

A Work Project, presented as part of the requirements for the Award of a Master's degree in
Management from the Nova School of Business and Economics

CONSUMER ACCEPTANCE OF CULTIVATED MEAT: PSYCHOLOGICAL DRIVERS
OF WILLINGNESS TO TRY AND PAY FOR CULTIVATED MEAT

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Abstract

This study aims to explore how personality profiles affect consumer willingness to try and to pay for cultivated meat. Based on an online survey of 234 answers, the results indicate that more open-minded personality traits tend to show higher acceptance and more willingness to pay for cultivated meat while anxious and depressed people tend to have ambiguous reactions of strongly accept or strongly reject. The willingness to experience is higher if validation comes from nutritionists/environmentalists or government/regulatory agencies rather than from media. Lastly, the motivations towards cultivated meat are more frequent for health reasons when compared with environmental concerns.

Keywords

cultivated meat, consumers acceptance, psychological profiles, comfortability, sustainability

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Table of Contents

1. Introduction	4
2. Literature Review	5
Problem Being Solved (H1;H2;H3;H4)	
3. Methodology	9
3.1 Measures/Indicators	10
3.2 Data Collection	11
3.3 Data Analysis	11
4. Results	12
4.1 Data Preparation	12
4.2 Sample Characterization	12
4.3 Measures characterization	13
4.4 Relation of psychological profiles and willing to try cultivated meat	16
4.5 Relation of psychological profiles and willing to pay for cultivated meat	19
4.6 Comfortability for trying cultivated meat	21
4.7 Motivations for trying cultivated meat	22
4.8 Further results	24
5. Conclusions	26
5.1 Limitations	27
References	28
Appendix	31
Survey Questions	41

1. Introduction

“Greenhouse gas emissions associated with food production account for about 30% of all global emissions” (Crippa et al., 2021; Instituto Universitário Egas Moniz. 2022; Poore & Nemecek, 2018). The significant impact of the livestock industry on the climate contributes about “14.5% of all emissions” (Gerber et al., 2013; Instituto Universitário Egas Moniz. 2022). Considering beef and cattle milk production, they account 41 and 20 percent of the emissions from the industry sector (Gerber et al., 2013). Whilst pig meat has a greater impact contributing to 9% compared to poultry meat and eggs contributing to 8 % to the emissions (Gerber et al., 2013). Rising emission levels and percentages over time will be the result of this strong predicted manufacturing growth (Gerber et al., 2013). Nearby 56% to 58% of emissions are the combination “production of meat, milk, eggs and aquaculture by using 83% of agricultural land worldwide”. (Instituto Universitário Egas Moniz. 2022; Poore & Nemecek, 2018).

Creating a sustainable food model by at the same time providing healthy options to a constantly enlarging population will be crucial and challenging. Without changing any actions, the effects to the environment may increase by 50% to 90% until 2050. These levels are going to be extremely harmful for the planet, creating an unsafe space for humanity, going beyond the planetary boundaries. (Springmann et al., 2018). Plus, even if we restrict the fuel fossil emissions, the food system will cause a global warming from 1.5°C to 2°C (Clark et al. 2020).

“According to the Intergovernmental Panel on Climate Change (IPCC), generating meat from plants or creating it from animal cells may be essential in addressing climate change” (IPCC 2022). Consequently, alternative protein sources like cultivated meat, an extremely promising technic, in which animal stem-cells reproduce through food engineering, may grant good-

quality protein with reduced environmental impact. Nevertheless, there are still insecurities regarding people's acceptance and perception of cultivated meat.

2. Literature Review

Cultured or cell-based meat is characterized by cultivating animal cells through a modernized biotechnological process. This method proposes to be nutritionally interchangeable. Cultivated meat (CM) pretends to attract citizens in their five senses, especially sight, taste and smell, that are crucial in the marketplace. (Sinke et al. 2023).

There are already more than one hundred companies around the world that want to bring CM to market (Sinke et al. 2023), however in December 2020, CM was regulatorily approved by the Singapore Food Agency. After this approval, they started to sell to the public in a restaurant in Singapore (Bryant & Sanctorum, 2021).

While many consumers want to try cultivated meat (Bryant et al., 2020); (Wilks & Phillips, 2017), some people are apprehensive around food safety issues, as well as the sensory appeal of cultivated meat and its price (Valente et al., 2019; Lupton & Turner, 2018)

Even if it is crucial to collect information about personality traits into consumer's choices, there are few studies that explore the effect of personal factors on consumer behaviour for cultivated meat. (Soto & John 2017)

“Agreeableness, extraversion, conscientiousness, negative emotionality and open mindedness” are the main personality domains and were a tool to investigate consumer attitudes toward new and unfamiliar food and consumer food choices. (Soto & John 2017)

Extraversion is characterized by the constant search for social connections and interactions, the willingness to share social situations and the constant excitement. The three selected facets chosen in their study were sociability, assertiveness and energy level to define a profile. (Soto

& John 2017) Agreeableness relates to the active emotional concern for others' well-being. Plus, considering other's preferences and rights while managing confrontational and violent impulses. Therefore, this profile reflects trust, respectfulness and compassion. (Soto & John 2017)

Conscientiousness links to citizens with a preference for structure and order in their lives, plus values of persistence and work ethics. The commitment of responsibility and reliability are present in this trait. So, organization, productiveness and responsibility are the chosen facets to a third profile. (Soto & John 2017)

Negative emotionality represents the low levels of energy based on emotions of sadness, fear or irritation. Therefore, anxiety, depression and emotional volatility were the three facets chosen to build the fourth profile. (Soto & John 2017) Lastly, open mindedness people prefer imagination, surrounded by creativity, originality and enjoyment of thinking. Intellectual interests and the constant search for something new and unique is part of their meaning for life. With this said, the three facets chosen to the last profile were intellectual curiosity, creative imagination and aesthetic sensitivity. (Soto & John.2017)

There were already results in 2017, claiming that openness and extraversion are associated with greater plant-food consumption, plus to a lesser extend also conscientiousness consumers. (Conner et al.2017)

A test was done to know whether personality traits affect consumers choices for cultured meat products by using a hypothetical choice experiment. (Shaosheng et al. 2025)

Open-mindedness was associated with higher consumer acceptance of genetically modified pork in China, Italy and the United States. However, conscientiousness was negatively related to consumer acceptance to willingness to try in the US and Italy but is not at all related in China. (Shaosheng et al. 2025)

After this review on literature, if this study shows that individuals with specific personality attributes, as openminded, affects the willingness to try, it will help the understanding of consumer's behaviour.

H1: Consumers with higher levels of openness to new experiences are more likely to be willing to try cultivated meat

Since it is a product that is only sold in Singapore, citizens are not familiar with it yet, raising "cognitive bias" and resulting in consumers expressing a "lower willingness to pay for cultured meat". (Shaosheng et al. 2025).

Conscientiousness and agreeableness pronounced disadvantageous impact on willingness to pay. Relating openness and willingness to pay, the result is barely advantageous, "but not significant at the level of 5%" (Shaosheng et al. 2025).

Conscientious citizens tend to be more cautious and conservative, preferring traditional practices, and since cultured meat is a novel product, it might make them less disposed to adopt innovative food processing methods, leading to a lower acceptance of cultured meat (Shaosheng et al. 2025).

H2: Personality traits affect willingness to pay for cultivated meat.

There is an association between consumer awareness and perception of agri-food technologies, with consumer scepticism towards new food production techniques (food neophobia) being associated with a scarcity of information about this technology and its advantages. On the other hand, understanding levels of familiarity are often the first step towards accepting a new technology, even if they don't stimulate a positive attitude, they induce curiosity and inclination (Santos, 2023).

Opinions of some personalities on the farmed meat industry were collected (Table 6). They are part of companies such as Eat Just (USA); Aleph Farms (Israel); Mosa Meat (Netherlands), Ohayo Valley (USA); Cellular Agriculture France (France); Upside Foods (USA), or non-profit organisations as for example, the Good Food Institute (USA) and New Harvest (USA) (Santos, 2023).

According to Bill Gates, he doesn't believe that 80 poorest countries in the world will be able to eat synthetic meat in the future. However, the richest countries can change and should to 100% synthetic meat. Therefore, it is necessary government policies to force a change in this direction (Santos, 2023).

Moreover, the founder & CEO of Good Food Institute, Bruce Friedrich, claimed that alternative proteins reduce antimicrobial resistance, biodiversity loss, the risk of pandemics, among other environmental, social and ethical problems (Santos, 2023).

In addition, Leonardo Di Caprio, joined a team as an advisor and investor in the agricultural meat sector, showing that to fight the climate crisis, everyone should change their eating habits (Santos, 2023).

Consumers are likely to have their expectations based on information from mass media or from comparisons with more familiar technologies and products, due to limited product experience. (Verbeke et al. 2015)

H3: What makes consumers more comfortable by trying cultivated meat?

Rising concerns regarding animal welfare, sustainable meat production and the consciousness of GHG emissions from livestock farming are increasing consumer interest in more sustainable meat alternatives, such as cultivated meat. (Santos, 2023)

The potential advantages of cellular agriculture include removing the need for animals or plants, which in turn reduces negative externalities contributing “to climate disruption and environmental deterioration”, the risk of antibiotic resistance and zoonotic diseases, and animal welfare issues. (Sinke, 2023)

Health and safety concerns are addressed in the cultured meat industry by highlighting its ability to enhance food safety. In this industry it is possible to minimize the risk of zoonotic diseases and reduce antibiotic usage by removing dirty or sick animals from the production process, thereby turning a potential drawback (food safety) into a significant benefit. (Bryant & Barnett, 2020)

According to findings, the current system is not sustainable in a long-term view. It is important to reduce the environmental and public health dangers and understand the motivations of why people are more likely to opt for an alternative meat consumption and production. (Bryant & Barnett, 2020). Questions arise on the two types of motivations by consumers.

H4a): Consumers motivated by personal health reasons are more likely to show interest in cultivated meat compared to those who are not motivated by health concerns.

H4b) Consumers motivated by sustainable claims are more likely to show interest in cultivated meat compared to those who are not.

3. Methodology

The next part will present the overall methodology implemented in this study to answer the research hypothesis which were previously indicated. An overview of the research methods through measures and indicators will be introduced, with a detailed view of the survey in appendix. Afterwards, data collection procedure used to gather the primary data collected.

At a final point, data analysis provides entire data structure and its organization in order to provide convenient and significant observations and insights.

3.1 Measures/Indicators

With the objective of measuring respondents' perceptions regarding cultivated meat, a survey was created, mostly based on Santos, 2023 and the last part on Soto & John, 2017, for the psychological evaluation.

This survey has six sections. Section A is directed towards initial perception of meat consumption and has ten items, four of them are in a seven points Likert scale and the remaining are dichotomic (Yes/No); Section B are committed to willing to try cultivated meat and has two items, both in a seven points Likert scale; Section C is the willing to pay for cultivated meat and has only one quantitative item corresponding to the percentage that someone is predisposed to pay more for cultivated meat; Section D is related with items about organizations approval that make consumer more comfortable for a potential use of cultivated meat, and has 3 items (endorsement by trusted figures, media, government) in a seven points Likert scale and a last item, also in a seven point Likert scale, about being in accordance that cultivated meat is a solution to sustainability; Section E has five psychological items defining different personality types (Soto & John, 2017), Profile 1 – Extraversion (sociability, assertiveness and energy level), Profile 2 – Agreeableness (compassion, respectfulness and trust), Profile 3 - Conscientiousness (organization, productiveness and responsibility), Profile 4 – Negative emotionality (anxiety, emotional volatility and depression) and Profile 5 – Open-Mindedness people (intellectual curiosity, creative imagination and aesthetic sensitivity), all scored in a seven point Likert scale and two claims that the participants must choose one of them, both or none; the last Section F is dedicated to sociodemographic.

For a closer view of the survey see Appendix.

3.2 Data Collection

As previously stated, the present study had as the purpose of finding factors that influence the willingness to try or to pay for cultivated meat combined with the study of how individual personality profiles led consumers to opt for cultivated meat and characterize if it was due to health or environment motivations.

A primary data collection method, an online survey, was selected for collecting data relevant for the research problem between the 3rd until 15th November 2024. This questionnaire was developed using Qualtrics Platform and shared through social media such as WhatsApp and Instagram. This online survey is a non-probabilistic method of sampling and the main reasons for choosing a convenience sampling were the easiness and the speediness of obtaining the data.

3.3 Data Analysis

After importing the excel file into SPSS version 29.0 for statistical analysis, data preparation involved initial steps of cleaning and coding the dataset, leading to subsequent data processing and analysis. The survey sample was characterized through demographic using frequency tables presenting counting and percentual frequency for qualitative (nominal) items and with mean and standard deviation for interval or metric items.

Since Q7 has values in a seven points Likert scale, it could be treated as an interval variable, however normality distribution did not fit, and so for the analysis of H1/H2, besides a Spearman's correlation coefficient study between Q7/Q9 and the psychological items, a set of Kruskal-Wallis non-parametric tests were performed to compare the values of willingness to try/to pay for cultivated meat in the categories of the psychological profiles. In the case of rejecting the null hypothesis of equality, pairwise comparisons were made to identify differences between categories of those psychological profiles.

For hypothesis 3 the Spearman correlation coefficient was again used to analyse the association between acceptance of cultivated meat and the three types of endorsement: nutritionists/environmentalists; media; government/regulatory agencies.

To answer hypothesis 4a) and 4b) a similar technique used in hypothesis 1 and 2 was completed.

In the further results section, the willingness to try cultivated meat was related with the sociodemographic gender, age, education level, income level and dietary preferences, and nonparametric tests were computed, namely Mann-Whitney test for comparing gender and Kruskal-Wallis for the remaining. In all tests 1% and 5% significance levels were used.

4. Results

This chapter pretends to explain and analyse the data obtained from the online survey, according to the methodology demonstrated earlier.

4.1 Data preparation

The online survey gathered 306 answers, 64 for those did not complete it and 6 was under 18 years old, so it remained 234 valid cases.

4.2 Sample characterization

From the 234 valid answers, 39,3% are male and 60,7% female; the majority 98,3% came from Portugal and were high educated people, since most frequently have a master's degree (49,6%) or a bachelor's degree (33,3%) with income level between 10,000 to 24,999 (36,8%) or 25,000 to 39,999 (32,1%). The minimum observed age is 18 and the maximum 69, with mean 33,10 years old with variability around 13,8 (see Appendix 1).

4.3 Measures characterization

Table 1 shows the distribution of the initial perception of meat consumption. 21,8% of the participants eat red meat 2 or 3 times a week and 20,1% 5 to 6 times a week; 29,9% eat white meat 2 or 3 times a week; 27,4% rarely eat processed meat. Fish meat is most frequently consumed 2 to 3 times a week by 37,6%.

Table 2 presents how much participants want to reduce or stop meat consumption to help environment or for health reasons. The majority of 53,4% want to reduce meat consumption to help environment and 78,6% for health reasons.

Table 3 displays that 58,5% never heard about cultivated meat, but 24,4% are willing to try if it became accessible in supermarkets or restaurants, although in general participants are only available to pay on average 20,71% more for it with variability of 20,59%.

Table 1. Distribution of initial perception of meat consumption

Items	Values	Frequency (%)
Frequency of red meat consumption	Never	8 (3,4%)
	Rarely	16 (6,8%)
	Occasionally	33 (14,1%)
	Sometimes	51 (21,8%)
	Frequently	43 (18,4%)
	Usually	47 (20,1%)
	Always	36 (15,4%)
Frequency of white meat consumption	Never	7 (3,0%)
	Rarely	6 (2,6%)
	Occasionally	20 (8,5%)
	Sometimes	70 (29,9%)
	Frequently	62 (26,5%)
	Usually	57 (24,4%)
	Always	12 (5,1%)
Frequency of processed meat consumption	Never	29 (12,4%)
	Rarely	64 (27,4%)
	Occasionally	51 (21,8%)
	Sometimes	41 (17,5%)
	Frequently	25 (10,7%)
	Usually	17 (7,3%)
	Always	7 (3,0%)
Frequency of fish consumption	Never	7 (3,0%)

Rarely	19 (8,1%)
Occasionally	46 (19,7%)
Sometimes	88 (37,6%)
Frequently	30 (12,8%)
Usually	24 (10,3%)
Always	20 (8,5%)

Table 2. Distribution of willing to reduce meat consumption

Items	Values	Frequency (%)
Reduce – to help environment	Yes	125 (53,4%)
	No	101 (43,2%)
	Don't consume	8 (3,4%)
Reduce – for personal health	Yes	184 (78,6%)
	No	42 (18,0%)
	Don't consume	8 (3,4%)

Table 3. Distribution of knowing and willing to try cultivated meat

Items	Values	Frequency (%)
Heard about	Yes	97 (41,5%)
	No	137 (58,5%)
Willing to try	Not at all interested	35 (15,0%)
	Slightly interested	29 (12,4%)
	Somewhat interested	27 (11,5%)
	Neutral	23 (9,8%)
	Interested	57 (24,4%)
	Very interested	27 (11,5%)
	Extremely interested	36 (15,4%)

Table 4 exhibits what type of endorsement makes people more comfortable to the idea of eating cultivated meat. 27,8% are extremely comfortable to eat cultivated meat if it is endorsed by nutritionist or environmentalists or by government or regulatory agencies, while 32,1% are neutral towards media endorsement.

Table 5 shows the psychological distribution of this sample participants. The majority of 71,8% find themselves social, assertive and with good energy level (somewhat agree, agree or strongly agree); 79,5% compassionate, respectful and trusty (somewhat agree, agree or strongly agree);

79,1% organized, productive and responsible (somewhat agree, agree or strongly agree); 76,1% intellectual curious, aesthetic sensitive and creative (somewhat agree, agree or strongly agree); 66,3% not anxious, depressed or emotionally volatile (strongly disagree, disagree and somewhat disagree).

Table 4. Distribution of endorsement's type to make people more comfortable eating cultivated meat

Items	Values	Frequency (%)
Nutritionists, Environmentalists	Not at all comfortable	19 (8,1%)
	Slightly comfortable	22 (9,4%)
	Somewhat comfortable	17 (7,3%)
	Neutral	19 (8,1%)
	Moderately comfortable	43 (18,4%)
	Very comfortable	49 (20,9%)
	Extremely comfortable	65 (27,8%)
Media	Not at all comfortable	56 (23,9%)
	Slightly comfortable	27 (11,5%)
	Somewhat comfortable	31 (13,2%)
	Neutral	75 (32,1%)
	Moderately comfortable	32 (13,7%)
	Very comfortable	9 (3,8%)
	Extremely comfortable	4 (1,7%)
Government, Regulatory agencies	Not at all comfortable	31 (13,2%)
	Slightly comfortable	11 (4,7%)
	Somewhat comfortable	23 (9,8%)
	Neutral	23 (9,8%)
	Moderately comfortable	44 (18,8%)
	Very comfortable	37 (15,8%)
	Extremely comfortable	65 (27,8%)

Table 5. Psychological distribution of participants

Items	Values	Frequency (%)
Sociability, assertiveness and energy level	Strongly disagree	14 (6,0%)
	Disagree	4 (1,7%)
	Somewhat disagree	18 (7,7%)
	Neither agree nor disagree	30 (12,8%)
	Somewhat agree	73 (31,2%)
	Agree	66 (28,2%)
	Strongly agree	29 (12,4%)
Compassion, respectfulness and trust	Strongly disagree	7 (3,0%)
	Disagree	6 (2,6%)

	Somewhat disagree	13 (5,6%)
	Neither agree nor disagree	22 (9,4%)
	Somewhat agree	46 (19,7%)
	Agree	91 (38,9%)
	Strongly agree	49 (20,9%)
Organization, productiveness and responsibility	Strongly disagree	10 (4,3%)
	Disagree	7 (3,0%)
	Somewhat disagree	12 (5,1%)
	Neither agree nor disagree	20 (8,5%)
	Somewhat agree	58 (24,8%)
	Agree	80 (34,2%)
	Strongly agree	47 (20,1%)
Anxiety, depression and emotional volatility	Strongly disagree	90 (38,5%)
	Disagree	24 (10,3%)
	Somewhat disagree	41 (17,5%)
	Neither agree nor disagree	21 (9,0%)
	Somewhat agree	38 (16,2%)
	Agree	13 (5,6%)
	Strongly agree	7 (3,0%)
Intellectual curiosity, aesthetic sensitivity and creativity	Strongly disagree	10 (4,3%)
	Disagree	4 (1,7%)
	Somewhat disagree	10 (4,3%)
	Neither agree nor disagree	32 (13,7%)
	Somewhat agree	59 (25,2%)
	Agree	51 (21,8%)
	Strongly agree	68 (29,1%)

4.4 Relation of psychological profiles and willing to try cultivated meat

To start the validation of H1: Consumers with higher levels of openness to new experiences have a higher probability to be willing to try cultivated meat, the spearman's correlation coefficient was computed to verify the significant relations among psychological items and the willingness to try cultivated meat. The results are presented in Table 6.

A significant positive relationship between willingness to try cultivated meat and profiles 1, 3 and 5 is detected, and a significant negative relation with profile 4 was observed by Table 6. Any relation was observed with profile 2.

However, to identify which were the categories of the psychological profiles more related with willing to try cultivated meat, and since normality did not hold, five Kruskal-Wallis non-

parametric tests were performed comparing the values of willingness to try cultivated meat in the categories of the five psychological profiles. Results are presented in Table 7. Only in profiles 4 and 5 statistically significant differences among categories were observed. The participants that strongly agree to being anxious, depressed and emotionally volatile has barely the same acceptance towards cultivated meat that those who strongly disagree of having this profile (Figure 1, Appendix 2). The substantial differences arose in the open-minded profile (profile 5) where the more intellectual, curious and creative (strongly agree) participants had the highest values of acceptance (Figure 2, Appendix 2), then **H1 is verified**.

Table 6. Spearman's correlations between willingness to try cultivated meat and each psychological profile

Profiles	Spearman's coefficient	p-value
Sociability, assertiveness and energy level (profile 1)	0,132*	0,044
Compassion, respectfulness and trust (profile 2)	-0,028	0,675
Organization, productiveness and responsibility (profile 3)	0,130*	0,047
Anxiety, depression and emotional volatility (profile 4)	-0,224**	<0,001
Intellectual curiosity, aesthetic sensitivity and creative imagination (profile 5)	0,440**	<0,001

*Correlation is significant at 5% level

** Correlation is significant at 1% level

Table 7. Comparisons of willingness to try cultivated meat by the categories of psychological profiles

Psychological Profiles	Values	Mean	SD	Test Statistic (p-value)
Sociability, assertiveness and energy level (profile 1)	Strongly disagree	4,57	2,56	11,357 (0,078)
	Disagree	3,25	2,06	
	Somewhat disagree	3,33	1,97	
	Neutral	3,33	1,60	
	Somewhat agree	4,26	1,88	
	Agree	4,42	1,94	
Anxiety, depression and emotional volatility (profile 4)	Strongly agree	4,31	2,41	6,163
	Strongly disagree	4,43	2,94	
	Disagree	3,33	2,58	
Organization, productiveness and responsibility (profile 3)	Somewhat disagree	5,23	2,09	6,163
	Disagree	3,33	2,58	

Compassion, respectfulness and trust (profile 2)	Neutral	4,18	1,89	(0,405)
	Somewhat agree	3,93	2,03	
	Agree	4,03	1,87	
	Strongly agree	4,20	2,08	
Organization, productiveness and responsibility (profile 3)	Strongly disagree	4,30	2,50	7,925 (0,244)
	Disagree	3,71	2,29	
	Somewhat disagree	4,25	2,01	
	Neutral	3,40	1,64	
	Somewhat agree	3,91	1,88	
	Agree	4,15	1,89	
Anxiety, depression and emotional volatility (profile 4)	Strongly disagree	4,79	2,15	20,633 (0,002)
	Disagree	3,63	1,74	
	Somewhat disagree	3,68	1,74	
	Neutral	3,57	2,09	
	Somewhat agree	3,74	1,73	
	Agree	3,46	1,81	
Intellectual curiosity, aesthetic sensitivity and creative imagination (profile 5)	Disagree	3,00	2,21	53,898 (<0,001)
	Somewhat disagree	3,25	1,26	
	Neutral	3,80	1,93	
	Somewhat agree	3,03	1,66	
	Agree	3,59	1,66	
	Strongly agree	3,92	1,85	
	Disagree	5,51	1,89	

Figure 1. Boxplot of willingness to try cultivated meat by categories of Profile 4

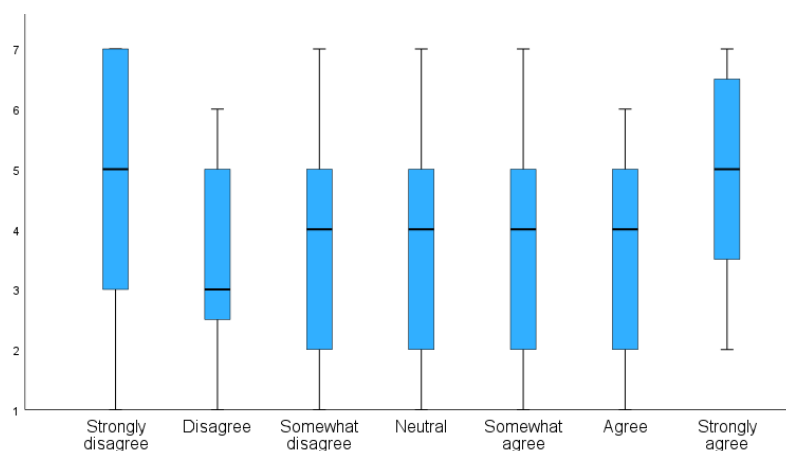
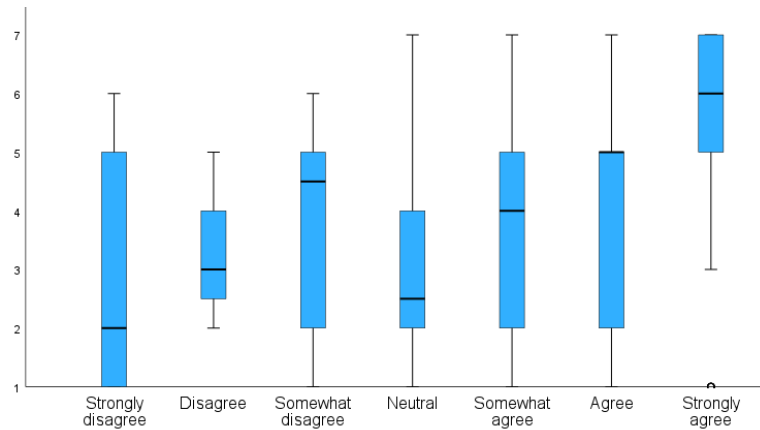


Figure 2. Boxplot of willingness to try cultivated meat by categories of Profile 5



4.5 Relation of psychological profiles and willing to pay for cultivated meat

To start now the validation of H2: Personality traits affect willingness to pay for cultivated meat, Spearman’s correlation coefficient was computed, and the results are presented in Table 8. In profile 5 a direct relation between the variables was observed, revealing that open-minded people (profile 5) are more willing to pay for cultivated meat. Associations with the remaining profiles were not registered.

To identify which categories of the psychological profiles were related with willing to pay, and since normality did not hold, five Kruskal-Wallis non-parametric tests were performed comparing the values of willingness to pay for cultivated meat in the categories of the five psychological profiles. Results are presented in Table 9. Following Table 9, statistically significant differences were found among categories of profile 5. By posterior comparisons it can be said that those differences relay between the categories of agreement with the categories of disagreement (Appendix 3), being the strongly agree those who pay more for cultivated meat (Figure 3), so **H2 is verified** for openness consumers.

Table 8. Spearman’s correlations between willingness to pay for cultivated meat and each psychological profile

Profiles	Spearman’s coefficient	p-value
Sociability, assertiveness and energy level (profile 1)	-0,032	0,631

Compassion, respectfulness and trust (profile 2)	-0,105	0,110
Organization, productiveness and responsibility (profile 3)	0,015	0,825
Anxiety, depression and emotional volatility (profile 4)	0,007	0,915
Intellectual curiosity, aesthetic sensitivity and creative imagination (profile 5)	0,300**	<0,001

*Correlation is significant at 5% level

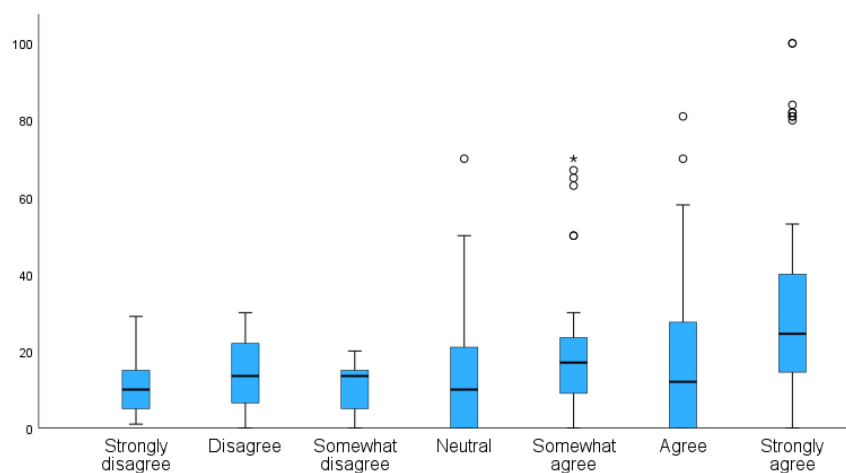
** Correlation is significant at 1% level

Table 9. Comparisons of willingness to pay for cultivated meat by the categories of psychological profiles

Psychological Profiles	Values	Mean	SD	Test Statistic (p-value)
Sociability, assertiveness and energy level (profile 1)	Strongly disagree	43,00	32,29	9,976 (0,126)
	Disagree	8,50	7,68	
	Somewhat disagree	14,89	10,29	
	Neutral	17,70	17,45	
	Somewhat agree	20,32	19,44	
	Agree	20,55	21,21	
	Strongly agree	19,69	18,39	
Compassion, respectfulness and trust (profile 2)	Strongly disagree	32,57	34,71	7,548 (0,273)
	Disagree	19,00	14,20	
	Somewhat disagree	30,15	19,49	
	Neutral	19,55	14,79	
	Somewhat agree	18,39	18,30	
	Agree	21,70	21,69	
	Strongly agree	17,55	20,89	
Organization, productiveness and responsibility (profile 3)	Strongly disagree	33,00	30,05	9,409 (0,152)
	Disagree	22,29	18,20	
	Somewhat disagree	21,50	17,55	
	Neutral	9,30	5,67	
	Somewhat agree	20,86	18,99	
	Agree	21,39	22,33	
	Strongly agree	21,15	21,11	
Anxiety, depression and emotional volatility (profile 4)	Strongly disagree	22,52	22,45	7,841 (0,250)
	Disagree	13,46	14,21	
	Somewhat disagree	20,24	17,07	
	Neutral	14,95	18,11	
	Somewhat agree	22,21	22,49	

	Agree	22,62	20,89	
	Strongly agree	30,43	25,97	
Intellectual curiosity, aesthetic sensitivity and creative imagination (profile 5)	Disagree	11,70	8,41	26,919 ($<0,001$)
	Somewhat disagree	14,25	12,28	
	Neutral	10,70	6,83	
	Somewhat agree	14,59	16,68	
	Agree	18,44	17,31	
	Strongly agree	17,78	19,72	
	Disagree	30,91	24,67	

Figure 3. Boxplot of willingness to pay for cultivated meat by categories of Profile 5



4.6 Comfortability for trying cultivated meat

To investigate the type of endorsement that makes consumers comfortable to try cultivated meat (H3: What makes consumers more comfortable to try cultivated meat?) among nutritionists/environmentalist, media or government/regulatory agencies, the Spearman correlation coefficient and its significance were again used. Results are given in Table 10. Since all results showed direct relations, it means higher levels of comfortability that are associated with higher values of interest and vice-versa.

Therefore, the outcomes pointed out that participants are more comfortable to try cultivated meat when it is endorsed by nutritionists/environmentalists ($r=0,664$) then by government/regulatory agencies ($r=0,644$). The most unreliable are the media ($r=0,475$).

Table 10. Spearman’s correlations between willingness to try cultivated meat and endorsement

Type of endorsement	Spearman Coefficient	p-value
nutritionists/environmentalist	0,664	<0,001
media	0,475	<0,001
government/regulatory agencies	0,644	<0,001

4.7 Motivations for trying cultivated meat

To analyse hypothesis H4a): Consumers motivated by personal health reasons are more likely to show interest in cultivated meat compared to those who are not motivated by health concerns.

Considering once more as dependent variable the item “Would you be willing to try cultivated meat if it became available in supermarkets or restaurants?”, it was compared in the two categories of the item “Are you willing to reduce your meat consumption for personal health reasons” and in the two categories of the item “Are you willing to reduce your meat consumption to help environment”, and, after excluding those who answered that do not eat meat, 227 cases were analysed. Since normality failed for modelling the values of the dependent variable (Appendix 4), those comparisons were performed by Mann-Whitney U non-parametric test. In both cases the null hypothesis H_0 is the equality of the willingness to try between the two categories against the alternative H_1 that they differ. Results are presented in Table 11.

The null hypothesis of equality is rejected for health reasons, and not rejected when environmental reasons are in place. Observing Table 11, it could be said that participants are more likely to try cultivated meat for health reasons (average of yes is 4,46), rather than environmental reasons (average of yes is 4,28). So **H4a) is verified**.

Table 11. Mann-Whitney U test comparing acceptance of cultivated meat by health and environment desire to stop eating meat

		Mean	SD	Test Statistic	p-value
Health reasons	No	3,00	1,85	4,301	<0,001
	Yes	4,46	1,93		
Environmental reasons	No	4,06	2,14	0,718	0,473
	Yes	4,28	1,88		

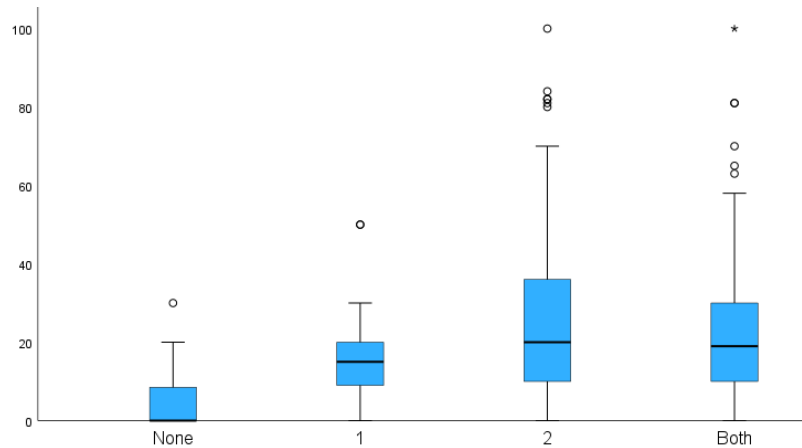
For deciding what were the motivations for trying cultivated meat based in the two sustainable claims (H4b): Consumers motivated by sustainable claims are more likely to show interest in cultivated meat compared to those who are not), Kruskal-Wallis non-parametric test was computed, with results presented in Table 12.

Table 12. Kruskal-Wallis test for comparing sustainable claims choice in the values of cultivated meat acceptance

Claims choices	F (%)	Mean (M)	Standard Deviation (SD)	Test Statistic	p-value
None	36 (15,4%)	1,83	1,28	48,781	<0,001
Claim 1 (environment)	32 (13,7%)	3,97	1,77		
Claim 2 (heath)	94 (40,2%)	4,74	1,92		
Both	72 (30,8%)	4,53	1,72		

Observing Table 12 it can be noted that the highest acceptance is for claim 2, aligned with health reasons (M=4,74, SD=1,92), followed by both health and environmental motivations (M=4,53, SD=1,72). After testing the null hypothesis of equality of cultivated meat acceptance in the four choices, it can be concluded that at least one of them differ from the remaining. Performing posteriori comparisons, actually the choice “None” is the one that differs from all the others (Figure 4, Appendix 5). So **H4b) is verified.**

Figure 4. Boxplot of willingness to try cultivated meat by choices of sustainable claims



4.8 Further results

It is of interest to relate the willingness to try cultivated meat with the sociodemographic gender, age, education level, income level and dietary preferences. For that purpose, nonparametric tests were computed, Spearman's correlation coefficient for age, Mann-Whitney test for comparing gender and Kruskal-Wallis for the remaining. Results are presented in Table 13.

No statistically significant differences were found between genders and among dietary preferences towards acceptance of cultivated meat. Although in dietary preferences vegan are the less interested in trying cultivated meat, as expected. Significant differences showed in education level and income level. Through Figures 5 and 6 it can be expected that master's degree participants are the most open to try cultivated meat, being those with basic education the less; Incomes between 25,000 to 39,999 and over 40,000 are more willing to try cultivated meat. Moreover, age did not seem to be related with acceptance ($r = -0,111$, $p\text{-value} = 0,089$).

Table 13. Nonparametric tests results of accepting cultivated meat by sociodemographic

	Values	Mean (M)	Standard Deviation (SD)	Test Statistic	p-value
Gender	Male	3,92	2,07	1,228	0,220
	Female	4,25	1,97		

Education level	Basic	3,00	3,46	22,766	<0,001
	Secondary	3,51	1,71		
	Bachelor	3,58	1,73		
	Master	4,72	2,09		
Income level	Prefer not to say	3,75	1,82	16,229	0,003
	Under 10,000	3,33	1,92		
	10,000 to 24,999	4,03	1,93		
	25,000 to 39,999	4,79	2,08		
	At least 40,000	3,60	1,88		
Dietary preferences	Omnivore	4,18	2,02	5,029	0,284
	Vegetarian	3,83	2,48		
	Vegan	1,50	0,71		
	Pescatarian	3,45	1,57		
	Flexitarian	4,36	1,96		

Figure 5. Boxplot of willingness to try cultivated meat by education level

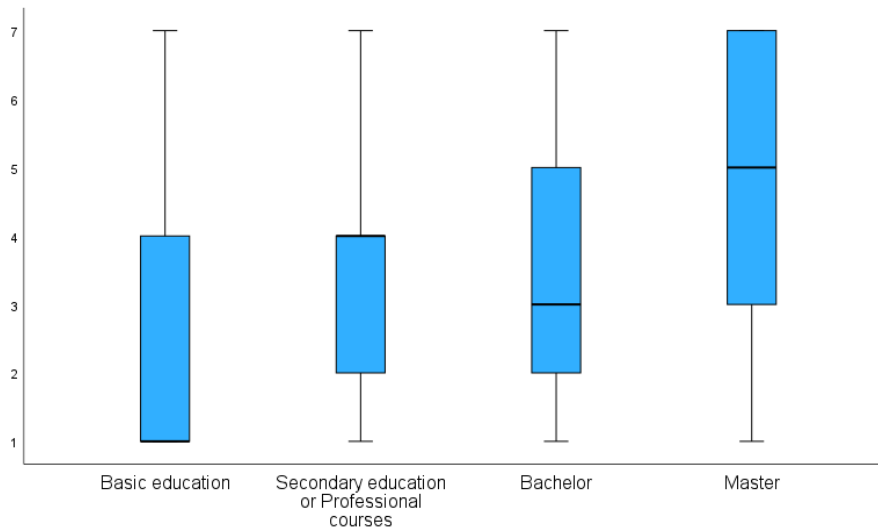
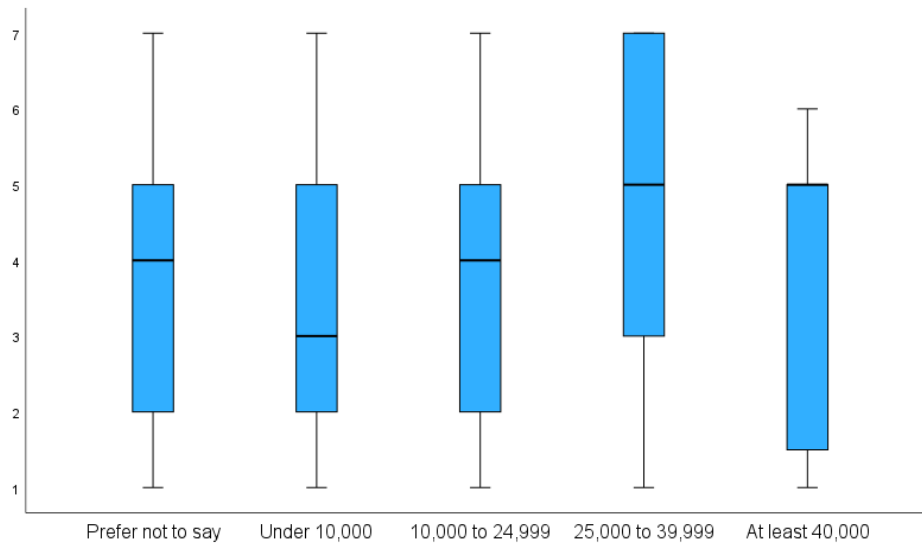


Figure 6. Boxplot of willingness to try cultivated meat by income level



5 CONCLUSIONS

The main purpose of this study is to identify the psychological drivers and motivations influencing consumers decisions to try or to pay for cultivated meat. An online survey was run on WhatsApp and Instagram to achieve data and afterwards the data analysis was made through SPSS 29.0.

Open-minded consumers, which handle purchasing decisions with more flexibility and without preconceived ideas, pictured in this study by the profile of more intellectual, curious and creative people (profile 5), seemed to be more open to try and pay for cultivated meat. In the study of Leung et al. (2023) they refer some research that found a direct relationship between wellness and a healthy diet, since higher levels of wellness may be more concerned towards animals, which can lead to a greater acceptance of cultivated meat. Furthermore, a usual concern with cultivated meat is the safety and the long run consequences of eating an unnatural product, nevertheless consumers feel more comfortable if this is validated by nutritionists/environmentalist or government/regulatory agencies. In the Bryant & Barnett (2020) study it is referred that consumers distrust food companies and food labelling, but when it is controlled by government or regulatory agencies, they are more likely to try cultivated meat. Besides, health motivations lead people to change their nutritional habits and have more

acceptance of cultivated meat, rather than for environmental reasons. As referred in Pakseresht et al. (2022) some studies related health reasons as a factor to try cultivated meat.

Additionally, no significant differences were found between gender, age and dietary preferences towards cultivated meat. However, education level and income seem to have an effect in acceptance. Higher education levels and higher income levels are more likely to accept trying cultivated meat, perhaps because cultivated meat is more costly than the traditional.

5.1 Limitations

Since most of the participants (58,5%) were not familiar with cultivated meat, those may tend to give lower scores for trying the product, which could conduct to biased results.

Still, the survey participants were selected by convenience, which outcomes in a non-probabilistic sample, being the biggest bias the education level, since 82,9% of them had a bachelor's or a master's degree.

In addition, due to time limitations, the sample size was not comfortably large.

In future studies it would be preferable to get a probabilistic sample, with a large dimension. If this kind of study is implemented in different countries by continent, it should be interesting to verify if the acceptance of cultivated meat depends on religion or culture.

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Appendix

Appendix 1. Sociodemographic

Gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	92	39,3	39,3	39,3
	Female	142	60,7	60,7	100,0
	Total	234	100,0	100,0	

Country

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Italy	2	,9	,9	,9
	Other ()	2	,9	,9	1,7
	Portugal	230	98,3	98,3	100,0
	Total	234	100,0	100,0	

Education level

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Basic education	3	1,3	1,3	1,3
	Secondary education or Professional courses	37	15,8	15,8	17,1
	Bachelor	78	33,3	33,3	50,4
	Master	116	49,6	49,6	100,0
	Total	234	100,0	100,0	

Income level

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Prefer not to say	28	12,0	12,0	12,0
	Under 10,000	30	12,8	12,8	24,8
	10,000 to 24,999	86	36,8	36,8	61,5

25,000 to 39,999	75	32,1	32,1	93,6
At least 40,000	15	6,4	6,4	100,0
Total	234	100,0	100,0	

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Age	234	18	69	33,10	13,830
Valid N (listwise)	234				

Appendix 2. Normality tests of willingness to try cultivated meat and Kruskal-Wallis tests comparing willingness to try cultivated meat by psychological profiles

Tests of Normality (willingness to try cultivated meat)

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Would you be willing to try cultivated meat if it became available in supermarkets or restaurants?	,181	234	<,001	,909	234	<,001

a. Lilliefors Significance Correction

Kruskal-Wallis Test Summary for independent samples (Profile 1)

Total N	234
Test Statistic	11,357 ^a
Degree Of Freedom	6
Asymptotic Sig.(2-sided test)	,078

a. The test statistic is adjusted for ties.

Kruskal-Wallis Test Summary for independent samples (Profile 2)

Total N	234
Test Statistic	6,163 ^a
Degree Of Freedom	6
Asymptotic Sig.(2-sided test)	,405

a. The test statistic is adjusted for ties.

Kruskal-Wallis Test Summary for independent samples (Profile 3)

Total N	234
Test Statistic	7,925 ^a
Degree Of Freedom	6
Asymptotic Sig.(2-sided test)	,244

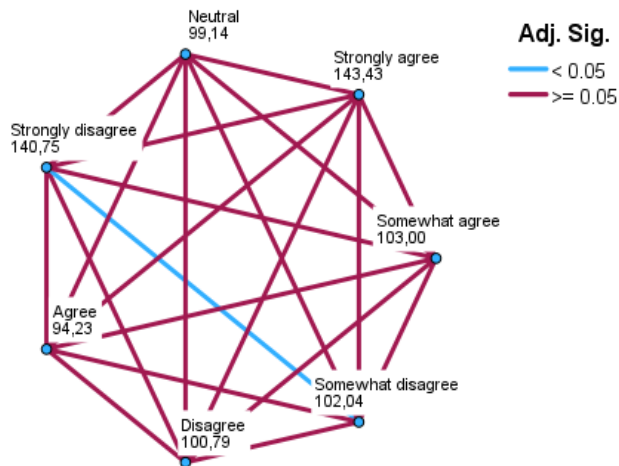
a. The test statistic is adjusted for ties.

Kruskal-Wallis Test Summary for independent samples (Profile 4)

Total N	234
Test Statistic	20,633 ^a
Degree Of Freedom	6
Asymptotic Sig.(2-sided test)	,002

a. The test statistic is adjusted for ties.

Posteriori comparisons of willingness to try cultivated meat among categories of profile 4

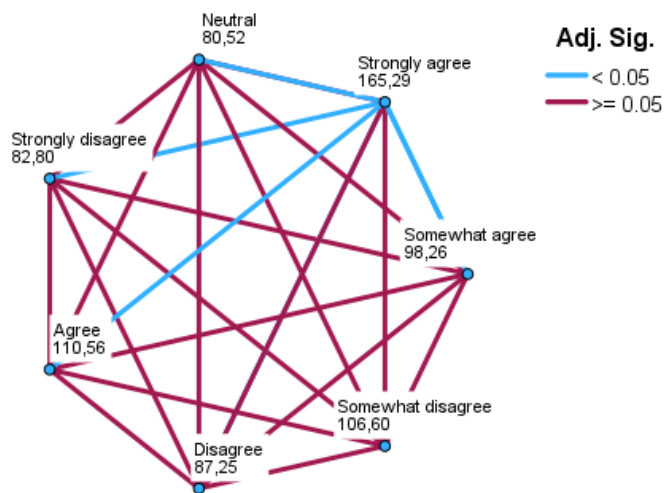


Kruskal-Wallis Test Summary for independent samples (Profile 5)

Total N	234
Test Statistic	53,898 ^a
Degree Of Freedom	6
Asymptotic Sig.(2-sided test)	<,001

a. The test statistic is adjusted for ties.

A posteriori comparisons of willingness to try cultivated meat among categories of profile 5



Appendix 3. Normality tests of willingness to pay for cultivated meat and Kruskal-Wallis tests comparing willingness to pay for cultivated meat by psychological profiles

Tests of Normality (willingness to pay for cultivated meat)

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
How much more would you be willing to pay for cultivated meat compared to conventional	,185	234	<,001	,838	234	<,001

a. Lilliefors Significance Correction

Kruskal-Wallis Test Summary for independent samples (Profile 1)

Total N	234
Test Statistic	9,976 ^a
Degree Of Freedom	6
Asymptotic Sig.(2-sided test)	,126

a. The test statistic is adjusted for ties.

Kruskal-Wallis Test Summary for independent samples (Profile 2)

Total N	234
Test Statistic	7,548 ^a
Degree Of Freedom	6
Asymptotic Sig.(2-sided test)	,273

a. The test statistic is adjusted for ties.

Kruskal-Wallis Test Summary for independent samples (Profile 3)

Total N	234
Test Statistic	9,409 ^a
Degree Of Freedom	6
Asymptotic Sig.(2-sided test)	,152

a. The test statistic is adjusted for ties.

Kruskal-Wallis Test Summary for independent samples (Profile 4)

Total N	234
Test Statistic	7,841 ^a
Degree Of Freedom	6
Asymptotic Sig.(2-sided test)	,250

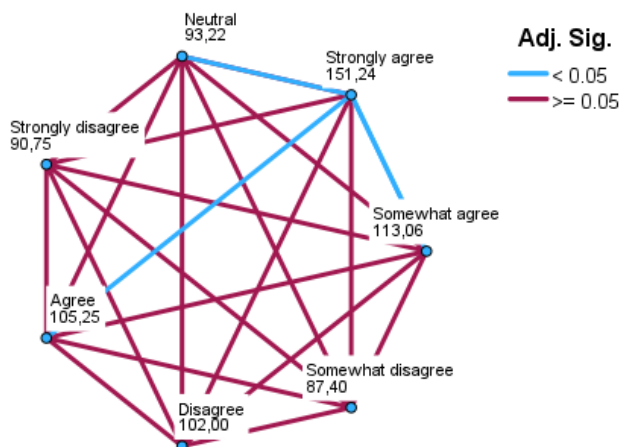
a. The test statistic is adjusted for ties.

Kruskal-Wallis Test Summary for independent samples (Profile 5)

Total N	234
Test Statistic	26,919 ^a
Degree Of Freedom	6
Asymptotic Sig.(2-sided test)	<,001

a. The test statistic is adjusted for ties.

A posteriori comparisons of willingness to pay for cultivated meat among categories of profile 5



Each node shows the sample average rank of profile 5

Appendix 4. Inference in H4a) hypothesis

Tests of Normality

Are you willing to reduce your meat consumption for personal health	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Would you be willing to try cultivated meat if it became available in supermarkets or restaurants?						
No	,240	43	<,001	,875	43	<,001
Yes	,198	184	<,001	,909	184	<,001

a. Lilliefors Significance Correction

Tests of Normality

Are you willing to reduce your meat consumption to help environment	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Would you be willing to try cultivated meat if it became available in supermarkets or restaurants?						
No	,155	102	<,001	,895	102	<,001
Yes	,209	125	<,001	,916	125	<,001

a. Lilliefors Significance Correction

Descriptives

Are you willing to reduce your meat consumption for personal health		N	Mean	Std. Deviation
Would you be willing to try cultivated meat if it became available in supermarkets or restaurants?	No	43	3,00	1,85
	Yes	184	4,46	1,93

Are you willing to reduce your meat consumption to help environment		N	Mean	Std. Deviation
Would you be willing to try cultivated meat if it became available in supermarkets or restaurants?	No	102	4,06	2,14
	Yes	125	4,28	1,88

Mann-Whitney U Test Summary for independent samples (health reasons)

Total N	227
Mann-Whitney U	5600,000
Wilcoxon W	22620,000
Test Statistic	5600,000
Standard Error	382,193
Standardized Test Statistic	4,301
Asymptotic Sig.(2-sided test)	<,001

Mann-Whitney U Test Summary for independent samples (environment reasons)

Total N	227
Mann-Whitney U	6658,500
Wilcoxon W	14533,500
Test Statistic	6658,500
Standard Error	481,666
Standardized Test Statistic	,718
Asymptotic Sig.(2-sided test)	,473

Appendix 5. Inference in H4b) hypothesis

Tests of Normality

	Based on the two claims, which one makes you more interested into cultivated meat?	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
Would you be willing to try cultivated meat if it became available in supermarkets or restaurants?	None	,299	36	<,001	,692	36	<,001
	1	,251	32	<,001	,907	32	,009
	2	,202	94	<,001	,891	94	<,001
	Both	,164	72	<,001	,933	72	<,001

a. Lilliefors Significance Correction

Descriptives

Would you be willing to try cultivated meat if it became available in supermarkets or restaurants?

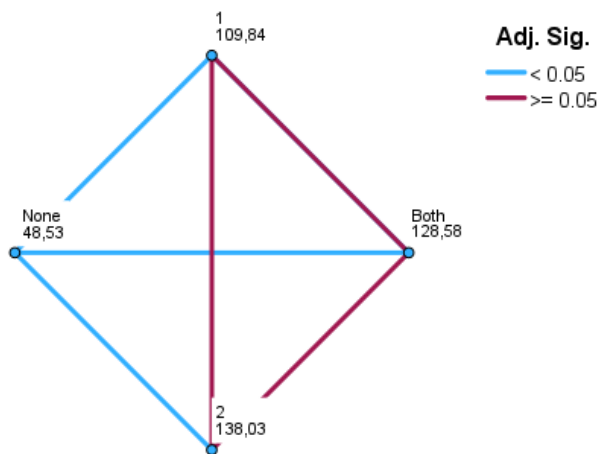
	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
None	36	1,83	1,28	,213	1,40	2,27	1	6
1	32	3,97	1,77	,313	3,33	4,61	1	7
2	94	4,74	1,92	,198	4,35	5,14	1	7
Both	72	4,53	1,72	,203	4,12	4,93	1	7
Total	234	4,12	2,01	,132	3,86	4,38	1	7

Kruskal-Wallis Test Summary for independent samples

Total N	234
Test Statistic	48,781 ^a
Degree Of Freedom	3
Asymptotic Sig.(2-sided test)	<,001

a. The test statistic is adjusted for ties.

A posteriori comparisons of willingness to try cultivated meat among categories of sustainable claims



Each node shows the sample average rank of profile 5

Appendix 6. Inference in further results

Gender

Mann-Whitney U Test Summary for independent samples

Total N	234
Mann-Whitney U	7144,500
Wilcoxon W	17297,500
Test Statistic	7144,500
Standard Error	498,838
Standardized Test Statistic	1,228
Asymptotic Sig.(2-sided test)	,220

Education level

Kruskal-Wallis Test Summary for independent samples

Total N	234
Test Statistic	22,766 ^a
Degree Of Freedom	3
Asymptotic Sig.(2-sided test)	<,001

a. The test statistic is adjusted for ties.

Income level

Kruskal-Wallis Test Summary for independent samples

Total N	234
Test Statistic	16,229 ^a
Degree Of Freedom	4
Asymptotic Sig.(2-sided test)	,003

a. The test statistic is adjusted for ties.

Dietary preferences

Kruskal-Wallis Test Summary for independent samples

Total N	234
Test Statistic	5,029 ^a
Degree Of Freedom	4

Asymptotic Sig.(2-sided test) ,284

a. The test statistic is adjusted for ties.

SURVEY:

Hello everyone !

My group and I are making a research project for our Master's thesis at Nova School of Business and Economics.

Thank you in advance for taking part in our anonymous questionnaire, which will require about 5-7 minutes to complete. **Your honest opinion is extremely valuable and will contribute significantly to our research.**

Please note that this questionnaire is intended for people with **more than 18 years old.**

Thank you in advance for your availability and co-operation! Your participation is very important to us.

Q1: Are you over 18 years old ?

Yes

No

SECTION A: Q2: INITIAL PERCEPTION OF MEAT CONSUMPTION

Q2.1Frequency of red meat consumption

1.Never

2.Rarely (1 to 3 x per month)

3.Ocasionally (1 x per week)

4.Sometimes (2 to 3 x per week)

5.Frequently (4 x per week)

6.Usually (5 to 6 x per week)

7.Always (1 x per day)

Q2.2Frequency of white meat consumption

1.Never

2.Rarely (1 to 3 x per month)

3.Ocasionally (1 x per week)

4.Sometimes (2 to 3 x per week)

5.Frequently (4 x per week)

6.Usually (5 to 6 x per week)

7.Always (1 x per day)

Q2.3Frequency of processed meat consumption

1.Never

2.Rarely (1 to 3 x per month)

3.Ocasionally (1 x per week)

4.Sometimes (2 to 3 x per week)

5.Frequently (4 x per week)

6.Usually (5 to 6 x per week)

7.Always (1 x per day)

Q2.4Frequency of fish consumption

1.Never

2.Rarely (1 to 3 x per month)

3.Ocasionally (1 x per week)

4.Sometimes (2 to 3 x per week)

5.Frequently (4 x per week)

6.Usually (5 to 6 x per week)

7.Always (1 x per day)

Q3.Are you willing to reduce your meat consumption ...

Q3.1To help the environment?

Yes

No

I don't consume meat

Q3.2For your personal health?

Yes

No

I don't consume meat

Q4. Are you willing to stop your meat consumption ...

Q4.1To help the environment ?

Yes

No

I don't consume meat

Q4.2For your personal health ?

Yes

No

I don't consume meat

Q5. Do you think it's possible to maintain the atual food system, without reducing the collective meat consumption ?

Yes

No

Q6. Have you heard of cultivated (lab-grown) meat before ?

Yes

No

SECTION B : WILLING TO TRY

Q7. General process of cultivated meat: Stem cells taken from muscle tissue or embryos are first expanded and then differentiated into muscle cells These cells are further grown in a bioreactor to increase their number. The cells are then transferred to a scaffold to grow these into muscle fibres and larger tissue. **With this said, Y**

1. Not at all interested
2. Slightly interested
3. Somewhat interested
4. Neutral
5. Interested
6. Very interested
7. Extremely interested

Q8. Do you believe the production of cultivated meat could reduce environmental impacts (ex.: greenhouse gas emissions, land use) compared to conventional meat ?

1. Not at all

2. Slightly reduction

3. Moderate reduction

4. Neutral/No Opinion

5. Significant reduction

6. Major reduction

7. Extremely large reduction

SECTION C: WILLING TO PAY

Q9. How much more would you be willing to pay for cultivated meat compared to conventional meat ?

0-100%

SECTION D: WHAT MAKES YOU MORE COMFORTABLE TO TRY

Q10. What type of information would make you more comfortable with the idea of eating cultivated meat ?

Q10.1 Endorsement by trusted figures (nutricionists, environmentalists)

1. Not at all comfortable

2. Sightly comfortable

3. Somewhat comfortable

4.Neutral

5.Moderately comfortable

6.Very comfortable

7.Extremely comfortable

Q10.2 Media

1.Not at all comfortable

2.Sightly comfortable

3.Somewhat comfortable

4.Neutral

5.Moderately comfortable

6.Very comfortable

7.Extremely comfortable

Q10.3 Government or regulatory agency

1.Not at all comfortable

2.Slightly comfortable

3.Somewhat comfortable

4.Neutral

5.Moderately comfortable

6.Very comfortable

7.Extremely comfortable

Q11. To what extent do you **agree** with the following statement "**I would support cultivated meat as a solution to climate change and environmental sustainability**"?

1. Strongly disagree
2. Disagree
3. Somewhat disagree
4. Neither agree nor disagree
5. Somewhat agree
6. Agree
7. Strongly Agree

SECTION E : PSYCHOLOGICAL VARIABLE

Q12 To what extent do you agree with this sentences ?

From 1.Strongly Disagree to 7.Strongly Agree

Q12.1I characterize myself with high levels of assertiveness, sociability and energy level

Q12.2I characterize myself with high levels of compassion, respectfulness and trust

Q12.3I characterize myself has extremely organized, productive and responsible

Q12.4I characterize myself with high levels of anxiety, depression and emotional volatility

Q12.5I characterize myself with a creative imagination, aesthetic sensitivity and intellectual curiosity

Q13.To what extent would you consider trying lab-grown meat as a sustainable food option ?

From 1.Strongly Disagree to 7.Strongly Agree

Q14.

1. **Cultivated meat** has the **potential** to have a **lower environmental impact** than ambitious conventional meat benchmarks, for most environmental indicators, most clearly agricultural land use, air pollution and nitrogen-related emissions. The carbon footprint is substantially lower than that of beef. According to Mancini & Antonioli (2019), **concern for animal welfare and environmental sustainability** increases consumers' willingness to eat farmed meat and reveals a predisposition to pay a higher price (Pakseresht et al., 2022).

2. Cultivated meat is intended to be **interchangeable in diets**, and other meat attributes. In principle, cultivated meat is **almost nutritionally identical to farm or ranch-raised meat**. But with cultivated meat, you can adjust the medium in which the living cells are **grown to add certain vitamins** and **nutrients** that would alter, and perhaps improve, its nutritional quality. Over the last decade, many consumers (mainly in Western countries) have **changed their meat consumption patterns**, and the reasons may lie in the consecutive food safety crises that have occurred (not only in developing countries) like **COVID-19**, followed by debates about the consequences for human health.

Based on these two claims, which one **make you more interested into cultivated meat** ?

1.

2.

Both

None

SECTION F : BIOGRAPHICAL & GEOGRAPHIC VARIABLE

Q15. Gender : Male / Female / Non-binary / Prefer not to say

Q16. Age

Q17. Country : Portugal /Spain /France /Italy /Germany /Other()

Q18. Level of education : Basic education/Secondary education/Bachelor/Master
/Professional Courses

Q19. What is your annual income level ?

Under 10,000

10,000 – 15,000

15,000 – 20,000

20,000 – 25,000

25,000 – 30,000

30,000 – 35,000

35,000 – 40,000

40,000 – 45,000

Prefer not to say

Q20. Dietary preferences

Omnivore – eats both animal and plant-based food without restrictions

Vegetarian – avoids meat but may consume other animal products like

Vegan – avoids all animal products

Pescatarian – avoids meat but includes fish and other seafood in their diet

Flexitarian – primarily follows a plant-based diet but occasionally eats meat or animal products

Other