Determinants of Household Knowledge of Food Wasteful Behaviors

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Abstract

Food waste is an important societal problem to address. The role of consumers regarding food waste is not negligible, and the study of their behavior in this area is essential. To conduct research on this topic, it is important to have a measure of food waste that reflects what the consumer is actually wasting and what influence the knowledge of what constitutes food waste. The purpose of this presentation is to document the determinants of the knowledge of households on what behaviors constitute food waste. Thus, a sample of 1,061 people was asked to indicate, among 23 behaviors constituting food waste, whether each behavior does or does not constitute food waste. The results of this study lead to a discussion on ways to improve consumers' knowledge of what behaviors constitute food waste.

Introduction

In a recent report by the United Nations Environment Programme, it was estimated that approximately 931 million tons of food waste were generated worldwide in 2019 (UNEP, 2021). According to the same report, 61% of this waste would be generated by households, while 26% would come from various food services (UNEP, 2021). The role of the consumer in food waste is of considerable magnitude, and means must be put in place to reduce it. The purpose of this presentation is to document the determinants of the knowledge of households on what behaviors constitute food waste.

Although it is recognized that consumers contribute to food waste, it appears that consumers have difficulty acknowledging their share of responsibility for food waste and that many of the self-reports of food waste are underestimated (Falasconi et al., 2019). The evaluation of the edibility of a food can vary according to different elements such as its culture or culinary knowledge and skills (Moreno et al., 2020). For example, in the study by Rohm et al. (2017), for some participants, throwing away rotten vegetables and moldy sour cream was not a waste of food since it is not possible to eat what is rotten. This example illustrates how consumers differ in their perceptions of what constitutes food waste. Given that knowledge of the behaviors that constitute food waste can reduce the amount of food wasted (Cloutier and Roy, 2021), it seems important to find the factors that determine this level of knowledge.

Method

The questionnaire was distributed in a probabilistic manner via an online panel representative of adults in Quebec (Canada) by a firm specializing in data collection. A total of 1061 usable questionnaires were received. For the population of the province of Quebec (8 484 965 people; Institut de la statistique du Québec, 2020), it represents a margin of error of +/- 3%, 19 times out of 20. The results presented are part of a larger study aimed at better understanding consumer behavior with respect to food waste and targeting the best strategies to reduce it.

To meet the objective, 23 behaviors constituting food waste were analyzed. For each behavior, respondents were asked to indicate whether this behavior does not constitute food waste. When a respondent indicated that behavior constituted food waste, the item was coded 1, otherwise 0. All items were summed to obtain a measure of the level of knowledge of food waste behaviors. The internal consistency of this measure was high (KR-20=.91). In this study, food waste is defined as any food intended for human consumption that is lost or thrown away by the consumer, whether in restaurants and hotels or at home (Recyc-Québec, 2019).

Results

The results of stepwise regression analysis indicate that of the 24 variables included in the model, only eight exert a statistically significant influence on knowledge level (F(8,703=20.608, p≤.001, r^2=.181).

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For instance, two sociodemographic characteristics (age and education), two behavioral variables (changes in practice due to the pandemic and bringing back restaurant table leftovers), and four psychological variables (feeling guilty about wasting food, superiority bias, individual sensitivity toward food waste, and identifying with a zero-waste community) were found to be significant.

Table 1
Stepwise regression results

Variables	Unstandardized coefficients		Standardized coefficients
	B	**Std. Error**	**Beta**
(constant)	-1.675	1.355	
Age	-.808	.223	-.130
Education	.721	.255	.098
Food-related behaviors changed during pandemic [a]	.352	.059	.210
Bring back leftovers from restaurants [b]	.403	.114	.126
Superiority bias [c]	.342	.132	.094
Individual sensibility toward food waste [d]	.206	.085	.133
Feeling of guilt when food waste	.435	.226	.103
Part of a zero-waste community	1.988	.784	.088

*: all variables in the table are sig. at $p \leq .05$
a: first wave of COVID-19, spring 2020
b: before pandemic and lockdown
c: Compared to the rest of the Quebec population, to what extent do you try to reduce your food waste?
d: Individual sensitivity is made up of items closer to the person (feeling of shame, of being affected), while global sensitivity is made up of items whose concerns are further away from the person (city, province, planet)

Conclusions

These results highlight some interesting variables to improve consumers' knowledge of behaviors to avoid reducing their food waste. For example, people who bring in leftovers from restaurants seem to have a better knowledge of food waste behaviors. It would then be interesting to implement simple means of communication in restaurants to inform consumers about food waste and behaviors to avoid. Moreover, the involvement of contact personnel in the service sector is a simple way to encourage consumers to reduce waste in these businesses (Cloutier and Roy, 2021). According to the results, it would be preferable to target campaigns toward reducing food waste to older people and to people with lower levels of education. Finally, capitalizing on advocacy efforts by targeting the psychological variables mentioned above will increase the likelihood of success of such campaigns. Studies on the effectiveness of such advocacy campaigns would be needed to determine the most effective messages.

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