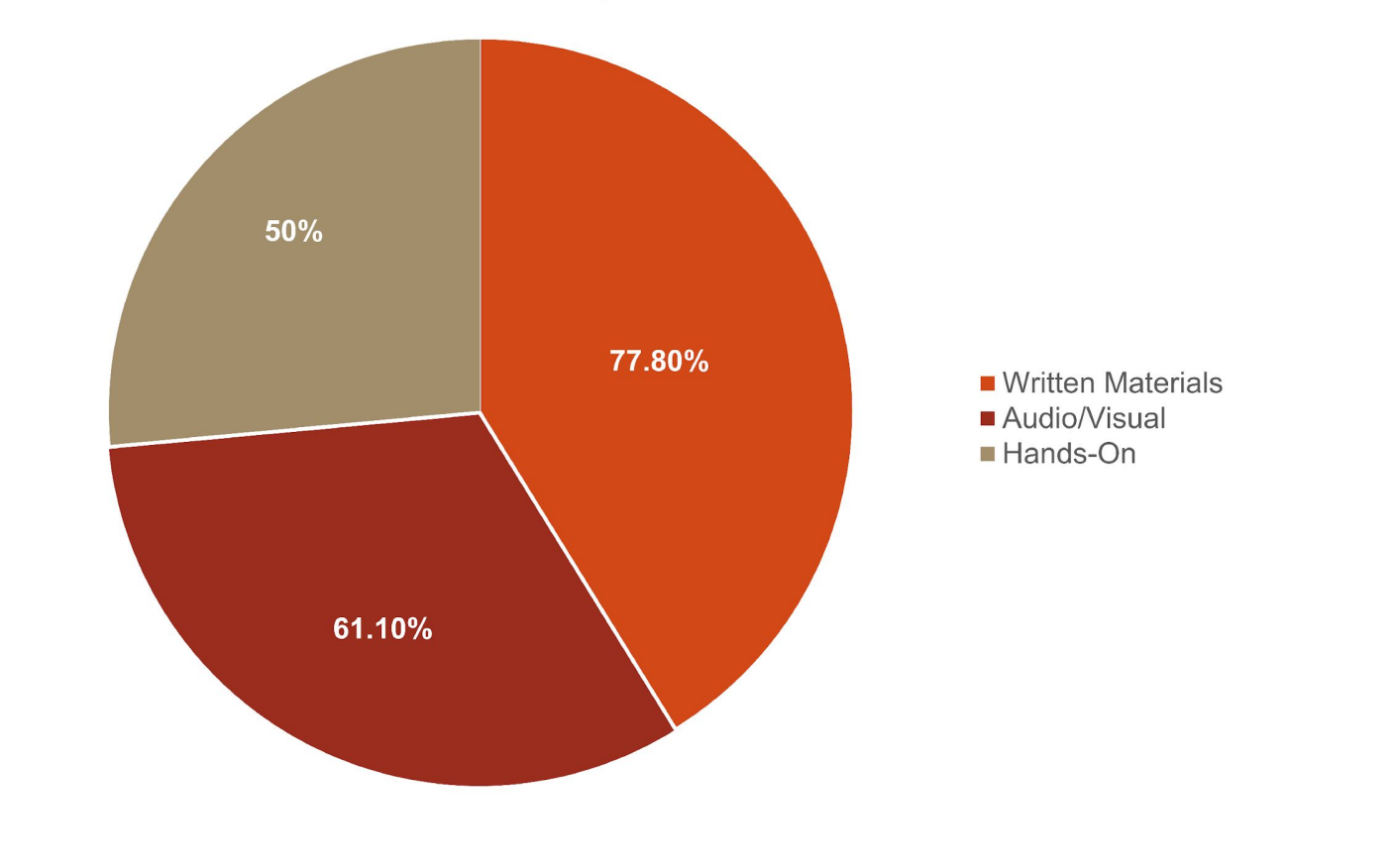
Question 12: items free from the top food allergens



Note: * indicates correct answers

Figure 2

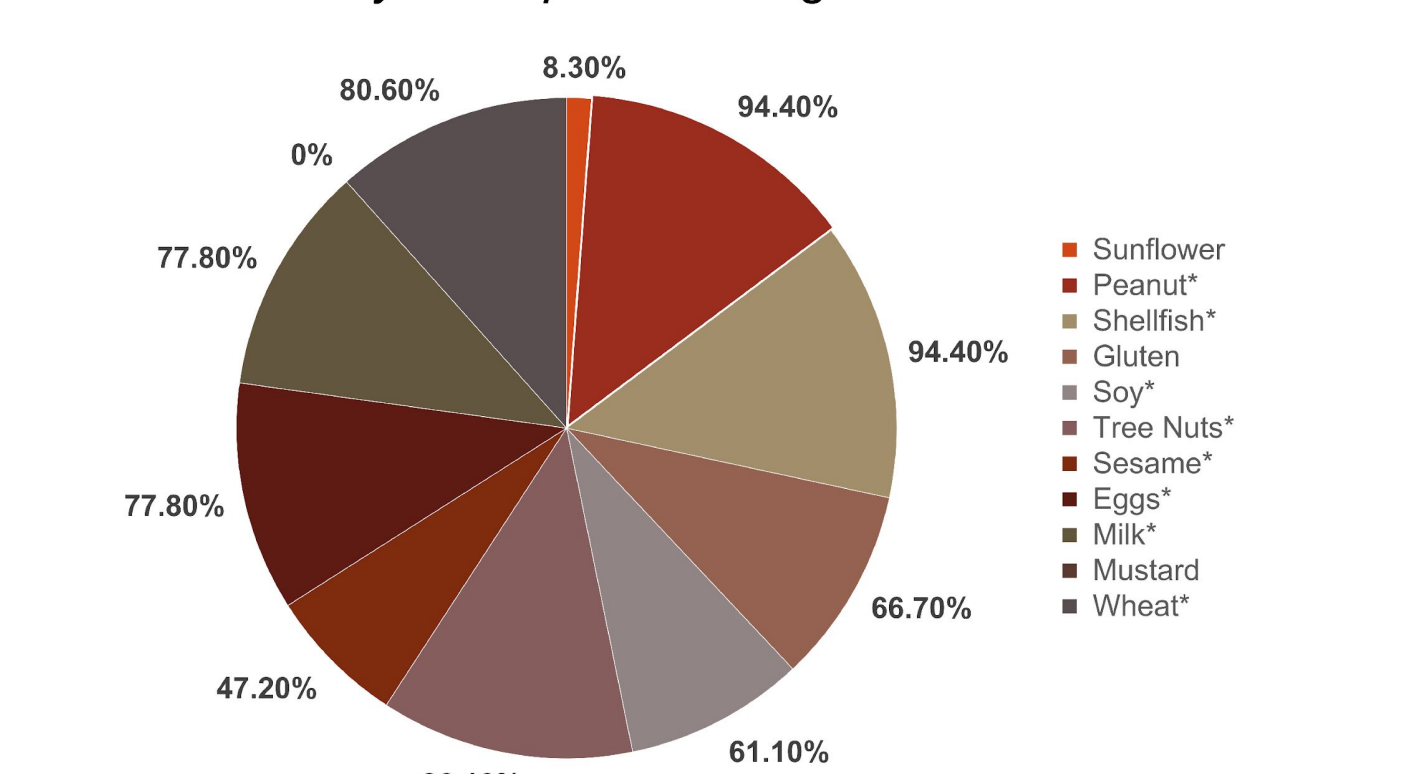
Preferred participant learning methods



Knowledge

Figure 4

Question 9: identify the top food allergens



Attitude

Figure 6

Employee and volunteer attitudes



Discussion

- On a scale of 1 to 5, the level of confidence individuals who work or volunteer at food banks or food pantries have in their ability to identify foods containing the top food allergens is average.
- The top food allergens that participants were extremely knowledgeable about were shellfish and peanuts. The increased level of knowledge participants have with shellfish could be attributed to the fact that shellfish is the most common food allergy in adults (Food Allergy Research & Education, n.d.).
- Individuals who work at food banks and food pantries have more favorable attitudes towards their facility than individuals who volunteer for food banks and food pantries.

Conclusions

The results from this needs assessment indicate there were discrepancies between perceived familiarity with the top food allergens and applied knowledge of the top food allergens. Every individual that is involved in the distribution of charitable food resources does not need to be a food expert or registered dietitian. However, a working knowledge of medical and cultural circumstances that influence the foods individuals consume is needed to truly address food insecurity. Therefore, food bank and food pantry employees and volunteers would benefit from receiving standardized training on the top food allergens.

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Acknowledgments

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Figure 1

How familiar are you with the top food allergens?

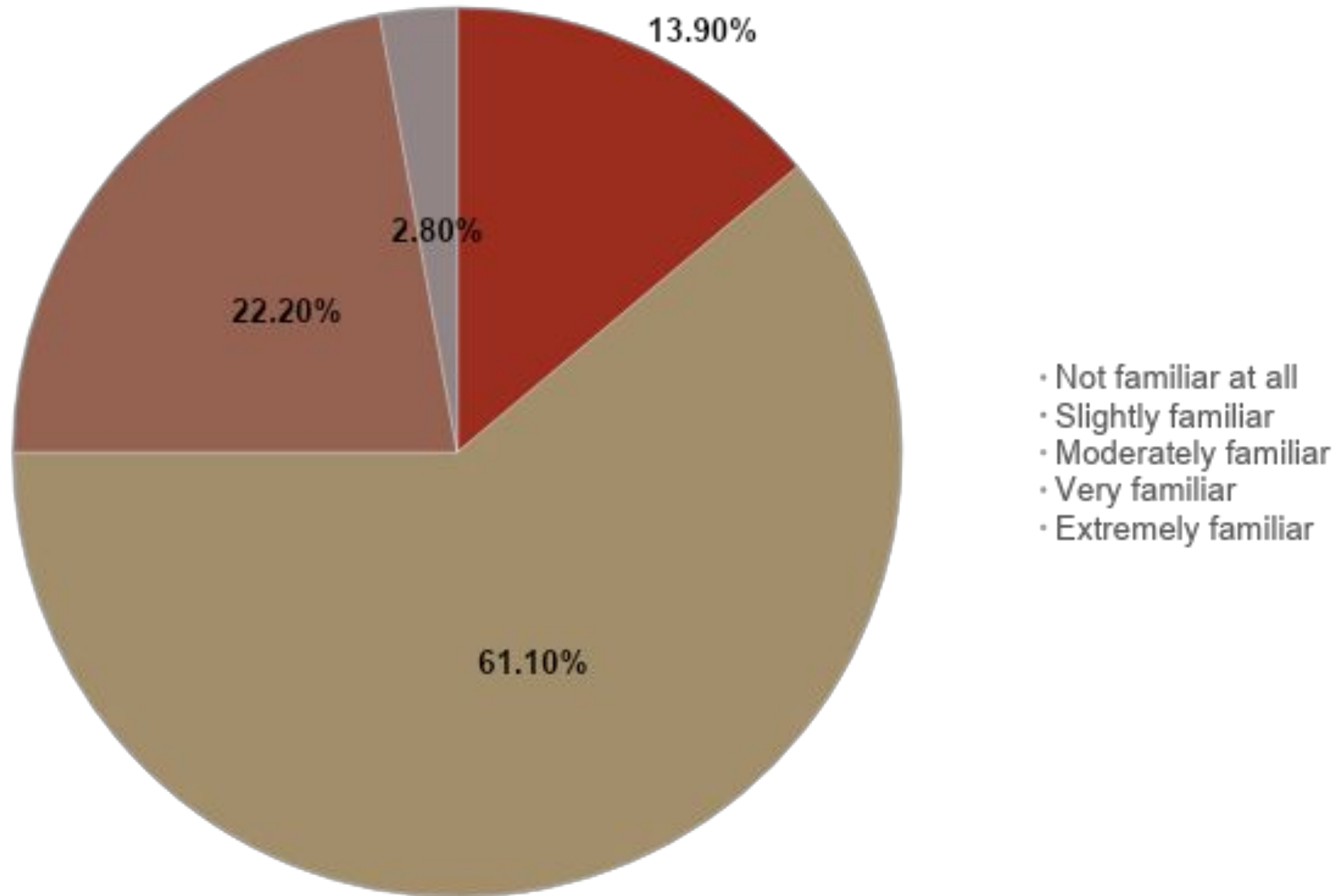


Figure 2

Preferred participant learning methods

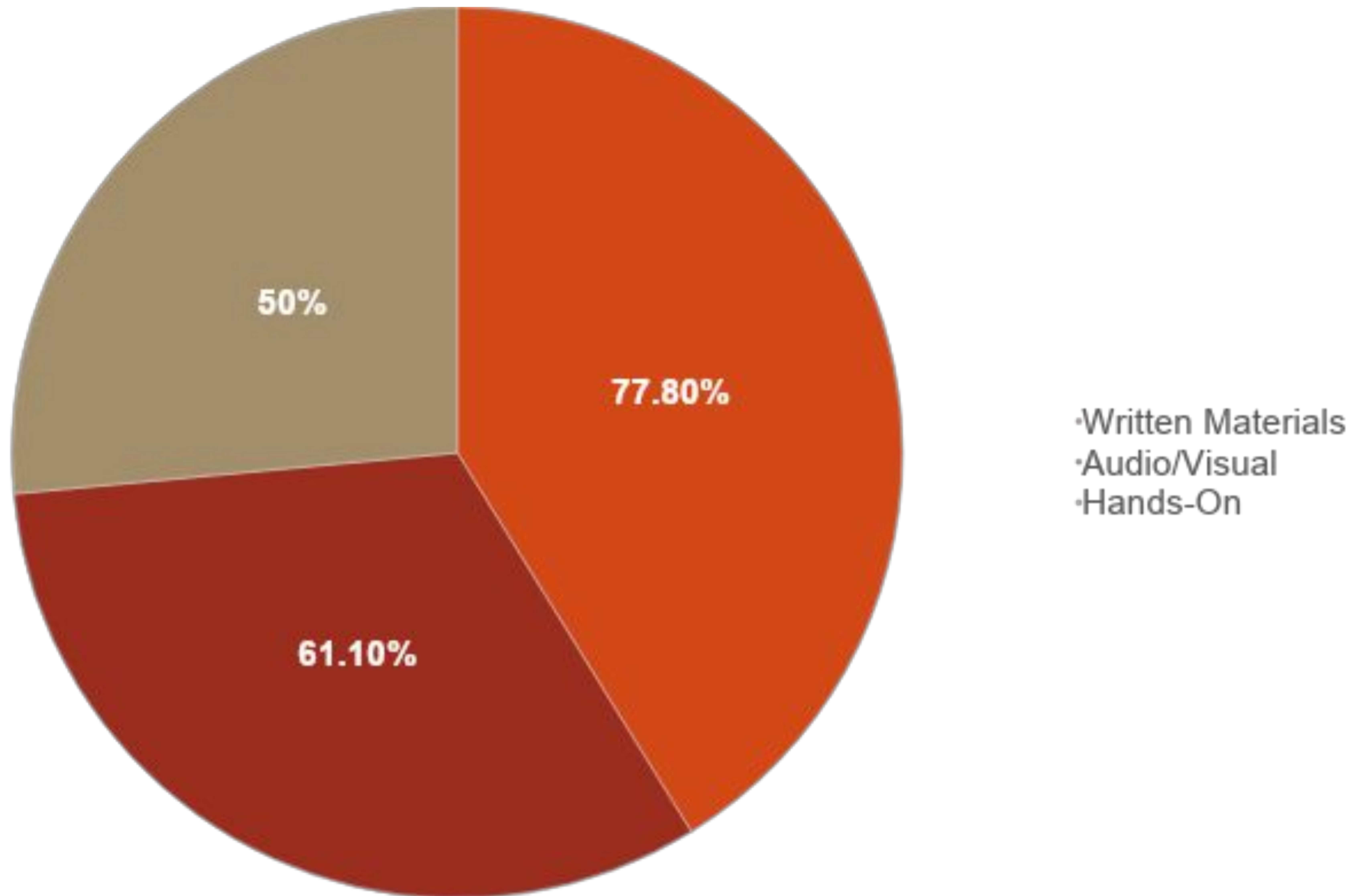


Figure 3

Duration of time spent working or volunteering and confidence

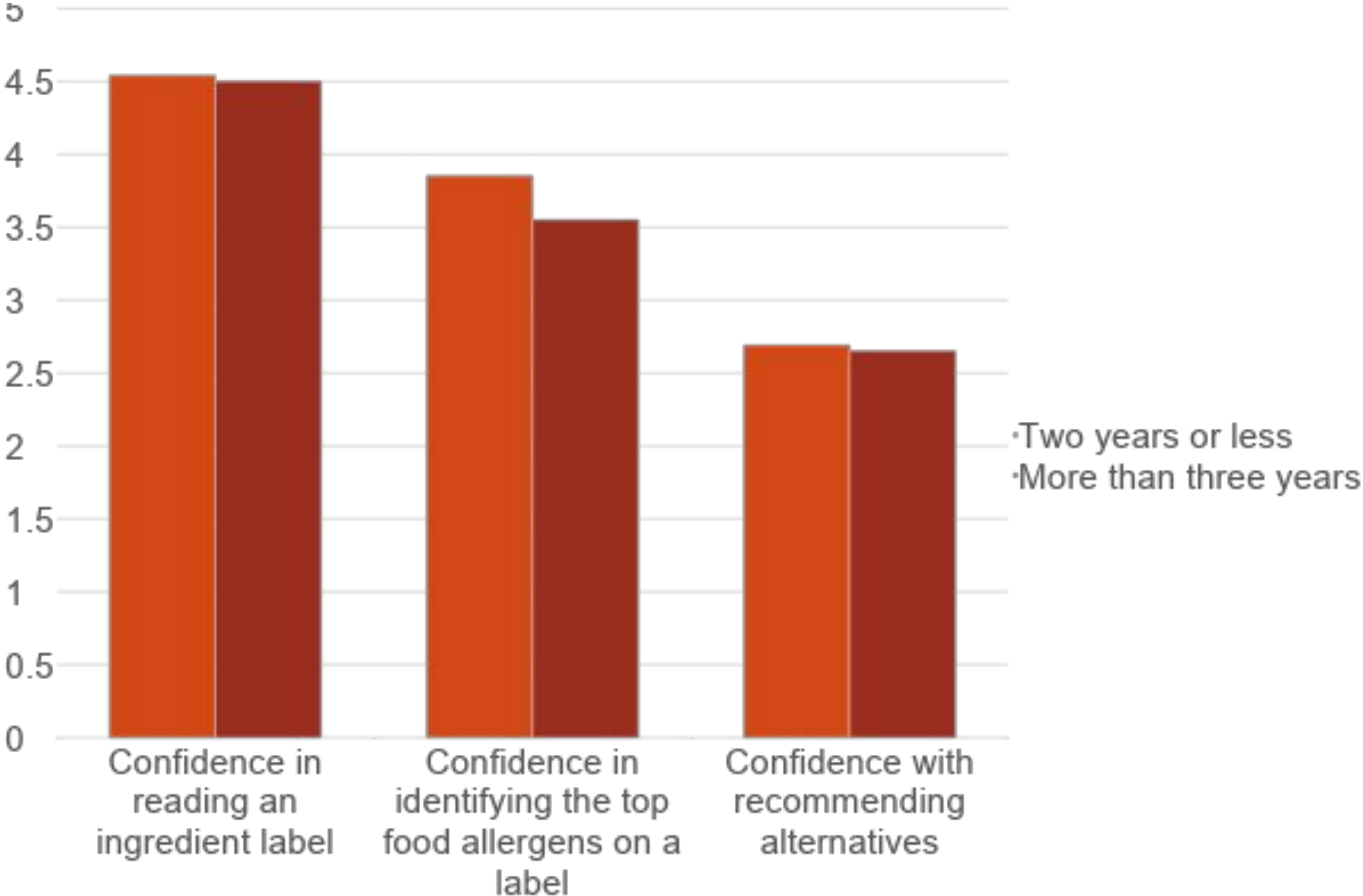


Figure 4

Question 9: identify the top food allergens

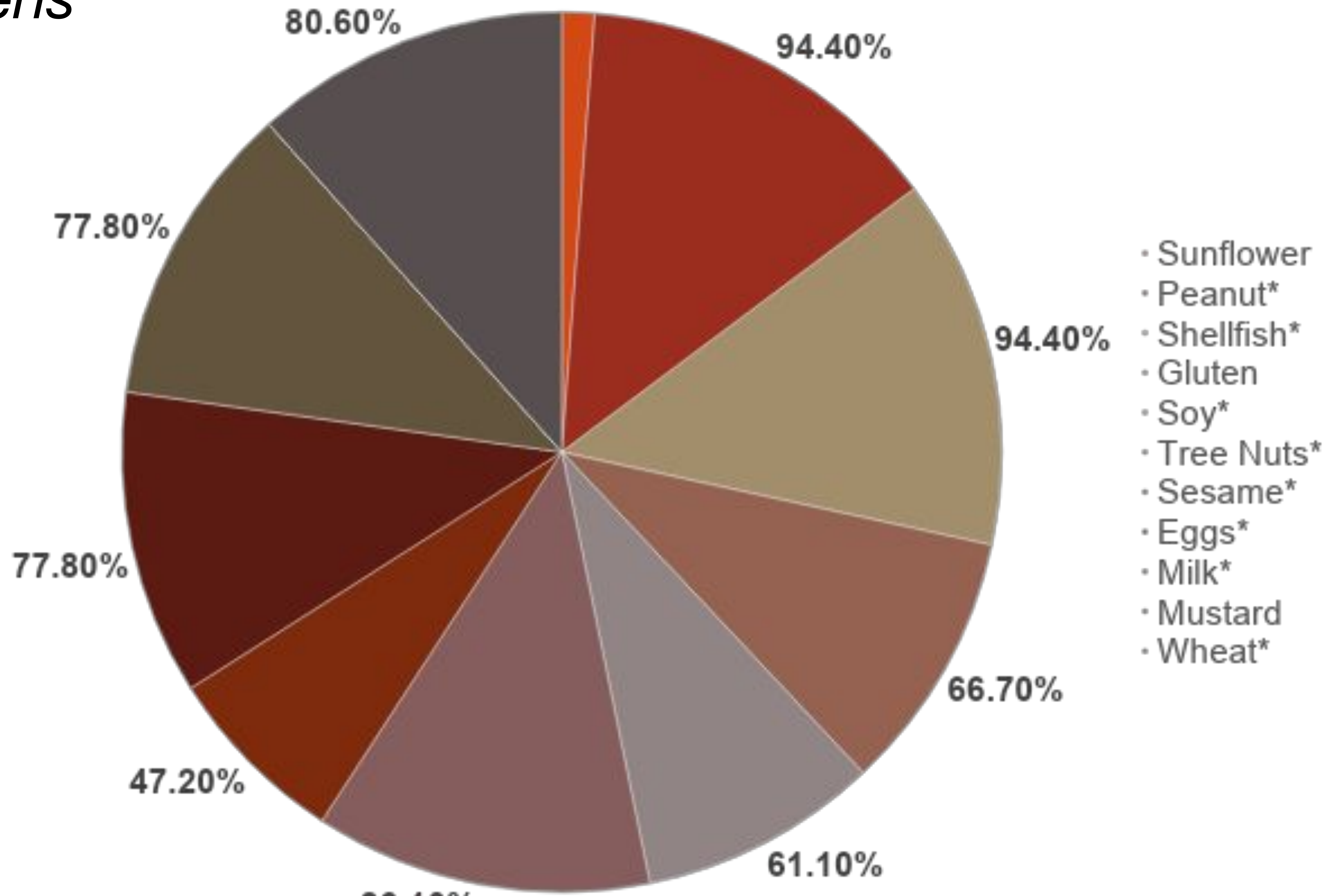


Figure 5

Question 12: items free from the top food allergens

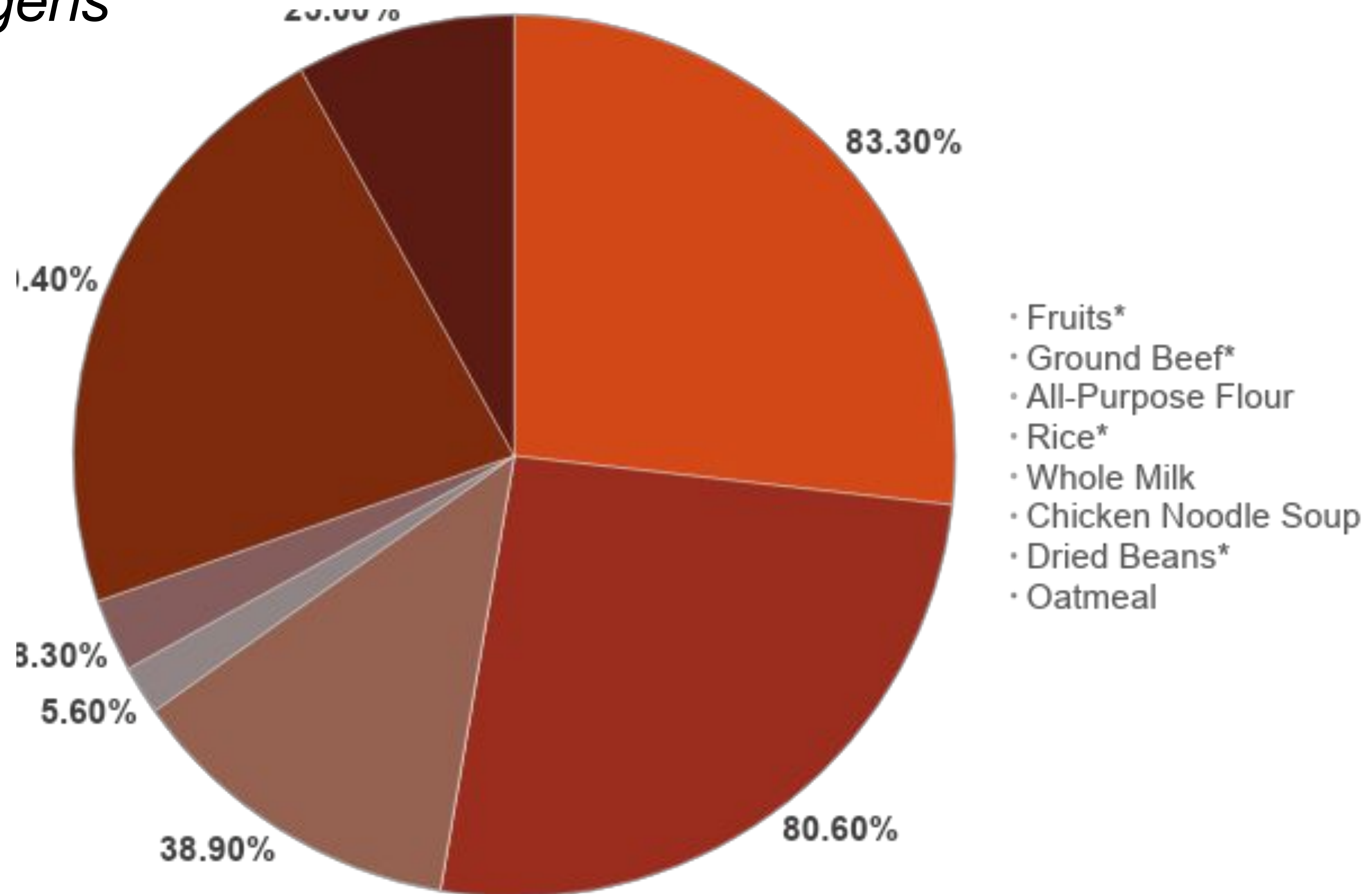


Figure 6

Employee and volunteer attitudes

