

Taste Your Consumer Audience. How Sensory Expertise Influences Food Choice

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Abstract

Presentation of the thesis(es) covered by the paper – This paper explores how individual differences in food literacy and sensory perception influence consumer behavior, particularly in food choices. We investigate how varying levels of expertise in sensory analysis and education in human nutrition science impact these choices, with implications for brand strategy and consumer profiling. Our study is based on an empirical analysis of responses from 185 Italian expertise in sensory analysis, human nutrition science, and naive consumers. We observed how nutrition science experts consider taste less important (χ^2 test p-value: 0.000) and observe nutritional labels (χ^2 test p-value: 0.035) and types of nutrients (χ^2 test p-value: 0.000) more frequently than other consumer groups. In contrast, sensory analysis experts assign higher importance to production methods than others (χ^2 test p-value: 0.000), product origins (χ^2 test p-value: 0.000) and the presence of additives (χ^2 test p-value: 0.026), during their selection process. Sensory perception skills could explain high levels of procedural food literacy (t-test p.value: 0.002) which is also associated to morning chronotype (t-test p.value: 0.0019). Interestingly, age, gender, BMI, and chronotype do not correlate with sensory capacity (t-tests p-value > 0.15 for the four dimensions). As such, sensory capacity offers a distinct and orthogonal dimension to existing measures. We posit that marketers, product developers, and brand managers should pay greater attention to individual differences in sensory perception. We suggest and promote the integration of neurophysiological profiling methods in designing new products and brand identities.

Keyword: *Sensory Perception; Food Literacy; Consumer Behaviour; Consumer Profiling*

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particularly in food choices. We investigate how varying levels of expertise in sensory analysis and education in human nutrition science impact these choices, with implications for brand strategy and consumer profiling.

Brief reference to the lines of research that have dealt with the topic – Our research builds upon an extensive body of literature that intersects various disciplines, including physiology, neuroscience, biochemistry, and marketing (Plassmann et al., 2015; Bazzani et al., 2020; Clithero et al., 2024). A key area within this literature is the sensory analysis of food products, which examines how sensory cues—such as smell, texture, and taste—engage consumers and influence their behaviour (Motoki et al., 2021). To further understand these interactions, neurophysiological profiling methodologies offer valuable insights into the impact of individual differences in consumers' sensory perception on their decision-making. According to models of value-based decision-making, both internal states and external contextual factors affect the evaluation of alternatives (Rangel et al., 2009). During the Customer Journey (Court et al., 2009), perceptual skills and schemas can influence the main stages of the whole decision-making process: (i) from the selection of brands or products in the initial consideration set; (ii) passing through the evaluation of alternatives; (iii) when facing contextual factors and internal states during the "purchase momentum"; (iv) and, ultimately, in processing the post-purchase experience.

Notes on the methodology – Our study is based on an empirical analysis of responses from 185 Italian consumers. Participants were segmented into groups based on their level of education and expertise in sensory analysis and human nutrition science. Experts in sensory analysis were affiliated with the International Academy of Sensory Perception (Brescia, Italy). Being an expert or judge in sensory analysis involves possessing innate qualities enhanced through specific training.

Data were collected using validated scales to assess individual differences in sensory perception (SPQ; Tavassoli et al., 2014), food literacy (SPFL; Poelman et al., 2018), chronotype (rMEQ; Natale et al., 2006), and food consumption (INRAN; D'Addezio et al., 2011). The association between chronotype, food literacy, and food choices has already been shown in prior empirical work (Trieste et al., 2020).

Brief illustration of the results – Nutrition science experts consider taste less important (χ^2 test p-value: 0.000) and observe nutritional labels (χ^2 test p-value: 0.035) and types of nutrients (χ^2 test p-value: 0.000) more frequently than other consumer groups. In contrast, sensory analysis experts assign higher importance to production methods than others (χ^2

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Conclusions and implications – We posit that marketers, product developers, and brand managers should pay greater attention to individual differences in sensory perception when designing and promoting new products. Some industries, such as the food and wine industry or the luxury sector (e.g., perfumes), are particularly sensitive to the impact of sensory perception. Moreover, a broader consideration of sensory perception could help ensure that communication messages resonate more effectively at key stages of the consumer journey, particularly in the context of brand extensions or rebranding efforts, thereby strengthening consumer loyalty. As a result, companies can create a more solid brand identity by integrating neurophysiological profiling methods.

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