

Introduction

Hedonic or willingness-to-pay measurements can be used to assess consumer preferences for different variants of a given food product. These measurements allow to reveal consumer reactions and to answer to the following questions: how much do they like a given product and which maximum price are they willing to pay for it (reservation price). Hedonic measurements are considered hypothetical because assigning hedonic scores does not have any consequences for the participants. Conversely, willingness-to-pay measurements are considered non-hypothetical because participants actually purchase a product at the end of the experiment. Moreover, these methods are based on a mechanism that motivates participants to reveal as accurately and truthfully as possible the maximum price they are willing to pay for each product in the experiment.

Considering the above difference and the potential importance of these two measurements in product development, collecting and comparing hedonic and willingness-to-pay data are major issues. This analysis is particularly important not only when actors in the food chain are interested in consumer acceptance of products based on their sensory characteristics but also when they want to evaluate how consumers value product characteristics conveyed by a label giving information such as brand, origin, environmental impact, and health effects.

Different questions can be considered when comparing hedonic and willingness-to-pay data. The first group of questions refers to the distributions of values collected with these two measurements: “Are the distributions of hedonic scores and reservation prices similar?”, and more specifically, “What are the relationships between the distributions of hedonic scores and purchase decision?”, i.e., “What are the distributions of hedonic scores for buyers compared to non-buyers?” The second question is “Do the two methods have the same capacity to discriminate different variants of a product?” At the individual level, one might wonder if the most discriminant participants for one measure are also the most discriminant for the other. Finally, a third group of questions refers to the variant rankings. Consistency between hedonic scores and reservation prices can be examined through the similarity of the product hierarchy or at least the correspondence between the most- and least-liked products. Consistency can be examined at the panel or individual level.

To the best of our knowledge, only three papers were published on the comparison between hedonic and willingness-to-pay measurements, one study concerned champagne (Lange, Martin, Chabanet, Combris & Issanchou, 2002), one concerned cookies, orange juice and chocolate bars (Noussair, Robin & Ruffieux, 2004) and the third concerned one concerned spelt (Stefani, Romano & Cavicchi, 2006). Globally, these studies revealed a similar level of discrimination between hedonic and willingness-to-pay results and an overall consistency in variant ranking. A detailed analysis of individual-level data was carried out only by Noussair et al. (2004), whose analysis of orange juice revealed more inconsistencies than the aggregate results.

In the present paper, four data sets were considered, each one using a different type of food product: bread, cooked ham, cheese and orange juice. For all these experiments, we used the BDM mechanism proposed by Becker, DeGroot & Marschak (1964) corresponding to a random price sale. In practice, participants give the maximum price they are willing to pay for a product. This mechanism assures the participants to pay for the product at a price equal or lower than their reservation price.

1. Materials and methods

1-1 Participants

For each study, a sample of consumers was recruited from the general population using different procedures: random selection in four shops of a bakery chain located in Dijon city and suburbs (bread); random dialling in Dijon city and suburbs (orange juice and cheese); and/or random selection from a panel of volunteer consumers in the PanelSens from the ChemoSens Platform (bread, cooked ham, cheese). Participants were selected if they regularly took part in food purchasing and consumed the products of interest in the study. If they agreed to participate, they were sent a letter that explained the main features of the experiment and provided details about the incentive method. Participants received a fee for their participation. Table 1 summarises the main characteristics of the participants for the four studies whose results were analysed in the present paper.