



# Perception of Moderation in Dietary Behaviors

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## Background

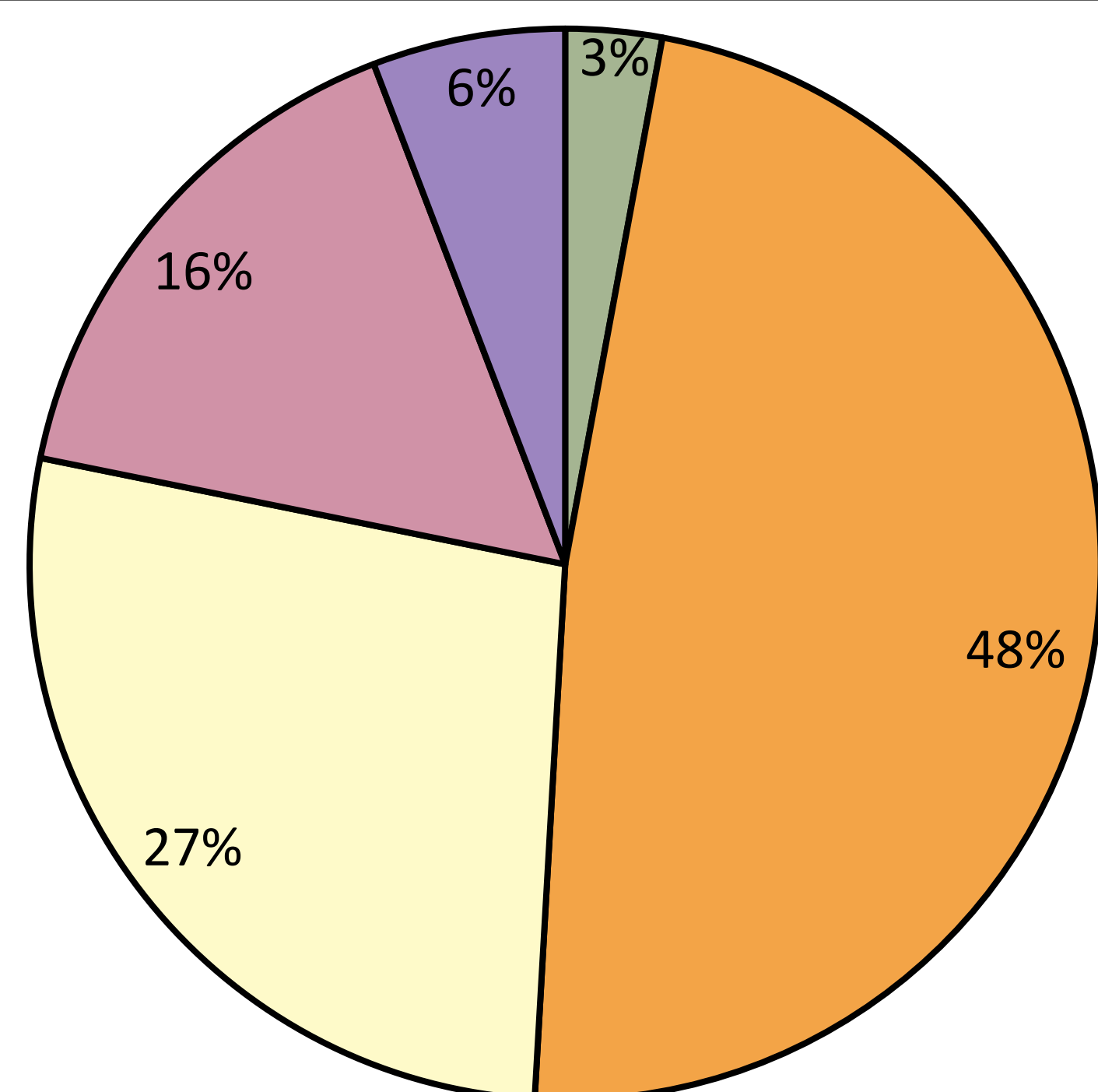
- ❖ Chronic diseases such as type 2 diabetes, cardiovascular disease, and hypertension, have increased significantly in the United States (Ogden, Carroll & Kit, 2014).
- ❖ Portion sizes have increased over the past thirty years and are typically justified by the “eat in moderation” axiom (Young & Nestle, 2002).
- ❖ A paper from the Academy of Nutrition and Dietetics, (2013) recommended to include “... a balanced variety of nutrient-dense food and beverages consumed in moderation...” While moderation is often a recommendation, it is not always clearly defined.
- ❖ A recent study by vanDellen, Isherwood, and Delose (2016) found that the basic “everything in moderation” message can be interpreted a multitude of different ways.
- ❖ The present study is among the first to include perception of moderation for foods groups that are considered to be health promoting in addition to foods or nutrients that impair health.

## Objective

The objective of this study is to understand what the general population perceives as dietary moderation, in relation to recommendations. It is hypothesized that the majority of respondents’ perceptions of moderate intake will be over- or underestimated when compared to dietary recommendations.

**Figure 1:**  
**Body Mass Index (BMI)**  
**Of Participants**

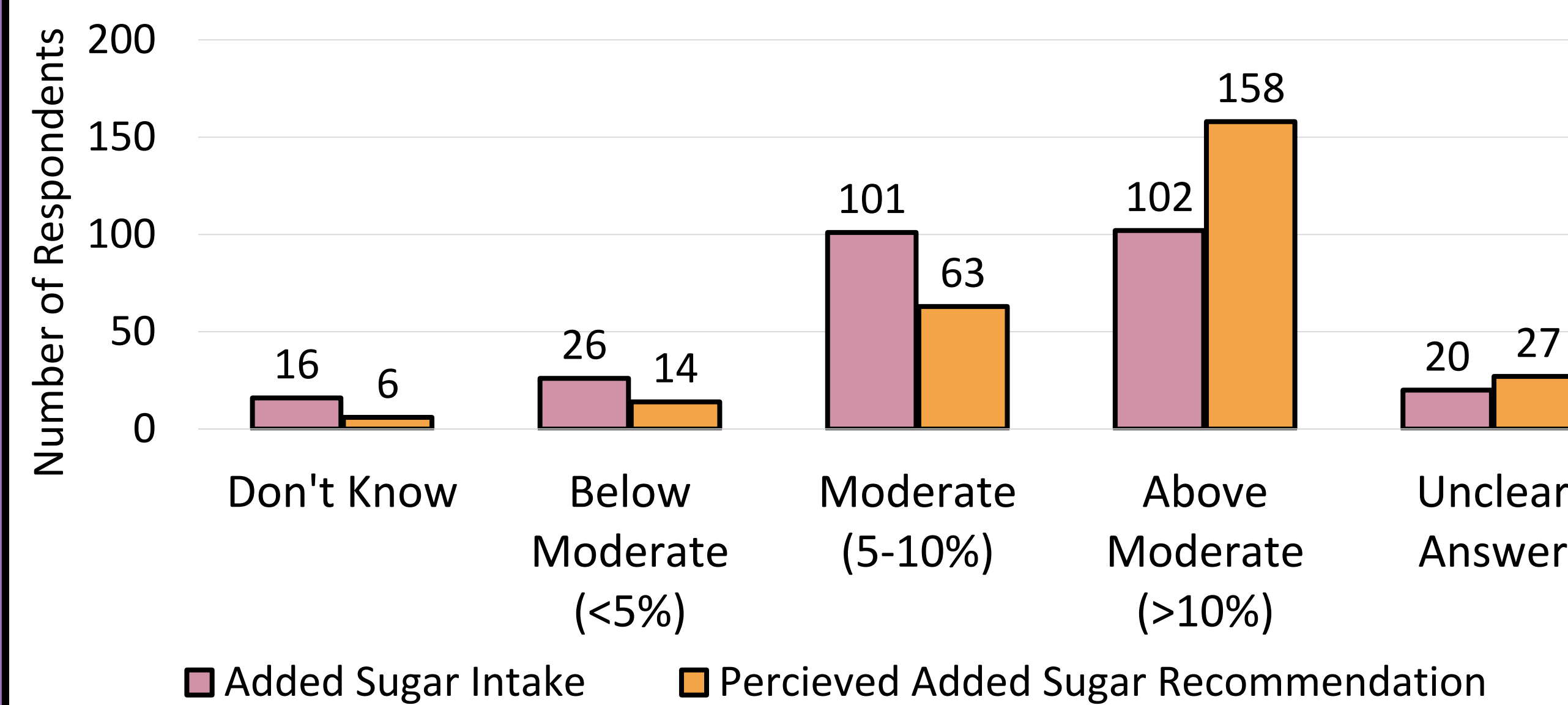
- Underweight
- Normal Weight
- Overweight
- Obese
- Morbidly Obese



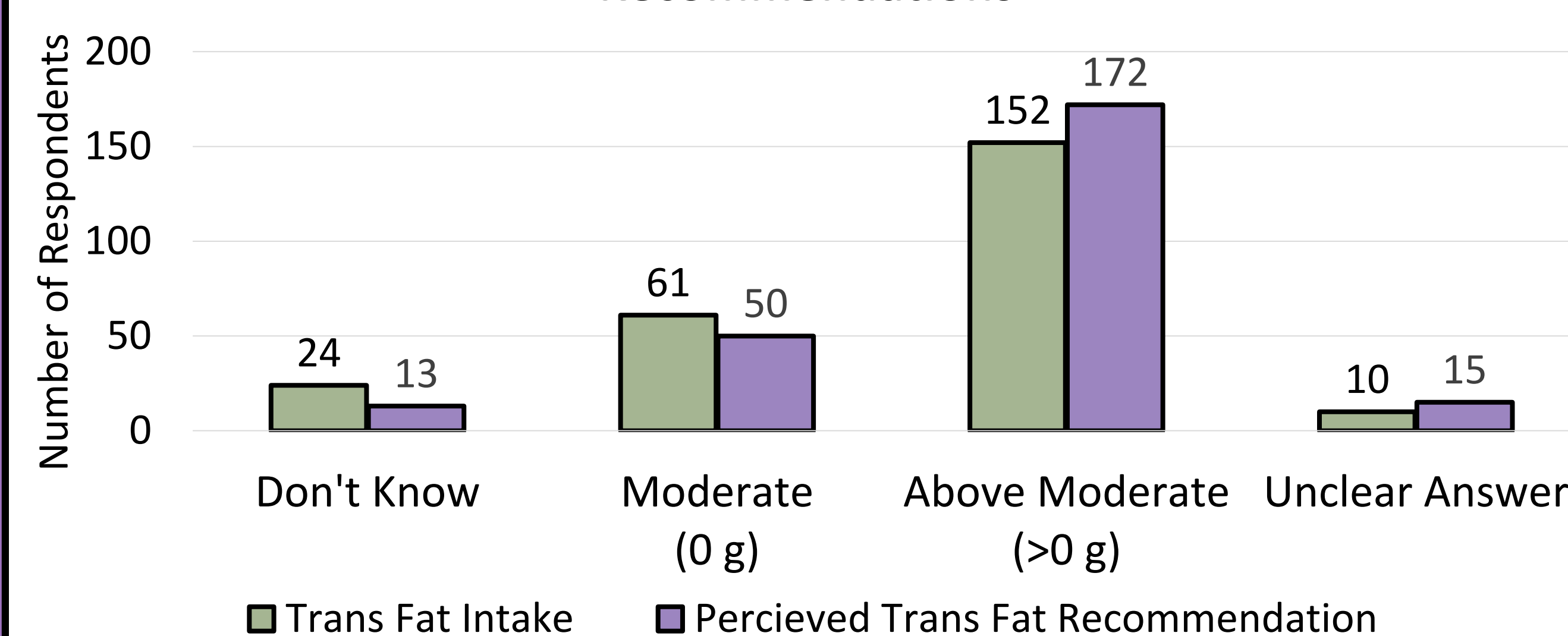
## Method

- ❖ Utilizing Qualtrics™ research software, a survey was created, shared via e-mail, and social media websites over a six-week period.
- ❖ Respondents (n=278) were asked 16 open-ended questions; 5 demographic questions, and 11 questions regarding their perceptions of moderate consumption of soft drinks, diet soft drinks, fruits, vegetables, and dining out. Participants were also asked to state their consumption of added sugar and *trans*-fat versus the recommended consumption.
- ❖ Additionally, survey participants were asked for their personal definition of moderation, and whether they considered themselves a “healthy eater.” Frequency tables were then generated for each variable after data was organized and imported into SPSS™.

**Figure 2:**  
**Estimated Added Sugar Intake v. Perceived Added Sugar Recommendations**



**Figure 3:**  
**Estimated *Trans* Fat Intake v. Perceived *Trans* Fat Recommendations**



## Results

- ❖ Respondents’ ages mostly ranged from 19- to 51-years old (83.8%), and were predominantly female (79.5%). The Body Mass Index (BMI) calculations determined 47.5% of respondents classified as normal weight (BMI=18.5-24.9), and 48.6% classified as overweight (BMI=25-29.9), obese (BMI=30-39.9), or morbidly obese (BMI=40.0+) (**Figure 1**).
- ❖ The majority of respondents (61.2%) either did not know or overestimated recommended moderate intake of added sugar (**Figure 2**). In terms of *trans*-fat, 74% reported they either did not know or overestimated the recommended moderate intake (**Figure 3**).
- ❖ The majority of respondents correctly identified or overestimated moderate intake of fruits (88.8%) and vegetables (64.0%). The majority of respondents correctly identified or underestimated moderate intake of soda (83.7%) and diet soda (76.4%).

## Conclusion

Although “everything in moderation” is common dietary advice, survey responses suggest the understanding of what moderation means related to specific dietary behaviors is not always clear, or accurate. Data suggests more messaging concerning recommendations for added sugar and *trans*-fats is warranted, especially considering the connection of those nutrients with chronic illness. Future education and health promotion campaigns may consider defining moderation, in an effort to clarify its meaning. Further research is needed to identify associations between respondents’ geographic location, race, income level, weight, or individual exposure to nutritional education, and understanding moderation of dietary behaviors.

### References

- Freeland-Graves, J.H., & Nitzke, S. (2013). Position of the Academy of Nutrition and Dietetics: total diet approach to healthy eating. *Journal of the Academy of Nutrition and Dietetics*, 113(2), 307-317.
- Ogden, C.L., Carroll, M.D., & B.K. Kit. (2014). Prevalence of childhood and adult obesity in the United States, 2011-2012. *Journal of the American Medical Association*, 311(8), 806-814.
- vanDellen, M.R., Isherwood, J.C., & Delose, J. E. (2016). How do people define moderation? *Appetite*, 101, 156-162.
- Young, L.R. & Nestle, M. (2002). The contribution of expanding portion sizes to the US obesity epidemic. *American Journal of Public Health*, 92(2), 246-249.