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Choices in Sustainable Food Consumption: How Spanish Low Intake Organic Consumers Behave

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Abstract: The consumption of organic products has consistently increased over the last decades, covering increasingly diversified consumers, both in the characteristics and the reasons associated with consumption. This heterogeneity evidences the need to examine in depth the reasons for the purchase and consumption of these products. The core aim of this study is related to the motivational drivers of organic consumption. The survey included 250 respondents from Andalusia (Spain) who completed an online questionnaire and personal interviews. A convenience sampling method was applied, and the best-worst scaling method allowed us to analyze ten attributes of organic purchasing behavior. Health benefits and environmental impact are the key attributes explaining the consumption of organic products. To deeply understand organic consumer motivations, we studied the influence of six classification variables over the studied attributes. Applying ordinal regressions, we found that having children under 18 at home and a consumer's academic level contribute in a relevant way to explain the valorization of the health benefits attribute. Also, the place to purchase organic food and academic level correlates with the valuation of GMOs in food. Andalusia is one of the largest European regions for organic production but with minor relevance in consumption. Nevertheless, despite this apparent paradox, the results of the present study point to a consumer profile very similar to other European countries with consolidated organic consumption.

Keywords: organic food; attributes; best-worst scaling; consumer behavior; Andalusia; Spain

Citation: Madureira, T.; Nunes, F.; Veiga, J.; Saralegui-Diez, P. Choices in Sustainable Food Consumption: How Spanish Low Intake Organic Consumers Behave. *Agriculture* **2021**, *11*, 1125. https://doi.org/10.3390/agriculture11111125

Academic Editor: Giuseppe Timpanaro

Received: 20 September 2021
Accepted: 3 November 2021
Published: 10 November 2021

1. Introduction

The production and consumption of organic products have increased continuously and consistently, somewhat worldwide [1–4]. Spain has played a relevant role in this trend. Currently, Spain is the largest organic crop producer in Europe, with 2.4 million dedicated hectares [5]. Despite this, domestic consumption does not stand out, with a per capita value of 46 €/year, much lower than the 344 € in Denmark or 338 € in Switzerland [5], and an organic consumption of only 1.69% of the total food intake [6].

These low demand dynamics have contributed to increased difficulty in developing this emerging market [7]. One of the main reasons seems to be the concentration of sales in specialized retail channels, making it hard to accomplish economies of scale and consequent reduction of the price differential between organic and conventional products, preventing the generalization of their consumption [8].

This significant discrepancy between production and domestic consumption encourages further studies on Spanish consumer behavior, particularly understanding the reasons and barriers to the consumption of organic products.

Over the past few years, around the world, the growth of the organic products market and the increasingly widespread interest of consumers have made their consumption increasingly normalized and has triggered the development of multiple investigations to enlighten the motivations and organic consumer's behavior [1–4,9–13].

Across the majority of existing studies, it is demonstrated that consumers often base their choice of organic products on intangible attributes [14,15]. Health, environmental and nutritional issues are perceived as more relevant in organic than in conventional food [5,10,16]. Called credence attributes, these predictors play a decisive role in the purchasing process. However, its evaluation before, during, or after purchase reveals itself to be challenging to achieve.

Most studies point to a consensus regarding the essential attribute for the purchase or consumption of organic products: the higher forecaster of organic consumer behavior is centered on its health and safety insurance [2,3,16–22]. Also, health concern is the first reason for Spanish consumers to start consuming organic products as this kind of food is associated with more natural and superior quality [23]. Another intangible attribute often pointed out is the perception that organic production is more respectful of the environment and biodiversity, making consuming these products an act of social consciousness. There are more and more consumers sensitive to the impact that their consumption has on issues such as environmental protection, fair trade, or animal welfare [1,19,24–30]. Another credence attribute often referred to as encouraging the consumption of organic products is the belief that these products contain better and healthier ingredients than non-organic food [31–33].

Despite the importance of credence attributes in buying/consuming organic products, there are other attributes, objective and measurable, equally relevant for consumers of organic products. These are defined as search and experience attributes. As opposed to credence attributes, these influencers are accessible to and can be evaluated before or after purchase or consumption [2,34,35].

The experience that results from the consumption of organic products is commonly associated with more significant and more pleasant intensity in the taste of these foods. Effectively among the attributes of experience, taste assumes an utmost relevance because organic food tastes more natural than conventional [19,36], and production methods are more environmentally friendly [3].

Search attributes, i.e., those that are observable before purchase, constitute a significant set of factors consumers use in the decision-making process to purchase organic products. Paired with the low availability of these products in conventional wholesale and retail chains is the usually higher price of organic compared to conventional products. In Spain, these are the two main obstacles [23] that must be overcome to increase the development of organic business. [3]. In a study conducted in Andalusia (the central organic production region in Spain), price and availability are clearly pointed out as the main barriers to consumption [37]. Still, these attributes have been somehow mitigated by improvements in distribution channels for organic food [38]. Indeed, in most urban areas (where the consumption of organic products is more significant), the greater availability, and consequent decrease in price, have given rise to a new and pragmatic consumer, for whom price becomes one of the primary decision factors [19]. This "new consumer" is price sensitive, buying organic only when price dissimilarity between organic and conventional is small [39].

Although significant developments in the availability of organic products are a reality, it is still not sufficient to stop being a barrier to consumption, as it often hinders or impedes the purchase of these products [40]. Availability is even more significant for rational consumers as they easily switch off for conventional when organic products are absent.

On the contrary, certification guarantees acts as an inductor of organic consumption, increasing consumers' confidence [3,12,19,38,41]. Most of the relevant attributes of organic products are intangible, challenging to identify and distinguish from conventional products [42]. Consumers must have confidence in the production practices used in these products, and certification is usually the only guarantee of the authenticity of organic products. Most foods in Europe do not indicate the presence (or absence) of Genetically Modified Organisms (GMOs), which prevents consumers from using this information in their purchasing or consumption process. According to European legislation, cross-contamination of products by GMOs is strongly constrained. Therefore, the EU organic label reinforces the confidence in GMOs' absence among consumers [2,43].

The product's origin is a search attribute relevant to organic consumers, especially for those consumers who associate their consumption with ideological issues and ethical motivations. Freshness, seasonal production, and short supply chains are strongly related to where products are coming from [19,39,44].

Analyzing the diversity of studies conducted in recent years, we can conclude that the relevant attributes for the choice and consumption of organic food have become more complex and less linear, anticipating the appearance of a "new consumer" with a new set of motivations.

Over the last years, academic research on factors affecting organic consumer's choices reveals a notorious growth. For this purpose, several and diverse statistical methods were used to collect and treat the information. Among the most used, empirical tests [45], correlation and regression methods [46], ordered probit models [29,47], descriptive statistics, chi-square, ANOVA, factor analysis [36,48], and Kruskal-Wallis tests [49], must be highlight (for a more in-depth analysis see [3]. Recent literature analyzing organic consumer purchasing behavior, including works on Spanish consumers, used fuzzy theory [50], the theory of planned behavior [51], focus groups [37,39], qualitative comparative analyses [52], and, above all, Likert-type scales [2,7,27,31,53–55]. Using inquiry methods based on the simple ordering of attributes, such as Likert scales, has been subject to substantial criticism. In fact, among other limitations and shortcomings, the responses obtained through Likert scales method may provide weak insights and conclusions, therefore compromising the practician's and marketeer's decisions [56].

We consider Best-Worst Scaling (BWS) to be an accurate method for collecting and analyzing information. As far as we know, this method has been used only once to analyze the guiding principles that constrain the demand for organic products [57]. Therefore, applying the BWS scaling method in this study is a pioneering action with results that are intended to be precise, innovative, and challenging.

Since Spain is the major European producer of organic products, it is of especial interest to analyze what motivates or hinders the consumption of these products, particularly in the regions where the majority of production is concentrated. To this end, we have developed a questionnaire, which has been applied in the four main areas of organic production and which are, at the same time, areas where per capita consumption is lower in Spain.

2. Methodology

2.1. Questionnaire Design

The questionnaire used has two sections. The first one consists of six classification variables: age, gender, education level, place of residence, children living at home, and place of organic product purchase. The second part of the survey measured the importance of the attributes related to the consumption of organic products using the BWS method. For this, ten attributes used in the buying decision process were selected (Table 1). These attributes were chosen based on the literature review presented in the previous section and included three credence attributes, i.e., health benefits [16,17,20], environmental impact [27,29], and nutritional value [31,33]; one experience attribute, i.e., the expectation of better taste [19,36]; and six search attributes, i.e., price [3,19,37], more natural appearance [47,58], certification warranty (EU logo) [38,59], origin [44,60], availability [37,61], and absence of GMOs [2,43] (Appendix A). We used the MaxDiff SSI Web statistical package (Sawtooth Software, Provo, UT, USA). Accordingly, the question itself, the choice sets (eight) and the number of items (organic attributes) by set (four) repeated in all circumstances. However, as the association of attributes is different in each inquiry this means each respondent complete its own and unique questionnaire. Figure 1 below is an example of a choice set.

Table 1. Organic attributes.

1	Price
2	More natural appearance
3	Certification warranty (EU logo)
4	Origin
5	Expectation of better taste
6	Availability
7	Health benefits
8	Environmental impact
9	Nutritional value
10	Absence of GMOs

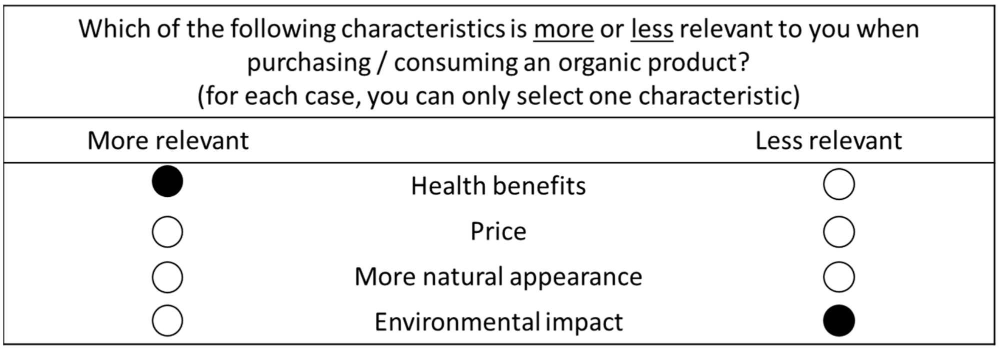

Figure 1. Choice Set illustration. In this example, the respondent chooses the attribute "Health benefits" as the most relevant, and the attribute "Environmental impact" as the least relevant, and no more circles can be selected.

2.2. *Best-Worst Scaling Methodology*

To overcome procedural limitations mainly related to Likert scales method, Louviere and Woodworth developed the best-worst method [62]. Also recognized as Max-diff, respondents must choose the best/strong and the worst/fragile items (attributes, in our study) in each subset of items, therefore performing a specific number of repeated and unequal subsets. The definition of items in each subgroup and the number of subsets depends on the total quantity of items and how accurate the analysis is intended. However, excessive items (above fifteen) and more than five items per subset may result in respondent fatigue and cause a high dropout level. BWS, also known as maximum difference (Max-Diff) scaling, is a relatively new statistical method that attempts to measure the perceptions of various types of respondents, particularly consumers, users, and patients. When in the presence of several sets of attributes, respondents are forced to identify and choose, in each set, the best (biggest/most relevant) attribute and the worst (least/least relevant) attribute. This particular aspect reduces the bias of typical rating-based methods and increases the robustness of the preferences exposed by respondents. Proposed by Louviere and Woodworth and formally applied for the first time by Finn and Louviere, this method has gained popularity due to its more straightforward applicability, the lower cognitive effort of analysis [63–65], and its greater discriminatory power over other scale measures [66]. In summary, the BWS method recovers the relative metric differences between the items, makes it possible to obtain discriminatory measures of preference and importance, avoids the bias resulting from scales, and improves market segmentation and forecasts [67]. Since its initial application, this method has been primarily used in health sciences [68–70], but also in multiple research frameworks, including animal welfare [71], landscape architecture [72–74], elderly wellbeing [75], perception of success in professional carriers, corporate social responsibility, consumer behavior towards agri-food products [76–78], agricultural policies [79], and consumers' functional app requirements [80].

2.3. Sampling Method and Survey Administration

In this study, we used quota sampling, where the respondents recognized the organic food context and were selected through convenience sampling. The model was constructed proportionally according to the metropolitan area of residence, gender, and the number of children under 18 living at parents' homes. 70% of the sample elements answered by filling an online questionnaire, and the remaining were interviewed in person. The latter responded to exactly the same survey and in an environment as close as possible to the context of responding to online surveys not in person. The survey links were first distributed through email, and personal interviews were undertaken in urban organic fairgrounds. We asked participants to send it to their personal connections in Sevilla, Malaga, Cordoba, and Granada to spread the survey. These metropolitan areas were chosen because they represent 45.6% of Spanish organic production [81]. People who consume less than three categories of organic products (vegetables, fruits, dairy products, meat, groceries, etc.) were excluded from the survey for final data analysis.

Although using a convenience sample, the exploratory nature of this study and BWS robustness compared to others allows for credible and accurate conclusions [82]. From a total of 526 responses, 250 completed questionnaires were chosen, according to demographic quota sampling. The survey occurred between October 2019 and March 2020, and the summary demographic data are presented in Appendix B.

3. Results and Discussion

3.1. The Best and the Worst Preferred Attributes

Frequently, for a clear interpretation of the results, best-worst raw scores are rescaled. Most researchers will pay most attention to the probability scale scores as they are easiest to interpret and present to others. These individual-level item scores are positive values ranging from 0 to 100 that sum to 100. This approach has the valuable property of ratio-scaling. That is to say, an item with a score of 20 is twice as important (or preferred) as an item with a score of 10 [83]. For better understanding, this means that, in the table below, the attribute health benefits has almost twice the predictive force than the second attribute, environmental impact.

The clearest indicator that results from a BWS survey is the number of times respondents selected a specific attribute as the one that would be the most relevant (Times Selected Best) and the least relevant (Times Selected Worst). Considering that we have 250 respondents and each respondent responds to eight sets of attributes, we will have a sum for each of the first two columns of 2000 tasks. However, this indicator only gives us absolute values, so it is necessary to calculate a ratio scale index (Table 2). The analysis of the attributes for the standardized ratio scale, ranging from the most critical/robust attribute to the least essential/feeble attribute. Sirieix and colleges [66] stated that the standardized ratio scale is a consistent index since any less relevant characteristic can be interpreted as a ratio relative to the most significant attribute.

According to the best-worst standardized approach, the most significant attribute in our study—health benefits—is equaled to 100, all others being a ratio of the first. Consequently, as environmental impact, the second most significant attribute, represents a ratio of only 55.1 of the first, this fact demonstrates the dominant power of the health concerns in the purchase process of organic products. Although with significantly different relative weights these two attributes determine in a majority way the consumption of organic products in Andalusia. More, if we consider the indicator times selected best (see Table 2), that is, the frequency that a given attribute is chosen as being the most relevant/strong in each set of attributes presented, the issues related to health benefits and the environmental impact, taken as a whole, account for almost half (44.6%) of respondents' choices. As reported and confirmed by recent works [57,84], health benefits are the organic consumers' leading drivers in food purchase. Indeed, as in many other countries and regions, consumers in Andalusia are deeply concerned about health issues, thus giving more importance to this specific credence attribute at the moment to buy organic food.

For a more straightforward interpretation, Figure 2 shows attributes using the standardized ratio scale ranked by diminishing level of relative significance.

Table 2. Raw best-worst, average best-worst, and standardized aggregated importance weights.

Attribute	Times Selected Best	Times Selected Worst	(*B-W*)/*n*	Sqrt (*B*/*W*)	Standardized Ratio Scale	Standardized Importance Weights (%)	Rescaled Scores Average	95% Lower	95% Upper
Health benefits	572.0	13.0	2.236	6.63	100.0	39.147	24.1	23.5	24.7
Environmental impact	320.0	24.0	1.184	3.65	55.1	21.550	18.0	17.2	18.8
Absence of GMOs	249.0	109.0	0.560	1.51	22.8	8.920	14.0	12.9	15.2
Nutritional value	171.0	117.0	0.216	1.21	18.2	7.135	9.9	9.1	10.8
Origin	185.0	168.0	0.068	1.05	15.8	6.193	9.7	8.7	10.8
Certification warranty (EU logo)	188.0	230.0	−0.168	0.90	13.6	5.336	9.0	7.9	10.1
Availability	123.0	270.0	−0.588	0.67	10.2	3.983	5.7	4.9	6.6
Expectation of better taste	97.0	261.0	−0.656	0.61	9.2	3.598	4.7	4.0	5.5
Price	70.0	306.0	−0.944	0.48	7.2	2.823	3.8	3.0	4.5
More natural appearance	25.0	502.0	−1.908	0.22	3.4	1.317	1.0	0.7	1.2

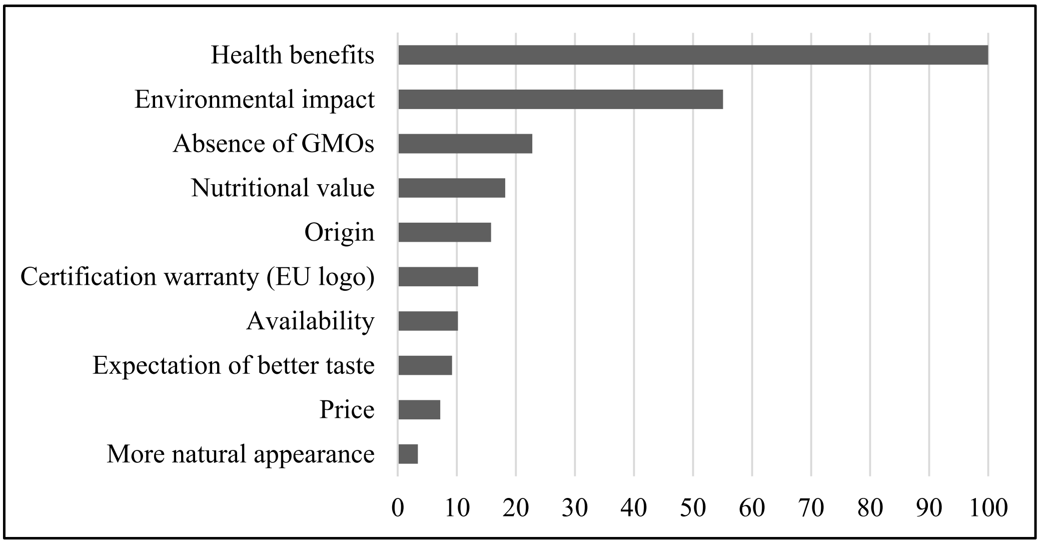

Figure 2. The ten organic attributes presented as standardized ratio scale.

A pool of four attributes with intermediate predictive strength follows. This set is headed by concerns about the presence or absence of GMOs (22.8), followed by the attributes nutritional value (18.2), origin (15.8), and finally, certification warranty (13.6). Although classified in third place in the general set of all the characteristics considered, the low weight of the absence of GMOs attribute should be noted. No less surprising is the position of the nutritional value attribute (ranked fourth). Concerns about the nutritional value of organic food are recurrently considered core aspects of determining organic consumption. In any case, it is essential to remember that the BWS method does not reflect a logic of absolute values but, instead, a relative weighting of the measured items [57]. Although the nutritional value is relevant, respondents assume its predictive buying power is significantly lower than health concerns (18.2 vs. 100).

With a purchasing power less than almost 1/10 of the most important attribute, the remaining four attributes appear. Availability (10.2) leads, followed by expectation of better taste (9.2), price (7.2), and more natural appearance (3.4). The times selected best for this set of four attributes represents no more than 15.8%. Accordingly, the number of times respondents chose price as the most critical item of the total best answers was only 3.5%. This last but one price position is somewhat unexpected, as it seems to point to a leave-taking from the current association between organic products and consumers with greater purchasing power.

3.2. Impact of Classification Variables on Attributes

Three cut points (thresholds) were applied in order to identify relationships among classification variables and attributes. Next, four ordinal and mutually exclusive classes resulted from the assembled rescaled scores. A chi-square test was applied for independence between the attributes and the classification variables. Nevertheless, some cells counted for less than one, and more than 20% frequently had counts of less than five. To solve this constraint, we combined the classes of some classification variables (Table 3) to raise expected values and apply Monte Carlo simulation techniques. Concerning age, two major sets were defined: the first group, with people less than 54 years old (the younger ones); followed by a second one, with responders older than 55 (the oldest group). The cutting point is 54 years old as a result of two primary reasons: first, we applied this questionnaire and methodology previously in Portugal [57], and we intend to compare the results in both situations; second, this cut-point is the middle of the four initial age categories (Appendix B). Regarding the area of residence, the grouping choice was based on population proportions of Sevilla, Cordoba, Malaga, and Granada residential areas. Regarding V.6, the two groups considered in Table 3 distinguish two clear typologies regarding the places where organic products can be purchased. The "Generalists" group refer to places not specialized in the sale of organic products, which means that we can find mostly conventional products, but also, although to a lesser extent, organic food. Oppositely, the "organic" set refers to places and/or types of sale dedicated exclusively (or mostly) to organic products.

Table 3. Modified sample structure.

Classification Variable	Modality	*N*	
V.1—Age	≤54 years old	168	250
	≥55 years old	82	
V.2—Gender	Male	83	250
	Female	167	
V.3—Academic level	Not superior	45	250
	Superior (degree or more)	205	
V.4—Area of residence	Metropolitan Area 1 = Sevilla	150	250
	Metropolitan Area 2 = Malaga, Cordoba, Granada	100	
V.5—Do you have children under 18 living with you?	Yes	122	250
	No	128	
V.6—What is the best place to purchase certified organic products?	Generalist = fairs/producer markets, general super, and hypermarkets (no certified organic)	84	250
	Organic = organic supermarkets, home delivery baskets, natural/local stores (mostly certified organic)	166	

Table 4 displays the significance of the relationship between the attributes and the classification variables. Table 4 shows no statistically significant differences between any classification variables and the attributes price and environmental impact. The ordinal regression model was applied to assess which independent variables are relevant to explaining each attribute's importance and the meaning of the existing relationship.

Table 4. Chi-square test for independence (p-values).

	Classification Variable					
Attribute	**Age**	**Gender**	**Academic Level**	**Area of Residence**	**Children Under 18 at Home**	**Place to Purchase Organic Food**
			p			
Price	0.248	0.341	0.161	0.531	0.249	0.210
More natural appearance	0.629	0.354	0.097 [b]	0.237	0.470	0.012 [a]
Certification warranty (EU logo)	0.022 [a]	0.157	0.447	0.207	0.760	0.225
Origin	0.013 [a]	0.971	0.033 [a]	0.408	0.978	0.774
Expectation of better taste	0.436	0.957	0.179	0.022 [a]	0.020 [a]	0.182
Availability	0.850	0.049 [a]	0.650	0.544	0.011 [a]	0.645
Health benefits	0.262	0.982	0.097 [b]	0.823	0.064 [b]	0.031 [a]
Environmental impact	0.533	0.516	0.450	0.607	0.905	0.965
Nutritional value	0.109	0.980	0.915	0.245	0.501	0.006 [a]
Absence of GMOs	0.380	0.273	0.071 [b]	0.529	0.852	0.001 [a]

Cells marked with ([a]) mean significant relationships ($p < 0.05$) and cells marked with ([b]) mean tendentiously relevant relationships ($0.05 < p < 0.1$).

3.3. Applying Ordinal Regression Models

In the first moment, we applied an ordinal regression model to each of the dependent variables (attributes) and the classification variables to analyze which variables are statistically significant for each of the attributes. Next, we analyze with deeper detail ordinal regressions for the two most important attributes with statistically significant relationships with variables: health benefits and the absence of GMOs. The choice of the link function in the model adjustment must consider the type of distribution of the dependent variable's classes. In SPSS, five-link functions are available, whose use in the ordinal model is applied according to the type of probability distribution that the classes of the dependent variable have. Choosing an inappropriate link function can compromise the significance of the model and its predictive capacity [85–87] (Table 5).

3.4. Health Benefits Attribute

Ordinal regression was applied with the link function Complementary Log-log to assess whether age, gender, academic level, area of residence, children under 18 at home, and place to purchase organic food have a statistically significant effect on the response probabilities to the attribute health benefits. The model is statistically significant ($\chi^2_{(6)} = 15.286$; $p = 0.018$), even though the size of the effect is somewhat reduced (R^2 of Cox and Snell, $R^2_{CS} = 0.059$; R^2 of Nagelkerke, $R^2_N = 0.075$; R^2 of McFadden, $R^2_{MF} = 0.040$). Thus, one can assume that at least one independent variable has a relevant contribution to explaining the variation in the attribute health benefits. The model fits to data ($\chi^2_{Pearson} = 87.489$; $p = 0.999$ and $Deviance = 80.819$; $p = 1.000$). Then we analyze the significance of the independent variables (Table 6) and identify that the coefficients associated with the variables academic level and children under 18 at home are significant, for a significance level of 5% ($\chi^2_{Wald} = 4.722$; $p = 0.030$ and $\chi^2_{Wald} = 6.712$; $p = 0.010$).

Applying an ordinal regression only with the significant independent variables, academic level and children under 18 at home, the statistical analysis shows that the model is statistically significant ($\chi^2_{(2)} = 10.737$; $p = 0.005$), even though the size of the effect is somewhat reduced ($R^2_{CS} = 0.042$; $R^2_N = 0.054$; $R^2_{MF} = 0.028$).

This highlights that the two independent variables contribute in a relevant way to explain the variation in the dependent variable. The model fits data ($\chi^2_{Pearson} = 6.573$; $p = 0.475$ and $Deviance = 8.862$; $p = 0.263$). The estimates of the regression coefficients of Academic Level and Children Under 18 at Home variables are 0.999 and 0.541, respectively. For a significance level of 5%, as shown in Table 7, the contribution of these two variables is significant.

Finally, applying the test of parallel lines, the assumption of the slope homogeneity model was validated, and as required, slopes are thus homogeneous ($\chi^2_{PL} = 8.446$; $p = 0.077$).

Table 5. Ordinal regression models of the attributes vs. classification variables.

Attribute		Link Function	−2*LL* Sig.	*Pearson* Sig.	*Parallel* Sig.	Significance Levels of the Explanatory Variables with $p < 0.05$						−2*LL* with Significant var.	Level of Importance
						Age	Gender	Academic Level	Area of Residence	Children Under 18 at Home	Place to Purchase Organic Food		
1	Price	1	0.506	0.128	-	-	-	-	-	-	-	-	9
2	More natural appearance	1	0.025	1.000	0.148	-	-	-	-	-	0.013 [a]	0.009	10
3	Certification warranty (EU logo)	1	0.007	0.186	0.250	0.005 [b]	-	-	0.055 [b]	-	0.050 [a]	0.006	6
4	Origin	1	0.008	0.546	0.310	0.029 [a]	-	0.020 [b]	-	-	-	0.001	5
5	Expectation of better taste	1	0.018	0.697	0.408	-	-	-	0.005 [a]	-	-	0.003	8
6	Availability	1	0.627	0.000	-	-	-	-	-	-	-	-	7
7	Health benefits	2	0.018	0.999	0.077	-	-	0.021 [a]	-	0.032 [a]	-	0.005	1
8	Environmental impact	2	0.768	0.540	-	-	-	-	-	-	-	-	2
9	Nutritional value	1	0.046	0.122	0.083	-	-	-	-	-	0.005 [b]	0.003	4
10	Absence of GMOs	3	0.006	0.354	0.057	-	-	0.006 [a]	-	-	0.001 [b]	0.001	3
	Desirable value of *p*		<0.050	>0.050	>0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	

Link Function: 1—Negative Log-log; 2—Complementary Log-log; 3—Cauchit. Significance Levels: ([a])—The variable-ratio is positive (variation in direct order); ([b])—The variable-ratio is negative (variation in reverse order).

Table 6. Significance of the independent variables.

		Estimate	Std. Error	Wald	df	Sig.	95% Confidence Interval	
							Lower Bound	Upper Bound
Threshold	(HBenef = 1)	−4.823	0.620	60.511	1	0.000	−6.038	−3.607
	(HBenef = 2)	−3.336	0.440	57.557	1	0.000	−4.198	−2.474
	(HBenef = 3)	−1.820	0.382	22.658	1	0.000	−2.569	−1.071
Location	(Age ≤ 54)	−0.412	0.297	1.929	1	0.165	−0.994	0.169
	(Age ≥ 55)	0 [a]			0			
	(Gender = M)	0.029	0.266	0.012	1	0.912	−0.492	0.550
	(Gender = F)	0 [a]			0			
	(Acadlevel = NSup)	0.957	0.440	4.722	1	0.030	0.094	1.821
	(Acadlevel = Sup)	0 [a]			0			
	(Residence = Area1)	0.005	0.261	0.000	1	0.984	−0.506	0.516
	(Residence = Area2)	0 [a]			0			
	(Children = No)	−0.685	0.264	6.712	1	0.010	−1.203	−0.167
	(Children = Yes)	0 [a]			0			
	(Place = Generalist)	−0.388	0.258	2.252	1	0.133	−0.894	0.119
	(Place = Organic)	0 [a]			0			

([a]) This parameter is set to zero because it is redundant.

Table 7. Parameter estimates.

		Estimate	Std. Error	Wald	df	Sig.	95% Confidence Interval	
							Lower Bound	Upper Bound
Threshold	(HBenef = 1)	−4.309	0.524	67.539	1	0.000	−5.336	−3.281
	(HBenef = 2)	−2.830	0.290	95.491	1	0.000	−3.397	−2.262
	(HBenef = 3)	−1.325	0.198	44.830	1	0.000	−1.713	−0.937
Location	(Acadlevel = NSup)	0.999	0.432	5.344	1	0.021	0.152	1.846
	(Acadlevel = Sup)	0 [a]			0			
	(Children = No)	−0.541	0.252	4.620	1	0.032	−1.035	−0.048
	(Children = Yes)	0 [a]			0			

([a]) This parameter is set to zero because it is redundant.

As we demonstrate above, two independent variables, academic level and having or not children under 18 at home, contribute in a relevant way to explain the variation in the dependent variable, health benefits. Both independent variables have a positive effect on the health benefits attribute. According to Table 7, regarding the academic level, it is observed that for the not superior academic level category relative to the superior academic level reference category, the lower order classes of the dependent variable are less likely than higher-order classes. This fact reveals that consumers with lower education backgrounds agree more with the health benefits of organic products than consumers with a higher education background. Somehow, this association can support the assumption that those with a high education degree are less conditioned by health benefits when choosing organic food. Because people who have less information and knowledge can be more suspicious about what kind of food they are eating, concerns related to healthy products assume higher relevance for this group of organic consumers. These findings are relevant as higher levels of education are often mentioned as having a positive impact on organic consumption [88–92]. This assertion being true, the novelty of the present study relies on the fact that less-educated organic consumers are notoriously more concerned about health issues than educated purchasers. Similar unexpected conclusions were found by Bellows and her colleagues [88]. They discovered that the less educated respondents were, the greater their concerns about (suitable) production methods when deciding what to eat. Both situations might be explained by improved knowledge security that gives informed people the capacity to recognize a priori the different (and better) ways organic products are created.

Having or not having children at home also positively impacts the health benefit influencer. In this case, results are as expected since interviewers with children at home give more relevance to health issues than those who have not. These findings align with prolific and consistent literature showing a positive association between child nutrition concerns and organic food, perceived as safer and healthier [50,93].

3.5. Absence of GMOs Attribute

After applying an ordinal regression with link function Cauchit it was found that the model is statistically significant ($\chi^2_{(6)} = 18.247$; $p = 0.006$), even though the size of the effect is somewhat reduced ($R^2_{CS} = 0.07$; $R^2_N = 0.075$; $R^2_{MF} = 0.027$). Thus, one can assume that at least one independent variable contributes to explaining the variation in the attribute Absence of GMOs. The model fits data ($\chi^2_{Pearson} = 137.51$; $p = 0.354$ and $Deviance = 148.193$; $p = 0.159$). Then we analyze the significance of the independent variables (Table 8) and identify that the coefficients associated with the variables academic level and place to purchase organic food are significant, for a significance level of 5% ($\chi^2_{Wald} = 7.324$; $p = 0.007$ and $\chi^2_{Wald} = 7.532$; $p = 0.006$).

Table 8. Significance of the independent variables.

		Estimate	Std. Error	Wald	df	Sig.	95% Confidence Interval	
							Lower Bound	Upper Bound
Threshold	(AbsenceGMO = 1)	−1.046	0.328	10.168	1	0.001	−1.689	−0.403
	(AbsenceGMO = 2)	−0.368	0.305	1.459	1	0.227	−0.966	0.229
	(AbsenceGMO = 3)	0.537	0.317	2.864	1	0.091	−0.085	1.158
Location	(Age ≤ 54)	−0.135	0.236	0.328	1	0.567	−0.597	0.327
	(Age ≥ 55)	0 [a]			0			
	(Gender = M)	0.350	0.216	2.618	1	0.106	−0.774	0.074
	(Gender = F)	0 [a]			0			
	(Acadlevel = NSup)	0.757	0.280	7.324	1	0.007	0.209	1.305
	(Acadlevel = Sup)	0 [a]			0			
	(Residence = Area1)	−0.038	0.209	0.034	1	0.855	−0.447	0.371
	(Residence = Area2)	0 [a]			0			
	(Children = No)	−0.142	0.214	0.438	1	0.508	−0.561	0.278
	(Children = Yes)	0 [a]			0			
	(Place = Generalist)	−0.623	0.227	7.532	1	0.006	−1.068	−0.178
	(Place = Organic)	0 [a]			0			

([a]) This parameter is set to zero because it is redundant.

Applying an ordinal regression only with the significant independent variables, academic level and place to purchase organic food, the statistical analysis shows that the model is statistically significant ($\chi^2_{(2)} = 14.822$; $p = 0.001$), even though the size of the effect is somewhat reduced ($R^2_{CS} = 0.058$; $R^2_N = 0.062$; $R^2_{MF} = 0.022$). These results show that the two independent variables contribute in a relevant way to explain the variation in the dependent variable. The model fits data ($\chi^2_{Pearson} = 11.308$; $p = 0.126$ and $Deviance = 11.201$; $p = 0.130$). The estimates of the regression coefficients of academic level and place to purchase organic food variables are 0.742 and −0.734, respectively. For a significance level of 5%, as shown in Table 9, the contribution of these two variables is significant.

Table 9. Parameter estimates.

		Estimate	Std. Error	Wald	df	Sig.	95% Confidence Interval	
							Lower Bound	Upper Bound
Threshold	(AbsenceGMO = 1)	−0.747	0.163	21.098	1	0.000	−1.066	−0.428
	(AbsenceGMO = 2)	−0.082	0.131	0.391	1	0.532	−0.337	−0.174
	(AbsenceGMO = 3)	0.813	0.173	22.064	1	0.000	0.474	1.152
Location	(Acadlevel = NSup)	0.742	0.271	7.477	1	0.006	0.210	1.274
	(Acadlevel = Sup)	0 [a]			0			
	(Place = Generalist)	−0.734	0.224	10.732	1	0.001	−1.172	−0.295
	(Place = Organic)	0 [a]			0			

([a]) This parameter is set to zero because it is redundant.

Finally, applying the test of parallel lines, the assumption of the slope homogeneity model was validated, and as required, slopes are thus homogeneous ($\chi^2_{PL} = 9.187$; $p = 0.057$).

Regarding the academic level, it is observed that for the not superior academic level category relative to the superior academic level reference category, the lower order classes of the dependent variable are less likely than higher-order classes, so we can say that people with a non-university degree consider the absence of GMOs more relevant than people with a university degree. On the other hand, those who buy organic food at fairs/producer markets and general super/hypermarkets consider less relevant the absence of GMOs than those who buy in organic supermarkets, home delivery baskets, and natural/local stores. Consumers with lower educational qualifications value more the absence of GMOs in organic food can be related to an attempt to simplify the purchasing process, as organic certification guarantees for itself the absence (or limited presence) of GMOs. Indeed, when choosing organic products, consumers do not need to search for additional specific information about the presence (or absence) of GMOs, as organic products act as a "double certification". The increased valorization of the absence of GMOs by consumers with lower academic qualifications may also be associated with an expected higher scientific illiteracy related to GMOs. This association leads consumers to avoid consumption [94] because GMOs harm their health [95]. Moreover, once again, the presence of an organic certifying label allows them to reach the food safety they are looking for (food without GMOs). We also found a correlation between the place of purchase and the valuation of the GMO attribute. Consumers who are willing to search for specialized organic stores value the GMO attribute more than consumers who buy organic products in undifferentiated stores, like general super or hypermarkets. In fact, consumers who integrate the purchase of organic products in their generalist shopping routines give less value to the presence of GMO, privileging other attributes. On the contrary, the more "specialist" and informed are the consumers, the more they value the guarantee of absence of GMOs in food. This difference may be associated with the level of involvement in the purchasing process, as the asymmetry of information and the misunderstanding of the term 'organic' is more evident as lower the level of consumer knowledge is [2]. Indeed, consumers who go to specialized stores probably have a higher level of knowledge about these products, thus perceiving genetically modified food as significantly more negative than others concerning food safety, controlling, health as well as environmental and ethical aspects. In this way, it is understandable that they value more the absence of this attribute. Consumers who buy organic products in mixed stores (with organic and conventional food), integrated into their general shopping routine, tend to have a more pragmatic purchasing decision process. Therefore, they value broadly the availability of products [57] as often buy organic products only when the price is lower than conventional products [19].

3.6. Limitations and Future Paths for Research

The main limitation of the present study is the impossibility of spreading its results to the entire organic consumers in the Andalusia region of Spain. However, both BWS robustness and applying a quota sampling method allowed diminish this constraint and permitted obtain valuable and workable results. Minor limitation lye in the fact that the majority of the respondents answered through email. Although it may introduce some bias on the sampling process accuracy, we can assume this restraint has a reduced impact on final results since organic buyers in developed countries commonly use electronic platforms nowadays. As future work, the authors are keen to spread this methodology to other Spanish regions, mainly those where organic consumption is much higher than in Andalusia. Indeed, it is a stimulant scientific challenge to find out how different is the organic consumer profile between regions with different productions levels and diverse perceptions about the relevance of consuming organic. Finally, other studies should compare these results with those from other regions in Europe and abroad.

4. Conclusions

In line with the previous literature review, we conclude that the belief in obtaining health-related benefits is the primary determinant in the choice/consumption of organic products. Environmental impact is the second most important attribute on the purchase process, but nearly half of health issues. Together, these two attributes explain the main motivations to buy organic products in Andalusia. The remaining eight attributes—the absence of GMOs, nutritional value, origin, certification warranty (EU logo), availability, expectation of better taste, price, and more natural appearance—have negligible importance when compared with the former two. Furthermore, they are also very similar in their relative weight.

We have further deepened the analysis of these attributes and found that some are particularly important in specific segments of consumers. Specifically, two of the "top three" attributes have correlations with some independent variables. We can conclude that consumers' academic level and having children under 18 at home contribute in a relevant and unique way to explain the main relevant attribute: health benefits. In particular, we find that the lower the academic level, the more relevant is this issue as it acts as a booster to health improvement. Additionally, consumers with children give more importance to the health impact associated with organic product consumption.

We also found that the academic level of consumers and the place where they buy organic products explain the importance of the absence of GMOs. The lower the academic degree, the greater importance this attribute assumes, as the organic certification label is associated with the absence of GMOs.

It is essential to highlight the significant difference between educated and less educated organic consumers. Regarding health and GMOs, people without a superior degree reveal more suspicions than those with a higher academic degree. Considering consumers without a superior academic degree are the majority of organic consumers, marketers and public authorities must develop strategies that overcome this relative apprehension and boost organic consumption.

We can also find a relationship between the place of purchase of organic products and the presence (or absence) of GMOs in food. In fact, we can conclude that consumers who shop organic food in specialty stores value this attribute more than consumers who buy these products in super or hypermarkets. This differentiated behavior reveals different degrees of involvement in consumer's decision-making process.

These results are of especial interest as they allow a deeper understanding of organic consumer behavior and the possibility of communicating more effectively and directly with different consumers.

Author Contributions: Conceptualization, F.N., T.M., J.V. and P.S.-D.; methodology, F.N., T.M. and J.V.; formal analysis, F.N., T.M. and J.V.; writing—original draft preparation, F.N., T.M. and J.V. All authors have read and agreed to the published version of the manuscript.

Funding: This work is supported by National Funds by the Portuguese Foundation for Science and Technology (FCT), under the project UIDB/05937/2020.

Institutional Review Board Statement: Not applicable.

Informed Consent Statement: Not applicable.

Acknowledgments: The authors would like to thank the anonymous reviewers for their valuable comments and suggestions to improve the quality of the paper.

Conflicts of Interest: The authors declare no conflict of interest.

Appendix A

Table A1. Credence, Search and Experience Attributes Used in the Questionnaire.

Attribute Category	Perception	Authors
Credence	Health benefits	Chekima et al. (2017); Ditlevsen et al. (2018); Rana and Paul (2020)
	Environmental impact	Nguyen et al. (2019); Kushwah et al. (2019)
	Nutritional value	Apaolaza et al. (2018); Srednicka-Tobel et al. (2016)
Search	price	Rana and Paul (2017); Hjelmar (2011); Hernández et al. (2019)
	More natural appearance	Kuhar et al. (2012); Rodríguez-Bermudez et al. (2020)
	Certification warranty (EU logo)	De- Magistris et al. (2017); Lee et al. (2017)
	Origin	Siegrist and Hartmann (2019); Hempel and Hamm (2016)
	Availability	Hernández et al. (2019); Caldwell et al. (2009)
	Absence of GMO	Massey, Cass and Otahal (2018); Mauracher et al. (2013)
Experience	Better taste	Hjelmar (2011)

Appendix B

Table A2. Summary Demographics for Survey Interviewees.

Classification Variable	Modality	*N*	(%)	Total	
				N	(%)
V.1—Age	15–34 years' old	14	5.6		
	35–54 years' old	154	61.6		
	55–69 years' old	71	28.4		
	70 years' old or more	11	4.4	250	100
V.2—Gender	Male	83	33.2		
	Female	167	66.8	250	100
V.3—Academic level	None	4	1.6		
	Professional Qualification	21	8.4		
	Compulsory Secondary Education	20	8.0		
	Superior (Degree or more)	205	82.0	250	100
V.4—Area of residence	Metropolitan Area of Sevilla	150	60.0		
	Metropolitan Area of Malaga	25	10.0		
	Metropolitan Area of Cordoba	35	14.0		
	Metropolitan Area of Granada	40	16.0	250	100
V.5—Do you have children under 18 living with you?	Yes	122	48.8		
	No	128	51.2	250	100
V.6—What is the best place to purchase certified organic products?	Fairs/Producer markets (no certified organic)	56	22.4		
	Organic supermarkets	53	21.2		
	Generalist super and hypermarkets	28	11.2		
	Home delivery organic baskets	37	14.8		
	Natural/local stores (mostly certified organic)	76	30.4	250	100

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