
Thinking Matters Symposium

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Consumer Food Waste Behaviors in Relation to Open Date Label Misinterpretation

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INTRODUCTION

The purpose of this study is to establish an understanding of how the current product date-labeling system lends itself to misinterpretation by consumers and how this may ultimately play a role in the mounting problem of food waste worldwide. Existing research on this matter acknowledges that a standard for labeling products does not exist. Studies have shown that labels that indicate quality are often misunderstood by consumers to denote a matter of food safety. The current food date labeling system is a barrier to the management of food from both a food waste and food safety perspective. This study aims to address how consumers utilize their knowledge of open date labels to make decisions about purchasing and discarding products.

METHODS

A survey was designed to gather information about consumer decisions with respect to product date labels. The survey was carried out via the intercept method where consumers were asked about their knowledge and behaviors associated with date labels and food waste.

Sample Population: Maine residents, 18+ years old

Survey Location: Portland, Maine Food Co-op

Survey Content:

- *Socio-Demographics:* Age, Education, Field of Work
- *Consumer knowledge:* Familiarity With & Understanding of date labels
- *Consumer behavior:* Frequency of checking date labels & Amount discarded weekly
- *Consumer opinion:* Importance of date labels; Other factors considered when making purchasing/discarding decisions

RESULTS

Socio-Demographics:

Age	Education
• 18-29: 24%	• High school/Some college: 11%
• 30-44: 35%	• Associates/Professional Degree: 9%
• 45-60: 22%	• Bachelor's Degree: 49%
• >60: 19%	• Master's/Doctoral Degree: 31%

Consumer Knowledge:

Familiarity with Date Labels:

Best-by: 96%	Best if used by: 91%
Freshest-by: 46%	Sell-by: 92%
Use-by: 95%	Freeze-by: 55%

'Best-by' Implies

Safety Issues: 30%
Quality Issues: 70%

'Use-by' Implies

Safety Issues: 75%
Quality Issues: 25%

Consumer Behavior:

Frequency of Checking Date Label:

Always: 31%, Sometimes: 59%, Never: 10%

RESULTS

Consumer Behavior (cont.):

Importance of Date Labels:

Purchasing

- 50% said date label is very important for dairy
- 52% said date label is very important for meat

Discarding

- 39% said date label not important at all for bread
- 44% said date label is very important for meat

Percent Discarded Weekly:

- 81% claim to discard <20% of their bread
- 85% claim to discard <20% of their dairy
- 82% claim to discard <20% of their meat

Statistical Analysis:

Statistical analysis of the results was accomplished using a modified Chi-Square analysis, which was an 'r versus c contingency table.'

- The comparison of age and frequency of checking date labels when purchasing food was found to be statistically significant, with a critical value of 12.59 and a calculated value of 12.96 (Table 3).
- Comparisons of age and the importance of date labels for discarding food were significant in the categories of bread and meat. The critical value for the importance of date labels for discarding bread and meat was 21.03. The calculated value for bread was 25.14 and the calculated value for meat was 29.9 (Table 3).

DISCUSSION

There are correlations between age and interpretations of date labels. However, considering that most of the statistical significance was associated with the connection between demographics and behavior, as opposed to the connection between consumer knowledge and behavior, it was necessary to reject the hypothesis that there is a positive correlation between the misunderstanding of open date labels and the premature disposal of food. The limitations within the study design weakened the results of the study and made it challenging to draw qualitatively significant conclusions. A major limitation of this study was that the survey was only conducted at one grocery store in Portland, Maine.

ACKNOWLEDGEMENTS

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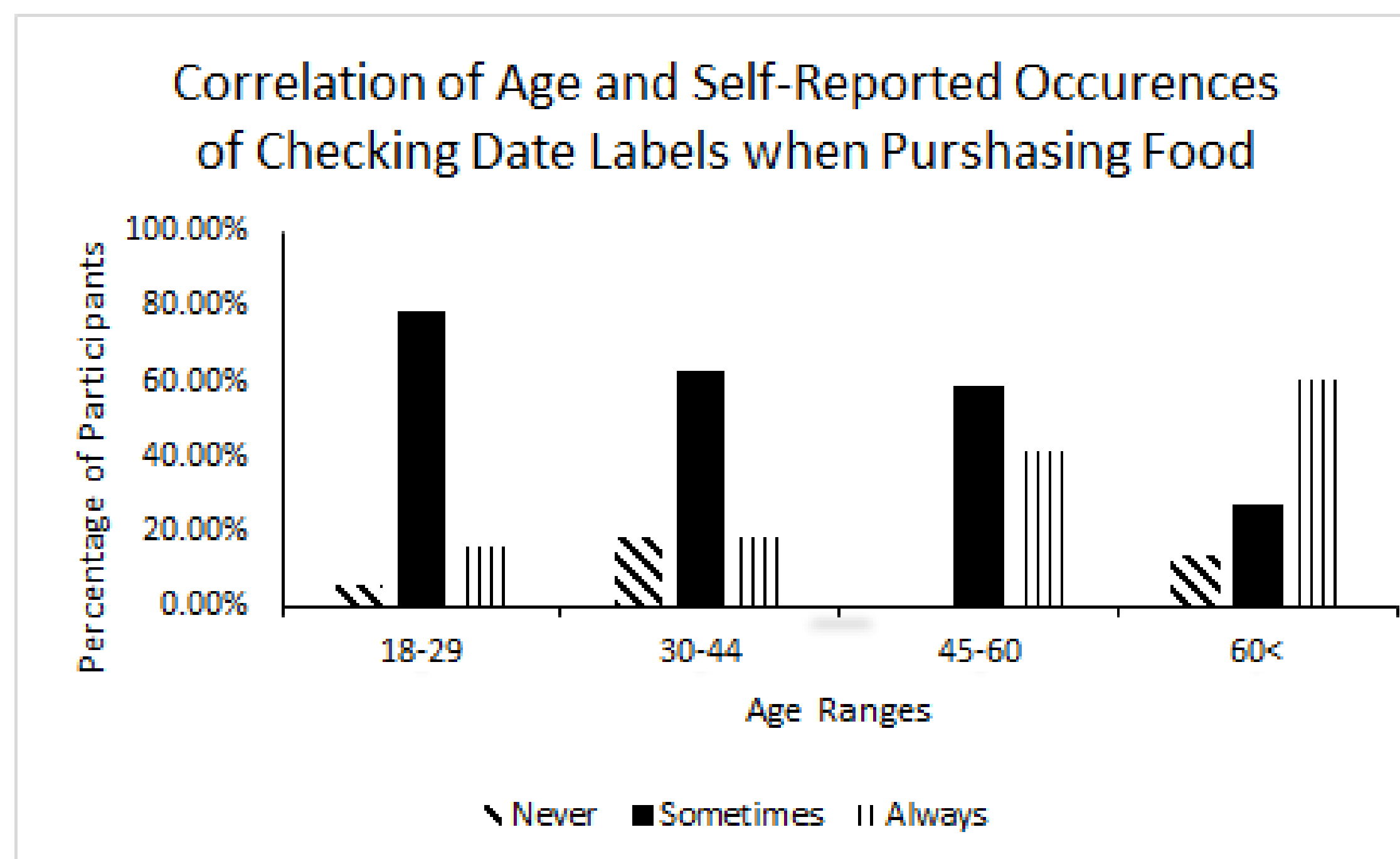


Figure 1: Correlation of Age & Self-Reported Occurrences of Checking Date Labels when Purchasing Food. Distribution of never, sometimes, always responses for each age group.

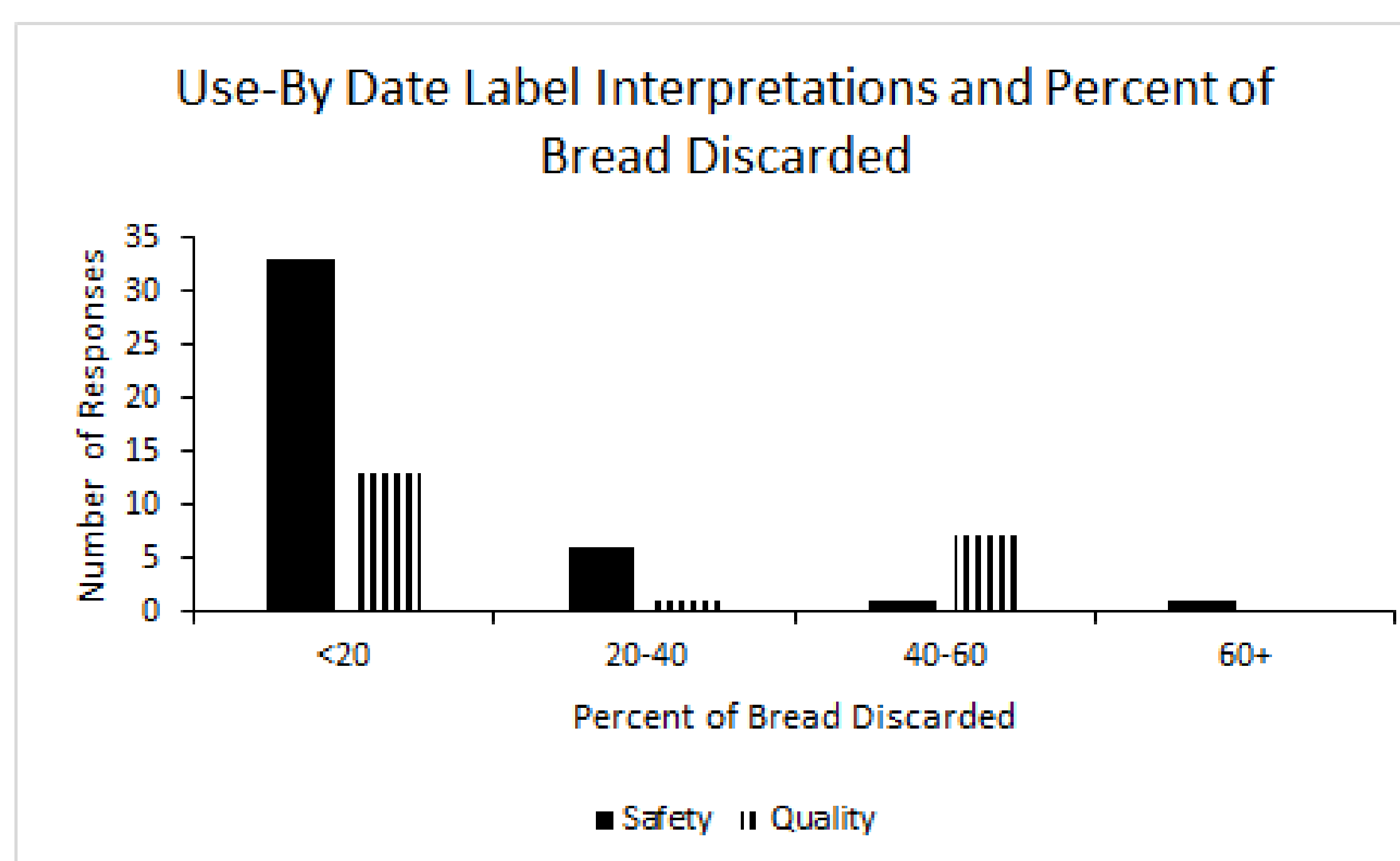


Figure 2: Use-By Interpretations & Percent of Bread Discarded. Distributions of safety and quality responses with respect to Use-By label for each percent category of bread discarded.

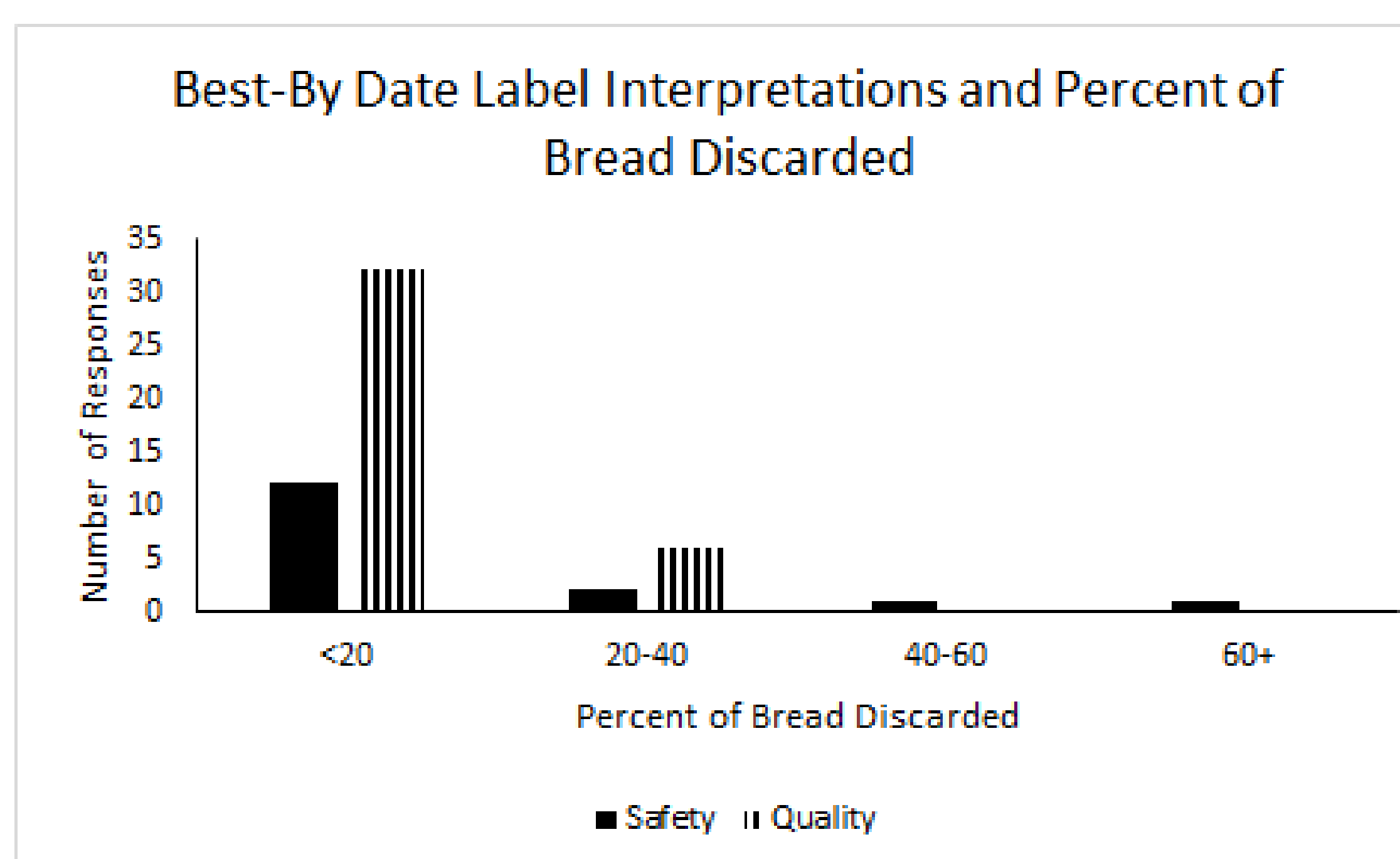


Figure 3: Best-By Interpretations & Percent of Bread Discarded. Distributions of safety and quality responses with respect to Best-By label for each percent category of bread discarded.