# NOT A COW, BUT I DO (NOT) CARE: HOW FOOD TECHNOLOGY NEOPHOBIA AFFECTS ITALIAN CONSUMERS' INTENTION TO TRY CULTURED MEAT


## Abstract

This research study investigates the impact of food technology neophobia on consumer intentions to try cultured meat. This novel food can potentially address environmental, ethical, and public health concerns associated with traditional meat consumption. The study was conducted in Italy, renowned for its rich culinary heritage and significant meat production. This research aims to bridge the existing knowledge gap regarding how food technology neophobia influences the acceptance of cultured meat. The research comprises two distinct studies: Study 1 (n. = 414) utilises a discrete choice experiment to discern the marginal utilities that consumers associate with cultured meat, while Study 2 (n. = 637) employs a survey based on variables derived from the Diffusion of Innovations Theory and the Theory of Consumption Values to assess their effects on consumer willingness to try cultured meat. This research suggests that although cultured meat offers significant environmental and ethical benefits, its acceptance is constrained by consumer resistance, particularly among individuals with higher food technology neophobia. Finally, the study underscores the necessity for targeted strategies to overcome barriers to acceptance, emphasising the importance of addressing consumer concerns and misconceptions to promote more sustainable food consumption patterns.



**Keywords:** cultured meat; food technology neophobia; novel food; sustainable food; consumer acceptance


## 1. INTRODUCTION

The global demand for meat has steadily increased, with per capita consumption doubling since 1961 (IPCC, 2019). This escalating demand has resulted in significant environmental consequences, as meat production is responsible for 14.5% of global greenhouse gas emissions, utilises nearly 80% of arable land, and drives deforestation (Ritchie, 2017). Moreover, meat consumption presents notable public health challenges, including issues related to saturated fats, antibiotic resistance, growth hormones, cancer risks, and zoonotic diseases (Weinrich et al., 2020). Ethical concerns, particularly animal welfare-related, further complicate meat production discourse. With the global population projected to reach 9.7 billion by 2050 (United Nations, 2019), there is an urgent need to transition towards more sustainable consumption patterns, including adopting meat alternatives.

Recognising the critical necessity for a global shift in dietary habits has sparked increased interest in sustainable food sources. These alternatives aim to mitigate environmental impacts, address ethical concerns regarding animal welfare, and ensure food and nutritional security for future generations (Hoek et al., 2017). However, this transition presents significant challenges, as meat remains a popular and substantial source of protein, contributing to 30% of daily caloric intake worldwide (Bonnet et al., 2020). Furthermore, altering dietary habits is inherently complex, and interventions often necessitate extended periods to achieve meaningful change (Septianto et al., 2023). Many consumers resist reducing meat consumption or substituting animal proteins with plant-based alternatives (Hartmann & Siegrist, 2017).

Given these challenges, cultured meat has emerged as a promising solution (Van Loo et al., 2020; Verbeke et al., 2015; Heidmeier & Teuber, 2023). It offers the nutritional and sensory benefits of conventional meat while potentially mitigating its ethical and environmental disadvantages (Siegrist & Hartmann, 2020). Cultured meat is produced through in vitro cell cultivation, closely mimicking conventional meat at the cellular level and enabling it to be processed into familiar products such as steaks, burgers, and sausages. Research indicates that cultured meat could offer a more sustainable alternative by reducing energy consumption by up to 45%, greenhouse gas emissions by 78-96%, land use by 99%, and water use by 82-96% compared to conventional farming methods (Tuomisto & Teixeira de Mattos, 2011). Additionally, the controlled laboratory conditions under which cultured meat is produced substantially reduce the risk of disease transmission (Bryant & Barnett, 2020).

Despite the numerous advantages of cultured meat, its widespread acceptance remains challenging, mainly because it is not yet available in major markets. Moreover, research on cultured meat has predominantly centred on agri-food, environmental science, and biological aspects, with limited exploration from a marketing perspective. Recent research has started to investigate consumer attitudes towards cultured meat, revealing that acceptance in this emerging market is influenced by a complex interplay of cultural, psychological, and behavioural factors (Kouarfaté & Durif, 2023; Septianto et al., 2023; Heidmeier & Teuber, 2023; Krings et al., 2023). Several barriers to acceptance are anticipated, including resistance to changing meat consumption habits and misconceptions about the nature of cultured meat (Kouarfaté & Durif, 2023). Nonetheless, further empirical studies are needed to illuminate this novel food's acceptance, perceived utility, and factors influencing consumer behaviour. A significant gap exists in the literature concerning the influence of food neophobia and food technology neophobia on the intention to try cultured meat. These antecedents have been adopted in different novel food domains (Siegrist & Hartman, 2020; Zamparo et al., 2022), but the academic contributions on cultured meat are only embryotic. Despite some recent scholarly inquiries on this subject (Bryant et al., 2019; Wilks et al., 2019; Palmieri et al., 2020; Krings et al., 2022), the role of food technology neophobia appears to be underexplored and necessitates further scrutiny.

Therefore, this paper's research objective is to assess the influence of food technology neophobia on individuals' perception of the marginal utility of cultured meat and their intention to try this novel food. We conducted two studies on different Italian samples. Italy was chosen for its relatively unexplored consumer acceptance of cultured meat. This is the third study on this topic in Italy, following the work of Mancini and Antonioli (2019) and Palmieri et al. (2020). Italy's rich culinary traditions centred around genuine food, its status as a critical producer of Mediterranean diet staples and its position as the fourth-largest bovine meat producer in Europe as of 2023 (Eurostat, 2023) make it an intriguing case study.

This research adopts a holistic approach by integrating antecedents from the Diffusion of Innovations Theory (DIT), focusing on innovation-adoption characteristics of products, with factors influencing consumer acceptance derived from the Theory of Consumption Values (TCV). The findings enrich the marketing literature on novel foods by providing empirical evidence on the influence of food technology neophobia on the intention to try cultured meat and its antecedents.

## 2. THEORETICAL BACKGROUND

Consumer acceptance of cultured meat is receiving increasing attention (Siegrist & Hartmann, 2020; Kouarfaté & Durif, 2023). Research has indicated that personal and external factors influence individuals' attitudes toward cultured meat, shaping their perceptions, expectations, and willingness to try and purchase this novel food (Van Loo et al., 2020; Kouarfaté & Durif, 2023). The antecedents influencing consumers' attitudes toward cultured meat can be explained using the TCV and DIT theoretical frameworks. Only a few studies have utilised these perspectives to examine the acceptance of cultured meat (e.g., Van Loo et al., 2020; Wang et al., 2024), while broader research efforts have been focused on the domain of novel foods (Zamparo et al., 2022; Abebe et al., 2024).

### *Theory of Consumption Values*

The Theory of Consumption Values (TCV) offers a comprehensive framework for understanding consumer choice by assessing various dimensions of perceived value associated with products and services. Sheth et al. (1991) posited that a unidimensional approach to value cannot entirely expound consumer behaviour. Instead, it involves multiple dimensions, integrating both functional and non-functional components. The TCV delineates five core values that influence consumer decisions.

The first is functional value, which pertains to the perceived utility gained from an alternative's capacity for functional, utilitarian, or physical performance. It encompasses quality, price, reliability, and durability, reflecting the product's or service's pragmatic advantages. Recent studies have shown that consumers recognise cultured meat's potential health and safety benefits (Verbeke et al., 2015; Wilks & Phillips, 2017). These benefits include a lower risk of zoonotic diseases and the absence of growth hormones, synthetic pesticides, and antibiotics. Additionally, Mancini and Antonioli (2019) demonstrated that consumers respond positively to cultured meat's nutritional attributes, such as its protein, calorie, and fat content. Emotional value represents the second component of the TCV. This pertains to the emotional responses or feelings a product elicits, highlighting its ability to resonate with consumers on an affective level. Weinrich et al. (2020) posit that ethical appeal plays a significant role in the consumer acceptance of cultured meat. They argue that individuals may feel a sense of moral satisfaction for making a sustainable food choice, leading to greater acceptance of this novel food choice. Mancini and Antonioli (2019) have also demonstrated that emotional and ethical considerations increase consumer willingness to adopt meat substitutes and pay a premium price. The third component of the TCV is social value, which pertains to how a product or service allows consumers to associate with or reflect a specific social group or status. The last two components of the TCV are epistemic and conditional values. Epistemic value is the perceived utility gained from an alternative's capacity to stimulate curiosity, provide novelty, and satisfy a desire for knowledge. Tuorila and Hartmann (2020) highlight consumer curiosity as a principal driver for accepting cultured meat. Finally, conditional value relates to the perceived utility attained by an alternative due to the specific situation or set of circumstances facing the decision-maker. It reflects how the value of a product or service can vary depending on contextual factors, such as seasonality or situational needs.

### *Innovation-adoption characteristics*

The Diffusion of Innovations Theory (DIT) of Rogers (2003) provides a framework for understanding consumer adoption of innovations. Recent research has applied DIT to explore cultured meat adoption (Abebe et al., 2024; Wang et al., 2024). DIT is particularly valuable for analysing consumer decisions regarding novel foods, as it evaluates actual behaviour. Much of the research within DIT focuses on five innovation-adoption characteristics (IACs) identified by Rogers (2003): relative advantage, compatibility, complexity, observability, and trialability.

Perceived compatibility assesses the degree to which an innovative product aligns with an individual's lifestyle and values. According to Van Loo et al. (2020) and Abebe et al. (2024), the growing accessibility of cultured meat fosters greater acceptance and integration into consumers' food choices and diets. However, Mancini and Antonioli (2019) have argued that consumer preferences in Italy are deeply rooted in local and culinary traditions, which may challenge the acceptance of cultured meat within Mediterranean and Western dietary patterns. Consequently, this characteristic is crucial for the successful introduction of cultured meat in markets where traditional values and dietary patterns hold considerable sway (Wang et al., 2024). Perceived relative advantage refers to the belief that a product is superior to conventional alternatives. People who see cultured meat as a way to improve animal welfare, reduce environmental impact, and address global food shortages are more likely to accept it as a viable food source (Palmieri et al., 2020). The main relative advantage of cultured meat is its sustainability benefits, which can significantly influence consumer adoption (Mancini & Antonioli, 2019; Palmieri et al., 2020). Perceived complexity pertains to the difficulty of using or understanding an innovation. Cultured meat involves complex technologies that may hinder consumer understanding, especially among older or less-educated individuals (Siegrist & Hartmann, 2020; Heidmeier & Teuber, 2023). How marketers label and describe cultured meat can heavily influence its perceived complexity and, consequently, its acceptance (Siegrist et al., 2018; Bryant & Barnett, 2020; Bryant & Dillard, 2019). Observability relates to how easily the benefits of an innovation can be observed or communicated. Trust in novel foods can be bolstered through observation or word-of-mouth, particularly within social networks (Wang et al., 2024). Studies indicate that information from others is crucial for consumer familiarity with cultured meat (Kouarfaté & Durif, 2023). Finally, trialability refers to the ease with which an innovation can be tried before adoption.

### *Food Neophobia and Food Technology Neophobia*

Food neophobia and food technology neophobia are interesting but underexplored factors that influence the acceptance of cultured meat. Food neophobia refers to the reluctance to accept new foods due to individuals' responses to ethnic, foreign, or unfamiliar foods (Zamparo et al., 2022). Food technology neophobia refers to the rejection of foods produced using new technologies. This rejection is often due to concerns related to mistrust in science, sustainability, and limited knowledge about food production, such as genetic modification, food irradiation, or nanotechnology (Demartini et al., 2019). While food neophobia is the reluctance to try new foods, food technology neophobia is centred around rejecting foods produced through innovative technological processes.

Previous research has established that food neophobia and food technology neophobia correlate with reduced willingness to try and accept novel foods (Perito et al., 2019; Siegrist & Hartman, 2020; Zamparo et al., 2022). However, only a limited number of studies have investigated this aspect in the context of cultured meat.

Recent research has revealed a negative correlation between food neophobia and food technology neophobia and the inclination to accept cultured meat (Bryant et al., 2019; Wilks et al., 2019; Baum et al., 2021; Krings et al., 2022). These studies have established that perceptions of unnaturalness and safety concerns arising from these neophobias are significant psychological barriers to the acceptance of cultured meat (Bryant & Barnett, 2020). According to Verbeke et al. (2015), many consumers hesitate to try cultured meat because they perceive it as unnatural and artificial. This perception arises from believing that cultured meat is less natural than traditional meat and other plant-based alternatives. Siegrist and Hartmann (2020) suggest that consumers are concerned about the potential adverse health effects of growing meat in a laboratory setting, leading them to view it as unnatural and risky. Furthermore, neophobia related to food technology is influenced by specific personal characteristics that must be considered when analysing the acceptance of cultured meat. It was demonstrated that younger individuals and those with higher levels of education are less conservative and more open to new technologies (Heidmeier & Teuber, 2023). In addition, research by Heidmeier and Teuber (2023) suggests that women are more inclined to experience technology neophobia, which consequently affects their acceptance of cultured meat.

## 3. STUDY 1

Study 1 aimed to assess the marginal utility associated with cultured meat by consumers and to determine if there are differences in this perception between non-neophobes and neophobes. We conducted a Discrete Choice Experiment (DCE) to examine consumers' decision-making when selecting beef, vegan, and cultured meat alternatives. DCE is widely used in various academic research, such as economics, marketing, health economics, and transportation planning. At the core of DCEs lies the concept that individuals make choices by assessing the trade-offs between the attributes of the options available. Each selection in the experiment represents a scenario in which the individual must choose one option from a set of alternatives, each defined by varying attributes. Through analysing these choices, we acquired valuable insights into the perceived marginal utility of various attributes of the alternatives, including preferences for meat typologies.

***Method and Data***

Study 1 methodology followed Kim and Park (2017) for discrete choice experiments: identify attributes, specify attribute levels, create the experimental design, administer survey - present alternatives and choice tasks, and estimate the choice model. Since an experimental design combines attributes and levels to create alternatives (profiles) within the choice set, selecting the appropriate ones becomes essential for any discrete choice analysis (Hoyos, 2010; Kim & Perdue, 2013). We conducted an extensive literature review on individuals' meat choices to identify attributes and levels and the potential ideal product types. The identified product types, attributes, and levels were then discussed among the research team.

We chose hamburgers as the product type because this food is highly identifiable and widely consumed, providing a familiar context for the consumer. Besides, hamburgers enable an impartial comparison of conventional meat with alternative protein sources, such as cultured meat, without method-related variances or cuisine-specific idiosyncrasies. This also helps reduce biases resulting from novelty or unfamiliarity with the product format, making it easier to determine consumer attitudes toward cultured meat.

The final selection of attributes (and connected levels) encompasses the following ones: meat colour, sustainability index, the origin of the meat, price levels, and meat type. Regarding the colour, the levels we chose to include are rose-coloured, red, and oxblood red. The colour of the meat strongly influences consumer choice (Kennedy et al., 2005). The sustainability index alluded to the meat production process. This was bonded to the certifications obtained by the product: certifications ISO 14046 (Water Footprint Standard) and ISO 14067 (Carbon Footprint Standard). Products with both certifications had a 'high' sustainability index. Origin concerned where the hamburger was produced. Here, we had three levels: Italy, Western countries, and non-Western countries. For price, we checked actual retail prices for hamburgers in diverse-quality supermarkets (i.e., Lidl, Despar, Coop) and averaged the prices for the hamburgers present in the fridges of FMCG operators. Finally, for the type of meat, we selected these to be able to answer our first research question. The selected types were 'normal' beef, vegan meat (i.e., Beyond Meat), and cultured meat. Again, the purpose was to check whether or not the consumer associated utility with cultured meat and liked it more than other meats.

To create the cards, each composed of three profiles plus the no-choice alternative, we implemented an orthogonal design to reduce the number of choices and ensure the levels of each attribute are independent of each other (Mariel *et al.*, 2021). This resulted in a design with twelve decision situations where every possible combination of levels from different attributes was equally represented. An example of a choice card is offered in Figure 1.

Figure 1 here

The discrete choice experiment was conducted using an online survey in Italy, with a sample size of 413 participants obtained through convenience sampling. The survey was distributed with the help of two research assistants. Participants were asked to imagine themselves in front of a supermarket refrigerator, where they needed to select a hamburger to buy for their daily meal. They were presented with different hamburger options and asked to choose their preferred one, considering each option's specific characteristics and attributes.

In addition to the decision situations, the final questionnaire included some items about food and food technology neophobia and the socio-demographic characteristics of the respondents. The sample was well-balanced by gender, with 58.9% female and 41.1% male respondents. The age distribution was also well-balanced, with 56.4% of participants under 25 years old, 37.7% over 41, and only 5.8% over 60. The most common occupations among the participants were students (28.8%) and full-time employees (26.9%).

***Findings***

Following the idea behind random utility models, which assume that consumers tend to choose between alternatives to maximise the utility they obtain, a multinomial logit model was estimated using the mlogit (Croissant, 2020) package in R (R Core Team, 2022).

Table 1 presents the relative marginal utility of various food options across the entire sample. The findings indicate that the marginal utility of vegan and cultured meat alternatives was lower than conventional beef hamburgers. The research findings suggest a clear preference for red-coloured meat from Italy, also characterised by a high sustainability index. This indicates that the participants prefer high-quality products. The preference for the €14 per kilogram pricing may be attributed to the perceived quality associated with the higher price and the relatively low cost of the analysed hamburger.

Table 1 here

After this first analysis, we divided the sample based on "food neophobia" and "food technology neophobia" criteria to investigate if differences exist between non-neophobes and neophobes (Table 1). This division was determined by the mean values of the respective scales, a method widely employed in the literature (e.g., Zamparo et al., 2023). Both scales demonstrated Cronbach's alphas and composite reliability values that aligned with commonly recommended thresholds (Food Neophobia Scale: $\alpha = 0.83$, ordinal-$\alpha = 0.86$, composite reliability = 0.870; Food Technology Neophobia Scale: $\alpha = 0.92$, ordinal-$\alpha = 0.93$, composite reliability = 0.94).

In examining the marginal utilities of these sub-samples, no differences were observed regarding preferences for the attributes of colour, sustainability index, origin, and price compared to the overall sample. An interesting trend emerged regarding hamburger type preference. Although non-neophobic participants report negative utilities of both vegan and cultured meat alternatives, those with neophobic tendencies exhibit significantly stronger negative utilities. This difference is particularly pronounced when considering the Food Technology Neophobia Scale. Here, non-neophobic individuals recorded the lowest negative assessment for cultured meat alternatives (-0.25), whereas neophobic individuals reported the highest (-1.75). Consequently, while consumers generally do not perceive substantial utility in cultured meat, individuals with food neophobia, particularly those fearing food technology, perceive a markedly lower utility.

## 4. STUDY 2

Study 2 investigates the antecedents influencing consumers' willingness to try cultured meat and examines food technology neophobia's direct and indirect impact on this intention. We conducted a structured online survey in Italy to test three sets of hypotheses. The first set examines the relationships between technology neophobia and the values derived from the TVC and DIT frameworks. The second set explores the relationships between these values and the intention to try cultured meat. Finally, the third set investigates the indirect impact of food technology neophobia on the intention to try this novel food (Table 2).

Table 2 here

We identified the antecedents within the TCV and DIT theoretical frameworks. Considering the recent literature on cultured meat acceptance, we hypothesised their impact on the intention to try it. Additionally, we thoroughly integrated and supported our assumptions using the broader and more consolidated literature on novel foods’ acceptance, specifically tailored to reflect the context of acceptance of cultured meat. When it comes to the five IACs (Rogers, 2003; Hansen, 2005), since cultured meat is not yet widely available, especially in Italy, where its production and sale are currently prohibited, trialability was excluded from our study to enhance the consistency of our findings, as participants could not trial cultured meat. From the TVC framework, we excluded conditional and epistemic values. For conditional values, the items related to the benefits of consuming cultured meat were very similar to those associated with the relative advantage construct from DIT. Regarding epistemic value, theoretical works suggest that curiosity is the primary antecedent driving the acceptance of cultured meat (Tuorila & Hartmann, 2020). Based on this, we decided to exclude it from our survey to avoid testing a well-established path.

The model emerging from the hypotheses is depicted in Figure 2.

Figure 2 here

### *Method and Data*

Multiple research assistants distributed the questionnaires among the respondents' peers and families. Participants were instructed to complete the survey within 10 minutes, and data collection occurred from November 2023 to January 2024. The questionnaire consisted of two sections: the first section gathered the socio-demographic profiles of the respondents, while the second section examined the variables of interest for the study.

All items were modelled on a seven-point Likert scale. The following constructs, conceptualised as reflective, were measured: 1) functional value (V_FNC), 2) emotional value (V_EMO), 3) social value (V_SOC), 4) compatibility (CMP), 5) relative advantage (RV), 6) complexity (CPX), 7) observability (OSB), food technology neophobia (FTN) and 8) intention to try cultured meat (INT). All items were derived from established literature (see Table 3 for references). Together with the above variables of interest, we collected data on neophobia tendencies using the two neophobia scales used in Study 1.

A total of 853 questionnaires were collected. After excluding responses from individuals unfamiliar with cultured meat, incomplete responses, failed attention checks, careless responses, and multivariate outliers, 637 usable and completed questionnaires remained (54.94% females, 78.49% 25 years old or younger and 88.69% following omnivorous diet).

All analyses used R, specifically lavaan and semTools packages (Jorgensen et al., 2023; Rosseel, 2012).

The reliability and validity of the measurements were tested via confirmatory factor analysis (CFA), which yielded an acceptable fit for the data ($\chi^2$ = 874.91 df = 369, RMSEA = 0.05, CFI = 0.95, TLI = 0.94, SRMR = 0.04). The detailed results are provided in Tables 3 and 4. Convergent validity was assessed by calculating the composite reliability, average variance extracted, and standardised factor loadings, which needed to be greater than 0.70, 0.50, and 0.50, respectively. As shown in Tables 3 and 4, all values exceeded the minimum thresholds, thereby supporting the convergent validity and reliability of the constructs. Additional evidence of the constructs' reliability was obtained, as the value of Cronbach's α for each latent factor was higher than 0.70. Notably. FTN's AVE was lower than 0.50. However, this was considered acceptable, as Fornell and Larcker suggested that a CR above the 0.70 threshold may indicate adequate convergent validity even when the AVE is below 0.50 (Fornell & Larcker, 1981, p. 46) (Table 3).

Table 3 here

The Heterotrait–Monotrait (HTMT) ratio of correlations (Henseler et al., 2015) and the Rönkkö and Cho (2022) procedure were used to assess discriminant validity. The HTMT values did not exceed 0.90, indicating acceptable discriminant validity (Table 4). Following Rönkkö and Cho (2022), we examined whether the correlations between the latent constructs surpassed the threshold of 0.90. Likelihood ratio tests were employed to compare the original base model with several constrained alternatives in which construct correlations - one at a time - were forced to equal 0.90. Most chi-square difference tests were significant, indicating that the constrained models exhibited a worse fit than the original model. Nonetheless, three exceptions were present: the correlations between CMP and OSB, INT and CMP and RV and OSB. We investigated this issue by creating three models where the three correlations mentioned above equalled one and then comparing these three models to the base unconstrained one. The three constrained models fitted the data worse than the original one, supporting discriminant validity. Further detail is provided in Table 5.

Tables 4 and 5 here

We also checked for standard method variance, which was tested using the marker variable technique. (Podsakoff et al., 2003). "Attitude toward the colour blue" was used as the marker (Miller & Simmering, 2023). The correlations between the construct of interest and the marker variable ranged between 0.02 and 0.20. In addition, the model did not worsen when comparing the estimated measurement model with the marker to an alternative model, where the marker variable was included with all the items loaded onto it.

***Findings***

Following our hypothesis, we estimated the theoretical model in Figure 2 using SEM. In the model, we included as covariates gender (Female = 1), age, diet followed (1 = Omnivores, 0 = Else), and food neophobia (α = 0.88, ordinal-α = 0.90, composite reliability = 0.92).

The results showed that all the direct paths from FTN to the various antecedents derived from theories of Sheth and Rogers (*i.e.*, V_FNC, V_EMO, V_SOC, CMP, RV, CPX, OSB) are statistically significant, as evidenced by their negative estimates and narrow confidence intervals, leading to the support of hypotheses H1 through H7. Regarding INT as the outcome variables, the only direct paths that showed a positive and statistically significant association were from V_FNC and CMP. Hence, H8 and H11 were accepted, while H9, H10, H12, H13, and H14 were rejected due to non-significant associations. For indirect paths, only FTN → V_FNC → INT and FTN → CMP → INT (H1a and H4a) showed significant indirect effects, supporting these hypotheses, while the others were rejected. Regarding the covariates, "Food Neophobia" showed a significant negative effect and "Omnivorous" showed a positive effect, suggesting dietary preferences and aversion levels as influential factors. More detail is provided in Table 6.

Table 6 here

After the SEM analysis, we also compared values of the construct of interest between the two groups via a latent mean comparison (Table 7). The results of this second analysis show a general trend. Those assigned to the food technology neophobia group consistently reported lower mean values for all the constructs investigated. Hence, they perceive cultured meat to have less functional, emotional, and social values, as well as being less compatible and observable, having little relative advantages, and being more complex than conventional meat. Naturally, neophobes also displayed a lower intention to try. A graphic depiction of the comparisons can be found in the appendix (A2 and A3).

Table 7 here

## 5. DISCUSSION

This research contributes to the recent literature on consumers' acceptance of cultured meat by addressing a notable gap. It investigates the influence of food technology neophobia on the critical antecedents of consumers' intentions to try this novel food. To the best of our knowledge, this is the first study to adopt a comprehensive approach by integrating innovation-adoption characteristics from the DIT with consumption values of the TCV, providing a thorough understanding of the factors influencing consumer acceptance of cultured meat. We conducted two studies on Italian consumers to achieve the research objectives, marking a novel approach in this research area.

Study 1 examines consumers' perception of the marginal utility of meat alternatives, including beef, vegan, and cultured options. Participants exhibited a higher perceived marginal utility for choices characterised by a high sustainability index, red colouration, and Italian origin, even when these options were priced at a premium (14€/kg). These preferences remained consistent across all hamburger options. Nonetheless, conventional meat hamburgers' marginal utility was higher than those related to vegan and cultured meat alternatives. Cultured meat, particularly, was perceived less favourably, with a significantly lower marginal utility than conventional meat by food neophobes, especially by those with a food technology neophobia.

We conducted a second study to further investigate the role of food technology neophobia. Study 2 incorporated key antecedents identified in recent literature as potential determinants of consumers' intention to try cultured meat and assessed the impact of these factors in light of food technology neophobia. The results show that food technology neophobia negatively affects all the constructs derived from DIT and TCV. However, only functional value and compatibility were positively associated with trying cultured meat. Finally, we found that food technology neophobia indirectly negatively impacts intention through these two dimensions. Moreover, the findings support the results of Study 1 through a latent mean comparison: food technology neophobes perceived cultured meat as having lower functional, emotional, and social values, as well as being less compatible and observable, with fewer relative advantages and greater complexity than conventional meat, as detailed in the supplementary materials (Appendix).

### *Theoretical Contributions*

The research findings are in line with existing literature, emphasising significant consumer resistance toward accepting cultured meat (Van Loo et al., 2020; de Oliveira Padilha et al., 2022; Wang et al., 2004). This resistance is primarily attributed to food neophobia and food technology neophobia (Bryant et al., 2019; Wilks et al., 2019; Palmieri et al., 2020; Krings et al., 2022). The findings affirm that consumers characterised by neophobia towards new food items perceive less marginal benefit from cultured meat compared to those who exhibit more openness to trying new foods. This discrepancy is particularly pronounced in individuals displaying a specific neophobia towards food technology. While food neophobia impedes participants' perceived utility of cultured meat (Wilks et al., 2019), our findings are also consistent with recent research conducted by Baum et al. (2021), Krings et al. (2022), and Heidmeier & Teuber (2023), further underlining the more substantial influence exerted by food technology neophobia. We theoretically contribute to this relatively understudied area, stressing that the apprehension surrounding cultured meat among consumers stems from more than just its novelty as a food item. It is primarily attributed to its production using intricate and unfamiliar technologies. This aspect appears to be the most significant and disconcerting factor for consumers, overshadowing the typical concerns associated with food neophobia

(Bryant et al., 2019;). According to Siegrist and Hartmann (2020), this may alter the perception of the naturalness of cultured meat and evoke disgust, sensitivity and mistrust in the food industry.

Another contribution lies in demonstrating the significant influence of food technology neophobia on the intention to try cultured meat, primarily through its negative effect on the critical antecedents of this intention. The factors within our model, derived from the TCV (i.e., functional, emotional, and social values) and the DIT (i.e., compatibility, relative advantage, complexity, and observability), are all adversely influenced by food technology neophobia. This indicates that food technology neophobia predominantly hinders the perception of favourable values and amplifies perceived barriers to the adoption of cultured meat rather than directly affecting its acceptance, as previously reported in the literature (Baum et al., 2021; Krings et al., 2022; Heidmeier & Teuber, 2023).

Furthermore, we demonstrate that food technology neophobia indirectly influences the willingness to try cultured meat through the only two antecedents found to be significant and positively associated with this intention: functional value and compatibility. Consumers' perceptions of healthy and high-quality food (functional values) and the ease of integrating this novel food into their diets and lifestyles (compatibility) emerge as the only significant factors that motivate participants in our study to try cultured meat. This finding aligns with previous research suggesting that consumers recognise cultured meat's potential health and safety benefits and nutritional attributes (Verbeke et al., 2015; Wilks & Phillips, 2017; Mancini & Antonioli, 2019; Weinrich et al., 2020). Our results also confirm that enhancing perceptions of compatibility with dietary needs and lifestyles facilitates the acceptance of cultured meat (Van Loo et al., 2020; Wang et al., 2024). However, we highlight that food technology neophobia negatively impacts these antecedents, reducing perceived benefits and compatibility and thus indirectly diminishing the intention to try cultured meat.

Surprisingly, the perceived benefits of cultured meat in terms of animal welfare and environmental impact do not seem to influence people to try it, which goes against the findings of previous studies (Mancini & Antonioli, 2019; Palmieri et al., 2020). This divergence could stem from a deficiency in understanding and awareness regarding these benefits among the general public (Siegrist et al., 2018; Kouarfaté & Durif, 2023).

***Practical Implications***

The distinct relevance of food neophobia and food technology neophobia holds significant implications for managers and marketers, as these apprehensions arise from distinct fears: the reluctance to embrace novel foods and the aversion to foods produced using innovative technologies (Zamparo et al., 2023). To effectively address these concerns, it is essential to devise strategies to promote consumer acceptance of cultured meat. Our findings confirm that individuals with neophobic tendencies perceive significantly lower marginal utility in cultured meat compared to non-neophobic individuals, with this perception being notably diminished among those exhibiting technology-related neophobia. Based on current perceptions, cultured meat is often regarded as highly unnatural and technology-driven (de Oliveira Padilha et al., 2022). It would be beneficial to emphasise its functional values to enhance its acceptance, which we have identified as a significant factor influencing the intention to try. Marketers should focus on highlighting the benefits of cultured meat, such as its health and safety advantages, rather than concentrating on the underlying technology and production processes. Moreover, our findings suggest that it would be advantageous to emphasise the nutritional characteristics of cultured meat through precise labelling and detailed descriptions. This strategy can influence consumers' favourable attitudes (Bryant & Dillard, 2019; Siegrist et al., 2018) and attract specific market segments attentive to these particularities.

The prevailing perception of cultured meat as incompatible with mainstream lifestyles and values in both developed and developing countries can be attributed to the persistent rise in demand for animal products and the widespread adoption of Western dietary consumption patterns (Van Loo et al., 2020; Wang et al., 2024). Additionally, distrust in food scientists and negative attitudes towards new food technologies are significant barriers to accepting cultured meat in Western countries, particularly those with strong culinary traditions (Palmieri et al., 2020). For instance, in Italy, where consumer preferences are deeply rooted in place-based and culinary traditions, food quality is often equated with the product's naturalness (Mancini & Antonioli, 2019). To effectively address these challenges, marketing strategies should emphasise elevating the perceived naturalness of cultured meat, mainly to minimise resistance among neophobic consumers. Furthermore, it is imperative to underscore the compatibility of cultured meat with consumers' dietary habits, accentuate its flavour profile, and illustrate its adaptability in various recipes. Endeavours emphasising the compatibility of cultured meat are pivotal for fostering acceptance in societies that predominantly consume animal-based products, particularly in regions like Italy. Strategic marketing communications should underscore the merits of cultured meat, particularly regarding animal welfare and environmental sustainability, which Italian consumers frequently undervalue. This approach can potentially align cultured meat with the values and preferences of these consumers, ultimately contributing to its increased acceptance on a global scale.

Finally, the limited availability of cultured meat in global markets has important managerial implications. With an increasing number of individuals having the opportunity to try these products, it is likely that consumer preferences will evolve (Van Loo et al., 2020). Similar to the case of vegan meat (Bryant et al., 2019), familiarity is expected to determine consumer acceptance of cultured meat. Therefore, managers and marketers need to monitor whether demand shifts as these alternatives to conventional meat become more widely available and consumers become more acquainted with them and their associated brands in food service and retail settings. Furthermore, it is valuable to assess whether increased familiarity with cultured meat reduces food technology neophobia, as observed with previous plant-based alternatives. This insight will aid in shaping effective strategies and marketing campaigns.

## 6. LIMITATIONS

In Study 1, a primary limitation lies in the cognitive burden imposed on respondents due to the constraints on the number of attributes and levels that can be effectively included in a DCE. Although five attributes were included in this study, there remains a concern that this may not fully capture the complexity of consumer preferences. Additionally, the study focused on a single consumption context—purchasing a hamburger at the supermarket. Future research should aim to define and diversify the analysis context more clearly, potentially considering factors such as the type of dining experience or specific restaurant locations. This would allow for the collection of more precise information relevant to varied consumption scenarios.

For Study 2, the sample was unbalanced regarding the demographic profile of respondents, which may limit the generalizability of the findings. Future research should replicate this analysis using participants from non-Western cultures and compare different generational cohorts to enhance the broader applicability of the results. Moreover, the reliance on self-report questionnaires, which are common in past research, presents inherent weaknesses. Respondents may encounter difficulties when the provided answer options do not precisely align with their opinions or circumstances, potentially leading to biased or socially desirable responses. Additionally, the conceptual framework of Study 2 was limited to consumption variables related to neophobia, DIT, and TCV. Future research should consider incorporating personality traits such as disgust sensitivity, extroversion, and environmentalism, as these factors may also influence individuals' intentions to try cultured meat.

Finally, the cross-sectional nature of this research limits the ability to make causal claims. Future studies should incorporate longitudinal data to explore the mechanisms driving consumer intentions toward cultured meat deeply.

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## Tables

**Table 1.** Marginal utilities and other multinomial logit estimates (Study 1).

| | Whole Sample (n. = 414) | | | | Food Neophobia | | | | | | | | Food Technology Neophobia | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Non-Neophobics (n. = 305) | | | | Neophobics (n. = 109) | | | | Non-Neophobics (n. = 137) | | | | Neophobics (n. = 277) | | | |
| **Sustainability Index** | **Est** | **SE** | **Z** | **p.** | **Est** | **SE** | **Z** | **p.** | **Est** | **SE** | **Z** | **p.** | **Est** | **SE** | **Z** | **p.** | **Est** | **SE** | **Z** | **p.** |
| Low | | | | | | | | | | | *Reference category* | | | | | | | | | |
| Medium | 0.09 | 0.05 | 1.77 | 0.07 | 0.11 | 0.05 | 1.95 | 0.05 | 0.03 | 0.10 | 0.30 | 0.75 | 0.27 | 0.08 | 3.20 | <0.01 | -0.00 | 0.06 | -0.10 | 0.91 |
| High | 0.63 | 0.04 | 12.86 | <0.01 | 0.72 | 0.05 | 12.70 | <0.01 | 0.38 | 0.10 | 3.64 | <0.01 | 0.92 | 0.08 | 11.38 | <0.01 | 0.47 | 0.06 | 7.33 | <0.01 |
| **Colour** | | | | | | | | | | | | | | | | | | | | |
| Rose-coloured | | | | | | | | | | | *Reference category* | | | | | | | | | |
| Red | 0.51 | 0.04 | 10.49 | <0.01 | 0.49 | 0.05 | 8.75 | <0.01 | 0.60 | 0.10 | 5.98 | <0.01 | 0.41 | 0.08 | 5.15 | <0.01 | 0.61 | 0.06 | 9.63 | <0.01 |
| Oxblood red | 0.12 | 0.04 | 2.58 | <0.01 | 0.13 | 0.05 | 2.40 | <0.05 | 0.07 | 0.10 | 0.77 | 0.44 | 0.06 | 0.08 | 0.73 | 0.46 | 0.16 | 0.06 | 2.59 | <0.01 |
| **Meat Type** | | | | | | | | | | | | | | | | | | | | |
| Beef meat | | | | | | | | | | | *Reference category* | | | | | | | | | |
| Vegan-meat | -1.47 | 0.04 | -24.73 | <0.01 | -1.32 | 0.05 | -23.10 | <0.01 | -1.97 | 0.10 | -18.46 | <0.01 | -0.82 | 0.08 | -7.79 | <0.01 | -1.83 | 0.06 | 28.59 | <0.01 |
| Cultured-meat | -1.19 | 0.05 | -29.32 | <0.01 | -1.06 | 0.05 | -19.31 | <0.01 | -1.60 | 0.10 | -15.95 | <0.01 | -0.25 | 0.07 | -3.23 | <0.01 | -1.75 | 0.06 | 27.47 | <0.01 |
| **Origin** | | | | | | | | | | | | | | | | | | | | |
| Non-western countries | | | | | | | | | | | *Reference category* | | | | | | | | | |
| Western countries | 0.79 | 0.05 | 15.14 | <0.01 | 0.75 | 0.05 | 12.68 | <0.01 | 0.94 | 0.11 | 8.40 | <0.01 | 0.74 | 0.08 | 8.85 | <0.01 | 0.85 | 0.07 | 12.57 | <0.01 |
| Italy | 1.10 | 0.05 | 21.12 | <0.01 | 1.02 | 0.05 | 17.24 | <0.01 | 1.39 | 0.11 | 12.46 | <0.01 | 0.90 | 0.08 | 10.69 | <0.01 | 1.26 | 0.07 | 18.51 | <0.01 |
| **Price** | | | | | | | | | | | | | | | | | | | | |
| 10€/KG | | | | | | | | | | | *Reference category* | | | | | | | | | |
| 14€/KG | 0.14 | 0.04 | 3.00 | <0.01 | 0.13 | 0.05 | 2.37 | <0.05 | 0.20 | 0.10 | 1.96 | < 0.05 | 0.14 | 0.07 | 1.84 | 0.06 | 0.15 | 0.06 | 2.48 | <0.05 |
| 18€/KG | -0.02 | 0.05 | -0.46 | 0.64 | -0.06 | 0.05 | -1.10 | 0.27 | 0.12 | 0.10 | 1.21 | 0.22 | -0.29 | 0.08 | -3.61 | <0.01 | 0.14 | 0.06 | 2.21 | <0.05 |

**Table 2.** Study 2's hypotheses

| | Hypotheses | Literature | | Hypotheses | Literature | | Hypotheses | Literature |
|---|---|---|---|---|---|---|---|---|
| **H1:** | Food technology neophobia negatively relates to functional value. | Bryant et al., 2019; Perito et al., 2019; Wilks et al., 2019; Siegrist & Hartman, 2020; Zamparo et al., 2022; Baum et al., 2021; Heidmeier & Teuber, 2023; Krings et al., 2022 | **H8:** | Functional value positively relates to the intention to try cultured meat. | Verbeke et al., 2015; Wilks & Phillips, 2017; Mancini & Antonioli, 2019; | **H1a:** | Food technology neophobia has a negative indirect effect on the intention to try cultured meat via functional value. | Bryant et al., 2019; Perito et al., 2019; Wilks et al., 2019; Siegrist & Hartman, 2020; Zamparo et al., 2022; Baum et al., 2021; Heidmeier & Teuber, 2023; Krings et al., 2022 |
| **H2:** | Food technology neophobia negatively relates to emotional value. | | **H9:** | Emotional value positively relates to the intention to try cultured meat. | Mancini & Antonioli, 2019; Weinrich et al., 2020 | **H2a:** | Food technology neophobia has a negative indirect effect on the intention to try cultured meat via emotional value. | |
| **H3:** | Food technology neophobia negatively relates to social value. | | **H10:** | Social value positively relates to the intention to try cultured meat. | Bryant & Barnett, 2020; Kouarfaté & Durif, 2023 | **H3a:** | Food technology neophobia has a negative indirect effect on the intention to try cultured meat via social value. | |
| **H4:** | Food technology neophobia negatively relates to compatibility. | | **H11:** | Compatibility positively relates to the intention to try cultured meat. | Van Loo et al., 2020; Abebe et al., 2024; Wang et al., 2024 | **H4a:** | Food technology neophobia has a negative indirect effect on the intention to try cultured meat via compatibility. | |
| **H5:** | Food technology neophobia negatively relates to relative advantage. | | **H12:** | Relative advantage positively relates to the intention to try cultured meat. | Mancini & Antonioli, 2019; Palmieri et al., 2020 | **H5a:** | Food technology neophobia has a negative indirect effect on the intention to try cultured meat via advantage. | |
| **H6:** | Food technology neophobia negatively relates to complexity. | | **H13:** | Complexity positively relates to the intention to try cultured meat. | Siegrist et al., 2018; Siegrist & Hartmann, 2020; Heidmeier & Teuber, 2023 | **H6a:** | Food technology neophobia has a negative indirect effect on the intention to try cultured meat via complexity. | |
| **H7:** | Food technology neophobia negatively relates to observability. | | **H14:** | Observability positively relates to the intention to try cultured meat. | Kouarfaté & Durif, 2023; Wang et al., 2024 | **H7a:** | Food technology neophobia has a negative indirect effect on the intention to try cultured meat via observability. | |

**Table 3.** Measurement model: items and loadings (Study 2).

| Construct | Measurement items | λ |
|---|---|---|
| **Function Value** | | |
| | Cultured meat will be nutritious. | 0.72 |
| | Cultured meat will be healthy. | 0.75 |
| | Cultured meat will be a high-quality food. | 0.83 |
| **Emotional Value** | | |
| | Choosing cultured meat over conventional meat would make me feel like I am contributing to building a better world. | 0.86 |
| | Choosing cultured meat instead of conventional meat would make me feel like I have made a morally correct decision. | 0.89 |
| | Buying cultured meat instead of conventional meat would make me feel better. | 0.87 |
| **Social Value** | | |
| | I might gain others' admiration if I choose to consume cultured meat. | 0.68 |
| | Eating cultured meat would allow me to show others what I believe in. | 0.74 |
| | I would give others a positive image of myself by consuming cultured meat. | 0.80 |
| **Compatibility** | | |
| | Consuming cultured meat would fit perfectly with my lifestyle. | 0.87 |
| | Incorporating cultured meat into my diet would be consistent with my dietary needs. | 0.84 |
| | Cultured meat reflects my preferences in terms of food products. | 0.83 |
| **Relative Advantage** | | |
| | Opting for cultured meat would contribute to reducing environmental impact. | 0.72 |
| | Overall, I believe that consuming cultured meat offers significant benefits. | 0.87 |
| | I believe that cultured meat is the best alternative to conventional meat. | 0.75 |
| | Consuming cultured meat would contribute to improving animal welfare | 0.62 |
| **Complexity** | | |
| | If it were available, preparing dishes with cultured meat would be easy. | 0.87 |
| | In a few years, it will be easy to buy cultured meat. | 0.52 |
| | Cultured meat will be easy to cook. | 0.71 |
| **Observability** | | |
| | I would not have difficulty talking to others about the benefits of cultured meat. | 0.70 |
| | I can effectively communicate the benefits of consuming cultured meat to others. | 0.68 |
| | The benefits of cultured meat are evident. | 0.80 |
| **Food Technology Neophobia** | | |
| | There are already plenty of tasty foods; we don't need new food technologies to produce more. | 0.63 |
| | The benefits derived from new food technologies are often overrated. | 0.57 |
| | Food technologies damage the natural qualities of food. | 0.69 |
| | Society should not overly rely on technology to address food supply issues. | 0.66 |
| | Relying too much on high technology in food production processes could lead to significant risks. | 0.68 |
| **Intention** | | |
| | If it were available, I would buy cultured meat immediately. | 0.86 |
| | If it were available, I would eat cultured meat. | 0.88 |
| | I really want to try cultured meat. | 0.82 |

**Table 4.** Measurement model: AVE, CR, Correlations and HTMT values (Study 2).

| | α | CR | V_FNC | V_EMO | V_SOC | CMP | RV | CPX | OSB | FTN | INT |
|---|---|---|---|---|---|---|---|---|---|---|---|
| V_FNC | 0.81 | 0.81 | **0.59** | *0.72* | *0.58* | *0.81* | *0.78* | *0.74* | *0.81* | *0.65* | *0.81* |
| V_EMO | 0.90 | 0.90 | 0.71 | **0.76** | *0.82* | *0.82* | *0.81* | *0.62* | *0.88* | *0.48* | *0.76* |
| V_SOC | 0.78 | 0.79 | 0.58 | 0.81 | **0.56** | *0.69* | *0.58* | *0.47* | *0.71* | *0.31* | *0.60* |
| CMP | 0.88 | 0.89 | 0.80 | 0.81 | 0.69 | **0.72** | *0.82* | *0.75* | *0.89* | *0.52* | *0.89* |
| RV | 0.83 | 0.82 | 0.81 | 0.80 | 0.63 | 0.85 | 0.56 | *0.78* | *0.84* | *0.53* | *0.74* |
| CPX | 0.74 | 0.76 | 0.71 | 0.62 | 0.47 | 0.73 | 0.77 | **0.53** | *0.77* | *0.42* | *0.69* |
| OSB | 0.77 | 0.76 | 0.82 | 0.80 | 0.72 | 0.88 | 0.89 | 0.74 | **0.53** | *0.51* | *0.82* |
| FTN | 0.78 | 0.78 | -0.64 | -0.46 | -0.32 | -0.50 | -0.55 | -0.44 | -0.52 | **0.42** | *0.55* |
| INT | 0.89 | 0.88 | 0.80 | 0.75 | 0.60 | 0.89 | 0.78 | 0.68 | 0.81 | -0.54 | **0.73** |

**Note(s):** AVEs values on the diagonal are given in bold, and the inter-construct correlations are provided under the diagonal. HTMT correlations are provided above the diagonal and in *italics*.

**Table 5.** Measurement model: Discriminant validity following Rönkkö and Cho (Study 2).

| Correlation | Est. | CI lower | CI upper | χ2 Diff. | p. |
|---|---|---|---|---|---|
| ρ(FTN, INT) | -0.55 | -0.63 | -0.46 | 168.44 | <0.01 |
| ρ(FTN, FV) | -0.64 | -0.72 | -0.56 | 64.52 | <0.01 |
| ρ(FTN, EV) | -0.47 | -0.55 | -0.38 | 312.77 | <0.01 |
| ρ(FTN, SV) | -0.32 | -0.43 | -0.22 | 234.51 | <0.01 |
| ρ(FTN, CMP) | -0.50 | -0.59 | -0.41 | 255.28 | <0.01 |
| ρ(FTN, VR) | -0.55 | -0.64 | -0.46 | 121.76 | <0.01 |
| ρ(FTN, CPX) | -0.45 | -0.54 | -0.35 | 269.51 | <0.01 |
| ρ(FTN, OSB) | -0.52 | -0.62 | -0.42 | 108.28 | <0.01 |
| ρ(INT, FV) | 0.80 | 0.76 | 0.85 | 19.64 | <0.01 |
| ρ(INT, EV) | 0.75 | 0.70 | 0.80 | 64.19 | <0.01 |
| ρ(INT, SV) | 0.60 | 0.53 | 0.68 | 83.45 | <0.01 |
| ρ(INT, CMP) | 0.90 | 0.86 | 0.93 | 0.01 | 0.90 |
| ***If cut-off = 1*** | ***same*** | ***same*** | ***same*** | ***58.63*** | ***<0.01*** |
| ρ(INT, VR) | 0.79 | 0.73 | 0.84 | 29.66 | <0.01 |
| ρ(INT, CPX) | 0.68 | 0.61 | 0.75 | 93.30 | <0.01 |
| ρ(INT, OSB) | 0.82 | 0.77 | 0.87 | 13.37 | <0.01 |
| ρ(FV, EV) | 0.71 | 0.66 | 0.77 | 99.26 | <0.01 |
| ρ(FV, SV) | 0.59 | 0.51 | 0.67 | 73.40 | <0.01 |
| ρ(FV, CMP) | 0.80 | 0.75 | 0.85 | 24.48 | <0.01 |
| ρ(FV, VR) | 0.82 | 0.77 | 0.86 | 14.97 | <0.01 |
| ρ(FV, CPX) | 0.71 | 0.65 | 0.78 | 45.95 | <0.01 |
| ρ(FV, OSB) | 0.82 | 0.77 | 0.87 | 11.22 | <0.01 |
| ρ(EV, SV) | 0.81 | 0.75 | 0.88 | 8.84 | <0.01 |
| ρ(EV, CMP) | 0.81 | 0.77 | 0.86 | 27.26 | <0.01 |
| ρ(EV, VR) | 0.81 | 0.76 | 0.85 | 25.48 | <0.01 |
| ρ(EV, CPX) | 0.62 | 0.55 | 0.69 | 131.05 | <0.01 |
| ρ(EV, OSB) | 0.80 | 0.76 | 0.85 | 23.20 | <0.01 |
| ρ(SV, CMP) | 0.69 | 0.62 | 0.76 | 43.66 | <0.01 |
| ρ(SV, VR) | 0.64 | 0.56 | 0.71 | 72.68 | <0.01 |
| ρ(SV, CPX) | 0.47 | 0.39 | 0.56 | 158.14 | <0.01 |
| ρ(SV, OSB) | 0.73 | 0.66 | 0.80 | 26.20 | <0.01 |
| ρ(CMP, VR) | 0.85 | 0.80 | 0.89 | 6.24 | <0.01 |
| ρ(CMP, CPX) | 0.73 | 0.67 | 0.79 | 44.46 | <0.01 |
| ρ(CMP, OSB) | 0.88 | 0.84 | 0.93 | 0.77 | 0.38 |
| ***If cut-off = 1*** | ***same*** | ***same*** | ***same*** | ***39.12*** | ***<0.01*** |
| ρ(VR, CPX) | 0.77 | 0.71 | 0.83 | 24.57 | <0.01 |
| ρ(VR, OSB) | 0.90 | 0.85 | 0.94 | 0.02 | 0.88 |
| ***If cut-off = 1*** | ***same*** | ***same*** | ***same*** | ***31.06*** | ***<0.01*** |
| ρ(CPX, OSB) | 0.74 | 0.68 | 0.81 | 31.56 | <0.01 |

**Note(s):** The reported tests take the cut-off value for intra-construct correlations as 0.90 if not else specified. Those reported in the table are the 95 % confidence intervals.

**Table 6.** Path Models Estimates (Study 2).

| Direct Paths | Est | SE | CI Lower | CI Upper | H | Decision |
|---|---|---|---|---|---|---|
| FTN → V_FNC | -0.87 | 0.01 | -0.91 | -0.84 | H1 | Support |
| FTN → V_EMO | -0.85 | 0.01 | -0.89 | -0.82 | H2 | Support |
| FTN → V_SOC | -0.71 | 0.03 | -0.78 | -0.64 | H3 | Support |
| FTN → CMP | -0.91 | 0.01 | -0.95 | -0.88 | H4 | Support |
| FTN → RV | -0.93 | 0.01 | -0.95 | -0.90 | H5 | Support |
| FTN → CPX | -0.78 | 0.03 | -0.83 | -0.72 | H6 | Support |
| FTN → OSB | -0.94 | 0.01 | -0.97 | 0.91 | H7 | Support |
| V_FNC → INT | 0.20 | 0.06 | 0.08 | 0.33 | H8 | Support |
| V_EMO → INT | 0.13 | 0.06 | -0.02 | 0.22 | H9 | Reject |
| V_SOC → INT | -0.04 | 0.04 | -0.14 | 0.04 | H10 | Reject |
| CMP → INT | 0.65 | 0.08 | 0.49 | 0.82 | H11 | Support |
| RV → INT | -0.04 | 0.09 | -0.23 | 0.14 | H12 | Reject |
| CPX → INT | -0.02 | 0.04 | -0.11 | 0.06 | H13 | Reject |
| OSB → INT | 0.05 | 0.12 | -0.18 | 0.29 | H14 | Reject |
| Indirect Paths | | | | | | |
| FTN → V_FNC → INT | -0.18 | 0.05 | -0.29 | -0.07 | H1a | Support |
| FTN → V_EMO → INT | -0.08 | 0.05 | -0.19 | 0.01 | H2a | Reject |
| FTN → V_SOC → INT | 0.03 | 0.03 | -0.03 | 0.10 | H3a | Reject |
| FTN → CMP → INT | -0.60 | 0.08 | -0.76 | -0.44 | H4a | Support |
| FTN → RV → INT | 0.04 | 0.09 | -0.13 | 0.21 | H5a | Reject |
| FTN → CPX → INT | 0.02 | 0.03 | -0.48 | 0.09 | H6a | Reject |
| FTN → OSB → INT | -0.05 | 0.10 | -0.27 | 0.17 | H7a | Reject |
| Covariates | | | | | | |
| Female | -0.02 | 0.02 | -0.07 | 0.01 | - | - |
| Age ≤ 25 | 0.05 | 0.04 | -0.03 | 0.13 | - | - |
| Age 26-40 | 0.00 | 0.03 | -0.06 | 0.06 | - | - |
| Age 41-60 | -0.00 | 0.03 | -0.07 | 0.07 | - | - |
| Omnivorous | 0.04 | 0.02 | 0.06 | 0.08 | - | - |
| Food Neophobia | -0.11 | 0.02 | -0.17 | -0.06 | - | - |

**Table 7.** Latent mean comparison (Study 2).

| | (TECH) Non-Neophobics (n. = 191) | | | | Neophobics (n. = 453) | | | | Comparison | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Construct** | **Mean** | **CI Lower** | **CI Upper** | **SD** | **Mean** | **CI Lower** | **CI Upper** | **SD** | **Diff.** | **CI Lower** | **CI Upper** |
| V_FNC | 5.07 | 4.88 | 5.25 | 1.14 | 3.81 | 3.69 | 3.94 | 1.14 | 1.25 | 1.02 | 1.48 |
| V_EMO | 4.92 | 4.67 | 5.16 | 1.60 | 3.81 | 3.64 | 3.97 | 1.64 | 1.11 | 0.81 | 1.40 |
| V_SOC | 3.55 | 3.33 | 3.76 | 1.23 | 2.92 | 2.78 | 3.06 | 1.25 | 0.62 | 0.36 | 0.85 |
| CMP | 4.56 | 4.32 | 4.80 | 1.48 | 3.43 | 3.28 | 3.58 | 1.46 | 1.12 | 0.85 | 1.41 |
| RV | 5.51 | 5.31 | 5.70 | 1.22 | 4.45 | 4.32 | 4.58 | 1.19 | 1.06 | 0.82 | 1.30 |
| CPX | 5.05 | 4.86 | 5.23 | 1.03 | 4.26 | 4.14 | 4.37 | 0.98 | 0.79 | 0.57 | 1.00 |
| OSB | 4.60 | 4.38 | 4.82 | 1.24 | 3.61 | 3.48 | 3.74 | 1.18 | 0.99 | 0.73 | 1.24 |
| INT | 4.95 | 4.71 | 5.18 | 1.54 | 3.69 | 3.53 | 3.85 | 1.53 | 1.26 | 0.96 | 1.54 |

**Note(s).** We used effect coding identification to estimate the latent means to obtain a nonarbitrary metric that reflects the metric of the measured indicators (Little et al., 2006). Those reported in the table are the 95 % confidence intervals. Bootstrapping (5000 samples) was used to compute the differences between latent means. To perform this analysis, we conducted a multi-group CFA analysis, dividing the sample using the food technology neophobia scale. Three steps were followed to ensure measurement model invariance: configural, metric, and scalar invariance, tested according to the recommendations of Hair et al. (2018). The overall invariance analysis suggested equality of factorial structure, loadings, and intercepts between the two samples (More detail in Appendix A1).

**FIGURES**

**Figure 1.** Choice card example (Study 1)

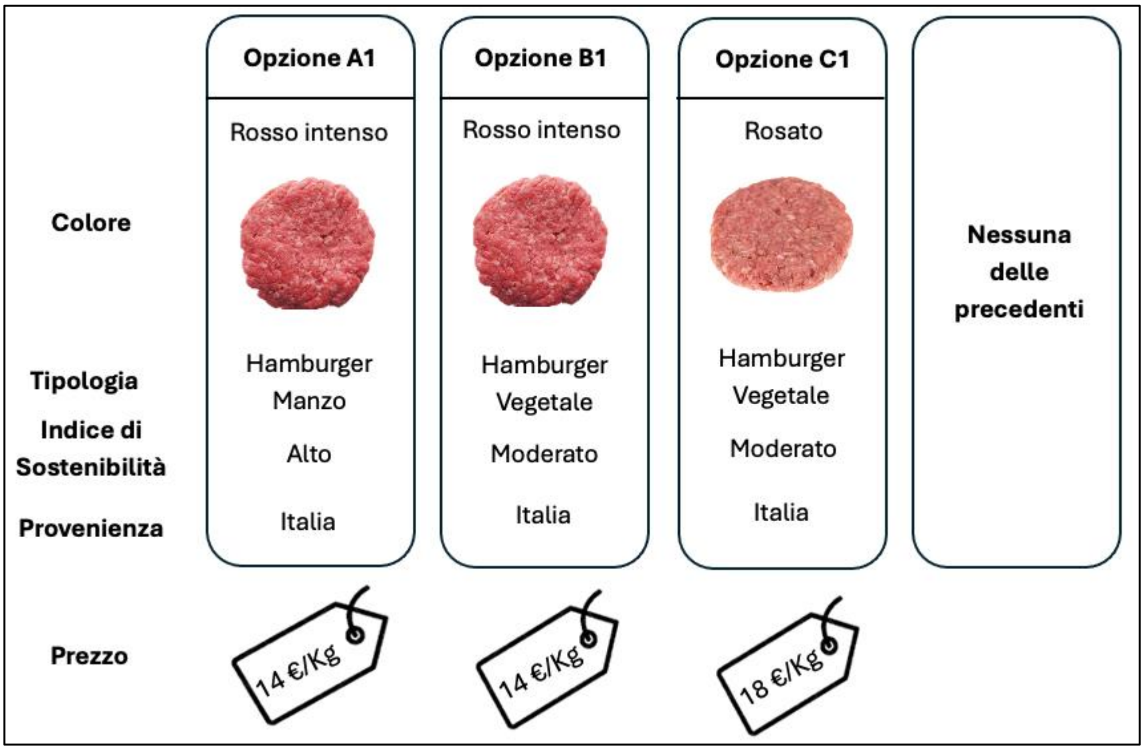
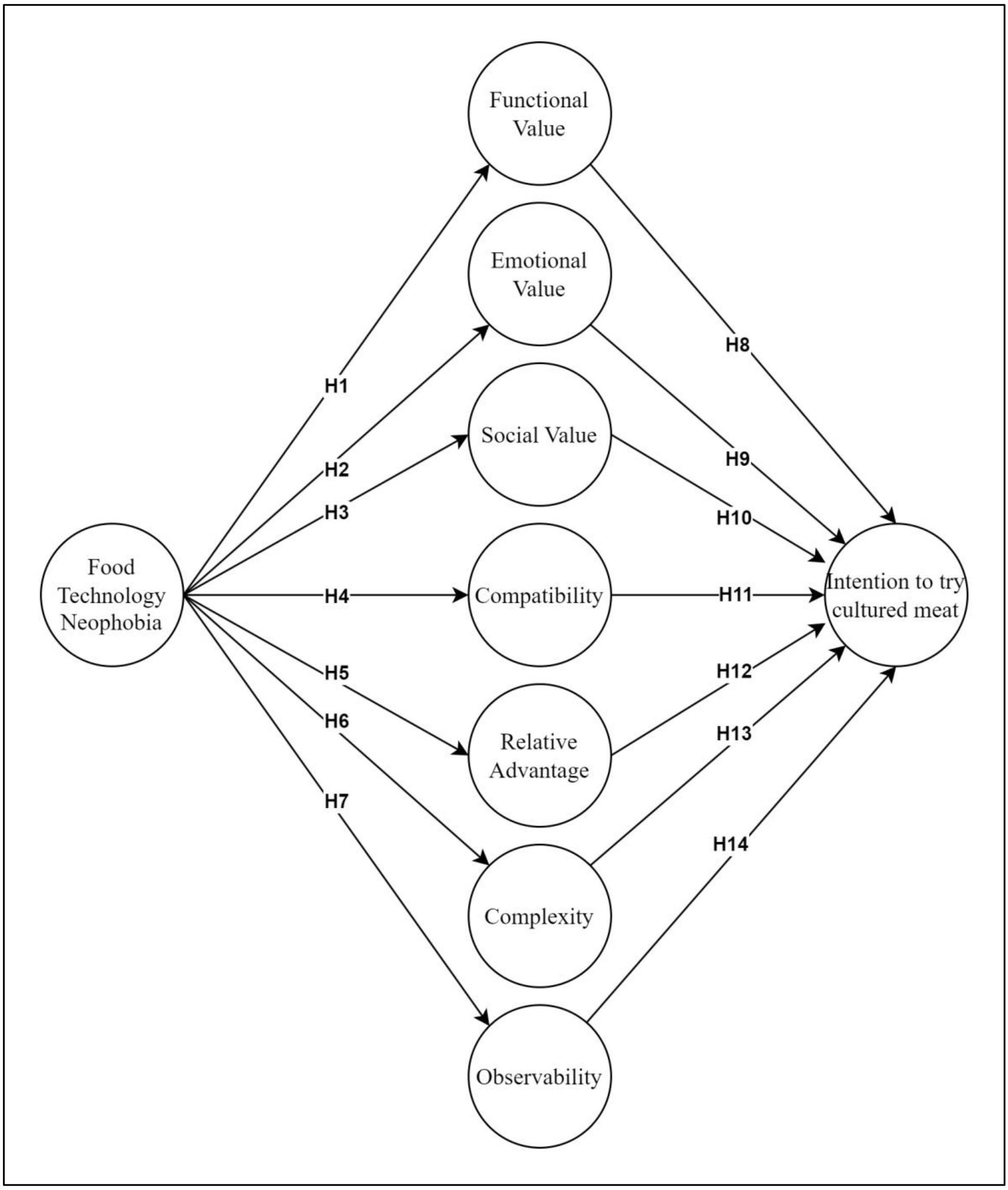


**Figure 2.** Theoretical Model (Study 2)



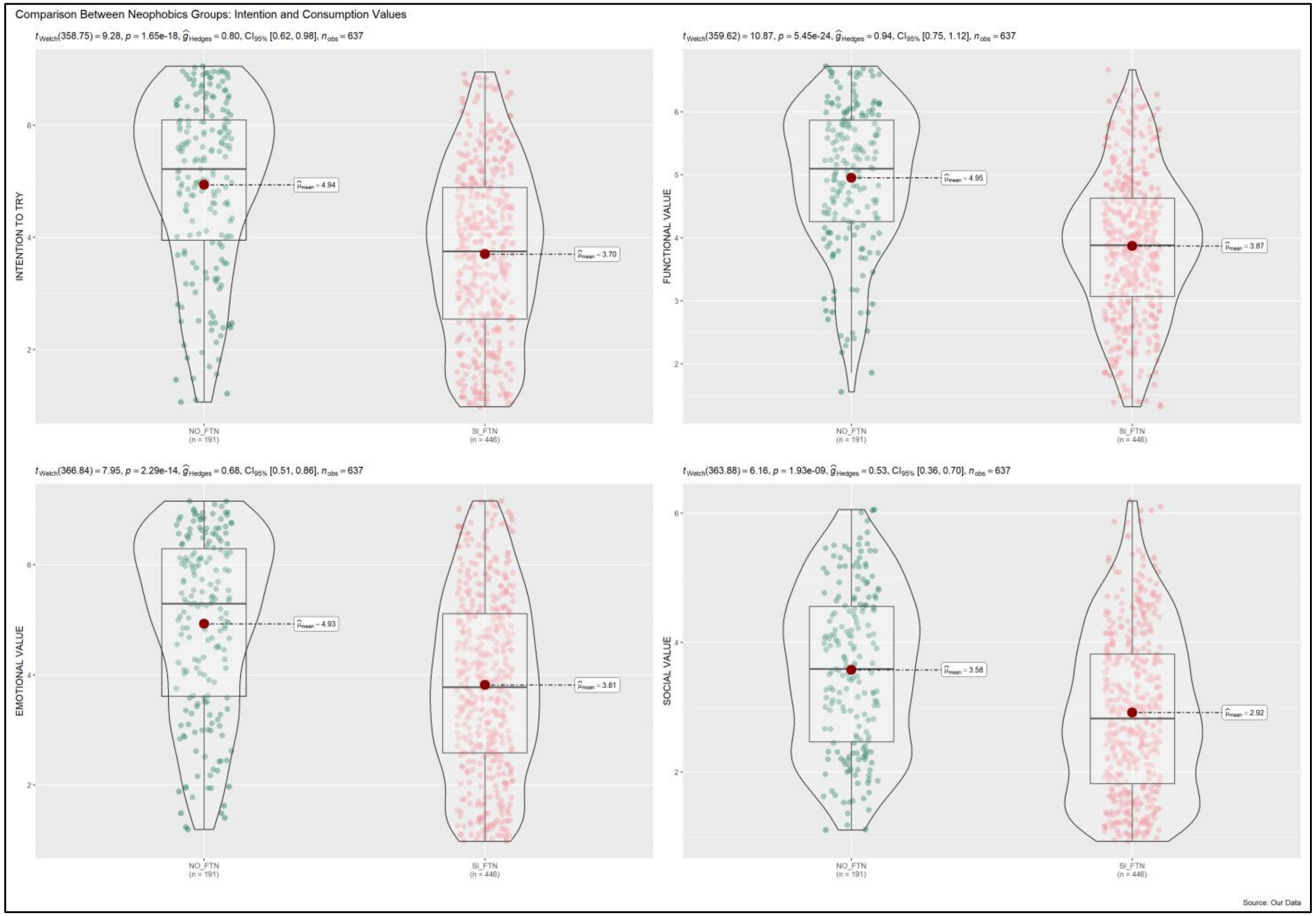
## APPENDIX

**A1.** Testing invariance across groups (Study 2).

| Food Technology Neophobia (Non-Neophobics = 191; Neophobics n. = 446) | | | | | | |
|---|---|---|---|---|---|---|
| Model | **scaled χ2** | **df** | **RSMEA** | **CFI** | **SRMR** | |
| Configural invariance | 980.21 | 494 | 0.056 | 0.933 | 0.043 | |
| Metric invariance (Loadings) | 1001.89 | 511 | 0.055 | 0.935 | 0.049 | |
| Scalar invariance (Intercepts) | 1028.81 | 528 | 0.055 | 0.936 | 0.049 | |
| \|Differences\| in fit indexes at different constraint levels | | | | | | |
| | **scaled χ2 difference** | **df** | **p.** | **RSMEA** | **CFI** | **SRMR** |
| Configural vs Metric | 20.52 | 17 | 0.24 | 0.001 | 0.002 | 0.006 |
| Metric vs Scalar | 26.50 | 17 | 0.06 | 0.000 | 0.001 | 0.001 |

**Note(s).** The chi-square test is a scaled difference chi-squared test presented in Satorra (2000). For metric invariance, a change of > 0.01 in CFI, supplemented by a change of > 0.015 in RMSEA, or a change of > 0.03 indicates non-invariance. For scalar invariance, a change of > 0.01 in CFI, supplemented by a change of > 0.015 in RMSEA or a change of > 0.01, indicates non-invariance (Chen, 2007).

**A2:** Latent Mean Comparison Graphical Representation (Intention And Theory Of Consumption Values).



**A3:** Latent Mean Comparison Graphical Representation (Diffusion of Innovation).