Household Knowledge of Food Wasteful Behaviors

Jacinthe Cloutier, Laval University[1]
Marie-Claude Roy, Laval University[2]

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 behaviour 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. The purpose of this presentation is to document consumer perception on what behaviors represent food waste and what does not. Thus, a sample of 1,061 people were asked to indicate, among 23 behaviors constituting food waste, whether (1) each behaviour does not constitute food waste, and (2) they had engaged in each behaviour in the past 6 month. The results of this study lead to a discussion on how to define food waste according to consumer perception.

Introduction

Although it is recognized that consumers contribute to food waste, it appears that consumers have difficulty acknowledging their share of responsibility for food waste (Falasconi et al., 2019) and that many of the self-reports of food waste are underestimated (Falasconi et al., 2019; Van der Werf et al., 2020). This may be due to a difficulty in defining what constitutes food waste. There is no consensus on the definition or measurement of food waste (Ménard, 2013). The definition most often used refers to the voluntary throwing away of edible food, making it highly subjective (Ménard, 2013). The evaluation of the edibility of a food can vary according to different elements such as its culture or culinary knowledge and skills (Moreno, Tran & Potts, 2020). For example, in the study by Romh et al. (2017), for some participants, throwing away rotten vegetables and mouldy sour cream was not a waste of food since it is not possible to eat what is rotten. This example illustrates how difficult it can be to measure food waste within households.

According to the Food and Agriculture Organization of the United Nations (2011), North American consumers and retailers waste between 95 and 115 kg per year. In Canada, the dollar value of food waste caused by consumers alone was $14.6 billion (Value Chain Management International, 2014). Consumers' share of the total amount of food wasted throughout the bio-food chain is very high (47%; Gooch et al., 2016). The role of the consumer in food waste is of considerable magnitude and means must be put in place to reduce it. One of the difficulties inherent in the study of food waste is related to its definition and understanding by the consumer. The purpose of this presentation is to document the perception of households on what behaviors constitute food waste and what does not.

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 completed questionnaires were received. For the population of the province of Quebec (8 484 965 people; Institut de la statistique du Québec, 2020), a sample of 1061 people 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 behaviour with respect to food waste and targeting the best strategies to reduce it.

To meet the objective of the presentation, 23 behaviors constituting food waste are analyzed. For each behaviour, respondents were asked to indicate whether (1) this behaviour does not constitute food waste, and (2) they had engaged in this behaviour in the past month. 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). The behaviors listed were chosen because they were behaviors that are not considered wasteful in the first place. Since the response choice is dichotomous

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[1] Jacinthe Cloutier (jacinthe.cloutier@fsaa.ulaval.ca), Assistant Professor, Department of Agri-Food Economics and Consumer Sciences

[2] Marie-Claude Roy (marie-claude.roy@fsaa.ulaval.ca), Research Assistant, Department of Agricultural Economics and Consumer Sciences

(yes/no), the appropriate index to check the reliability of the scale is the KR20. Its value is .83 for the 23 items.

Results

Table 1 shows the percentage of respondents for the 23 items. The first percentage column shows the proportion of respondents who indicated that the behavior was NOT food waste, and the second column shows whether they had done it at least once in the past six months.

Table 1. Percentage of respondents who indicated that a behavior is not food waste and performed it in the past 6 months (n=1,061)

	Not FW	Done 6 last months
Give food to a pet instead of throwing it away.	88.4	21.4
Compost food that is no longer good instead of putting it in the garbage.	83.5	46.8
Spill a beverage (e.g., a glass of milk, juice, etc.).	77.6	39.4
Empty the rest of a cup of tea or coffee into the sink.	75.1	60.8
Throw away the leftovers from your guests' plates.	72.7	28.4
Discard leftovers forgotten in the refrig. and show signs of spoilage	67.3	59.5
Discarding a marinade (or broth) after using it (to flavour another food).	62.3	33.9
Throwing away a food because you find it disgusting.	61.4	32.3
Use food for cosmetic purposes, like making a face mask (not eating).	61.0	6.8
Leaving vegetables to rot on the plant in your own garden.	54.3	3.5
Throwing away food that is no longer good to eat rather than composting it.	51.6	32.4
Throw away part of a food because you don't know how to cook it	50.0	38.4
Throw away food that has been sitting in the pantry or freezer for too long.	49.1	54.5
Throw away leftovers, as they have spent several hours at room temperat.	48.7	26.5
Throw away a food package with the small amount left in it.	48.6	28.5
Throw away a food because it is past the "best before" date.	46.8	41.4
Throw away food that has been improperly cooked (overcooked/salted).	46.2	22.1
Leaving food on the plate at a restaurant (without taking it back).	45.7	15.1
Discard a fruit/vegetable because it was overripe (brown spots, soft texture).	42.4	57.2
Throwing away the rest of a meal because you are no longer hungry to eat it.	39.5	34.3
Use food to decorate or for a game/contest (without eating it).	38.8	4.4
Throw away "treat" foods (like candy, chips, cupcakes) to avoid eating them.	38.5	9.5
Throw away a food because it is nearing the "best before" date.	30.3	11.0

Results indicate that not all behaviours were identified as food waste by at least 30.3% of respondents. In other words, the behavior that was most recognized as food waste is still NOT recognized by 30% of the sample.

The least well identified behaviour is giving food to a pet instead of throwing it away, since 88.5% of respondents indicated that this behaviour is not food waste. Furthermore, compost does not seem to be considered wasteful for 83.6% of respondents. As you see in the last column, 46% have done it in the six months previous to the study but do not consider it as waste, so they would not report it, which would underestimate the amount of food wasted. Up to 60% of respondents indicated that they engage in certain behaviors without realizing that they were wasting.

Moreover, these two items show an item-total correlation below .30, indicating a low correlation between each item and the others. In other words, respondents rate these two behaviors differently than they do the others.

Conclusions

These results shed light on respondents' perceptions of what constitutes food waste and what does not. It seems that the notion of all food for human consumption included in the definition used in this study is restrictive. Households seem to consider that finding another use for food (composting, feeding an animal) is not wasteful.

It becomes necessary to consult with consumers to define what constitutes food waste. This could help refine the measurement and improve accuracy. However, since perceptions may differ from one person to another, it would be even more relevant to include two ways of measuring food waste to ensure that bias in the measurement is limited. Finally, knowledge of consumer perceptions will better guide governments in their interventions to reduce food waste at a national level.

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