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How much of the error term is explained by psychometric variables?

The example of organic produce demand

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Carola Grebitus and Jerome Dumortier

Abstract

This paper analyzes the impact of human values and personality on the demand for organic tomatoes applying open-ended choice experiments to data from an online study that was performed in summer 2012. Results show that consumers make a distinction between conventional and organic produce, such that human values have a differential impact with regard to predicting demand for products associated with organic labels. Also, consumers distinguish between conventional and organic produce, such that personality has a differential impact with regard to predicting demand for products associated with organic labels. However, results are not as strong as for human values. Overall, results indicate that human values and personality are able to explain a portion of the variability of demand for organic tomatoes.

Key words: demand, human values, open ended choice experiments, organic, personality, tobit model

JEL Classification: M31, Q13

1. Introduction

Certified organic cropland in the United States has increased from 0.64 to 2.64 million acres between 1995 and 2008. Since 1997, the U.S. organic food sales increased on average by 11.9% per year reaching $24.4 billion in 2011. Given this development which is expected to continue in the future, it is of interest to understand the drivers and motivation for organic food purchases. Previous literature analyzing the demand for organic food identified among others price and income (Smith et al., 2009), perceived attributes of organic food (e.g., health, better nutrition) (Grebitus et al., 2012; Gracia and de Magistris, 2008), and attitudes towards the environment (Gil et al., 2000) as common explanations for organic food purchases. Hughner et al. (2008)

provide an extensive literature review on the drivers of organic consumption and the characteristics of organic food consumers. Some of the drivers cited also relate to characteristics that are not asscociated with the organic product itself but with the consumer purchasing the product. Examples are concern for the environment or animal welfare (Squires et al., 2001; Soler et al., 2002; Aarset et al., 2004), fashionable (Hughner et al. 2008), and skepticism of certification boards and organic labels. Those determinants vary among the respondents whereas characteristics such has healthier and tastier food are invariant of the consumer's personality. The purpose of this paper is to extend the previous literature by including the psychometric variables of human values and personality as explanations in the decision process.

We choose human values and personality because previous studies point out that these constructs can be valuable to predict outcomes that are of interest to economists. The field ranges from marketing (Grunert and Juhl, 1995) to environmentally sustainable behavior (Viscusi, Huber, and Bell 2011) as well as willingness to pay (De Pelsmacker, Driesen, and Rayp 2005A) and preferences (Vinson, Scott, and Lamont1977). Previous literature has included among others the concept of human values to explain consumer choices of products labeled with carbon and water footprints (Grebitus et al., 2013A). Also, the purchase frequency of organic foods was explained using values as well as environmental attitudes as independent variables (Grunert and Juhl, 1995). Effects of personality have been analyzed with regards to preferences and willingness to pay for distance of transportation (Grebitus et al, 2013B). Also, the relationship between personality and intelligence as well as personality and differences in life outcomes has been researched (e.g. Almlund et al., 2011). However, to the best of the authors' knowledge, no analysis has been conducted that combine both, human values and personality. Furthermore, we are not aware of any studies that focus on consumers' demand. Demand might also be influenced by an individual's values and personality because human values guide consumers' actions and attitudes (Beatty et al., 1985). They provide standards such that consumers are able to evaluate and justify their own attitudes and behavior (Leiserowitz, Kates, and Parris, 2006). Personality traits provide a pool of stable constructs that can be used to understand heterogeneity in behavior within and across tasks (Ferguson, Heckman and Corr, 2011).

Usually, demand analysis focuses on price and socio-demographics to explain variance in demand. Other factors that might affect demand are availability of substitutes, trust in certification agencies, concern about food safety etc. that are usually incorporated in the error

term. This paper contributes to the literature by including both human values and personality in a demand analysis for organic products, providing the opportunity to uncover underlying factors of determinants like attitudes while at the same time explaining some portion of the error term. This research aims to expand the literature by accounting for more than one psychological aspect of the consumer when investigating demand. The main research questions are:

1. How much of the error term of organic produce demand is explained by human values?
2. How much of the error term of organic produce demand is explained by personality?

Drawing on data from an online consumer survey the following working hypotheses are tested:

H.1 *Consumers make a distinction between conventional and organic produce, such that human values have a differential impact with regard to predicting demand for products associated with organic labels.*

H.2 *Consumers make a distinction between conventional and organic produce, such that personality has a differential impact with regard to predicting demand for products associated with organic labels.*

H.3 *Human values have a stronger influence on demand for organic produce than personality.*

The remainder of the paper is organized as follows. Section 2 covers theoretical background on human values and personality. Section 3 provides the methodological background. Section 4 presents the empirical results and section 5 concludes.

2. Theoretical Background

2.1 Human Values

According to Schwartz and Bilsky (1987, 1990) five formal features of values can be defined: they are (1) concepts or beliefs, (2) regarding desirable end states or behaviors, (3) transcending specific situations, (4) guiding selection or evaluation of behavior and events, and (5) are ordered by relative importance. Put differently, values are enduring beliefs regarding preferable modes of conduct or end-states of existence which are personally and socially desirable (Rokeach, 1968). Modes of conduct and end-states of existence can be differentiated into instrumental and terminal values. Instrumental values can be distinguished in terms of moral values - mainly modes of behavior related to instrumental values with interpersonal focus - and competence values which have a rather personal focus. Terminal values are either inter- or intrapersonal and are centered towards society or the self (Rokeach 1973).

Human values define personal goals, support evaluation and justification of own behavior and the behavior of others and are also seen as abstract ideals which can lead to emotional reactions (Leiserowitz, Kates, and Parris, 2006). Human values guide people's actions, attitudes and judgments (Beatty et al. 1985). This leads to the hypothesis that

H1.1. Demand for organic produce depends on an individual's human values.

Values can be self-centered or social-centered depending on whether they are concerned with individual or collective interests (Grunert and Juhl 1995).

H1.2. Social-centered values are stronger explanators for demand for organic produce depends than self-centered values.

According to Schwartz (n.d., 1992) this characterization is as follows: Self-direction, stimulation, hedonism, achievement and power are individualistic domains. Conformity, tradition, spirituality and benevolence are collectivist domains. Security and universalism include individualistic and collectivist domains.

1. Self-direction values are related to independent thought and action; choosing, creating, and exploring.
2. Stimulation is motivated by the goals of excitement, novelty, and challenge in life.
3. Hedonism is representing pleasure and sensuous gratification for oneself.
4. Achievement is related to personal success through demonstrating competence according to social standards and related social approval.
5. Power is motivated by receiving social status and prestige, control or dominance over people and resources.
6. Security values are related to the goal of safety, harmony, and stability of society, of relationships, and of self.
7. Conformity is defined as restraint of actions, inclinations, and impulses likely to upset or harm others and violate social expectations and norms.
8. Tradition is focused on respect, commitment, and acceptance of the customs and ideas that traditional culture or religion provide to the individual.
9. Spirituality values are related to attainment of meaning in life and inner harmony through transcending everyday reality.
10. Benevolence is motivated by the goal of preserving and enhancing the welfare of those with whom one is in frequent personal contact.

11. Universalism is defined by understanding, appreciation, tolerance, and protection for the welfare of all people and nature.

Grunert and Juhl (1995) use facet theory to group the values: "A value is an individual's concept of a principle guiding her/his life that expresses INTERESTS (individualistic, collectivistic, both) concerned with a MOTIVATIONAL DOMAIN (Universalism, Benevolence, Spirituality, Conformity, Tradition, Security, Power, Achievement, Hedonism, Stimulation, Self-Direction) and evaluated on a RANGE OF IMPORTANCE (very important to very unimportant)".

H1.3. The importance of values belonging to the motivational domains Hedonism, Achievement, Security, Conformity, Tradition and Universalism will be positively associated with demand for organic produce.

2.2 Personality

Though several different models exist to describe different personalities (e.g. Digman, 1990), the "most generalizable, empirically rooted, and theoretically sound model of personality" is the Big Five model (Gill and Hodgkinson, 2007). The Big Five consists of the traits openness to experiences, conscientiousness, extraversion, agreeableness and neuroticism. Each personality trait is defined by multiple personality characteristics that can be induced by certain adjectives (e.g. Borghans et al., 2008, Caprara et al, 2001): Someone with a high level of *openness* has a strong intellect and high sense of originality and creativity, a person who prefers novelty over convention, is flexible in ideas and emotions. Someone who is low in openness dislikes needless complexity and prefers the familiar over the unusual, such a person is more conservative, but not to an extreme level. Low levels of openness lead to valuing practical outcomes over flighty imagination. These personas are rather skeptical towards lots of new ideas.

H2.1 Someone with a high level of openness prefers novelty over convention and thus, can be considered to be less likely to buy organic products which are usually produced using more traditional production techniques. Also, most innovations are highly processed and packaged – foods that are less likely to be of organic nature.

Conscientiousness describes the degree of organization, reliability and impulse control. It targets whether someone prefers an organized life and goal-oriented activity and the amount and quality of effort someone puts in to achieve goals. A person with a high level of conscientiousness can be described as a perfectionist who prefers to plan everything to the last

detail, is hard-working and extremely responsible. Personas with a low level of conscientiousness could be described as lazy.

H2.2 Conscientiousness relates to the extent to which an individual is careful, organized, responsible, and hard working. Such an individual might be more inclined to consider organic products which are supposedly healthier and have higher standards regarding the environment and animal welfare.

Extraversion targets the level of activity, sociability and dominance. It divides very active, social people from more passive people. Someone with a high level in extraversion is constantly lively, outgoing and active who aims to be the center of attention at social occasions, prefers company, excitement and stimulation. Extraverts prefer contact with others, enjoy a high level of activity and tend to be happy.

H2.3 On the one hand extraverts might be more likely to purchase organic, because "it looks good" to other people when one purchases organic. On the other hand introverts might be more likely to buy organic because they are intrinsically motivated "to do something good" and hence, buy organic.

Agreeableness describes the level of kindness, likeability and trustworthiness of a person. Agreeable personas have a tendency to be good-natured and cooperative. They are helpful, warm, caring and sympathetic and consider most other people to be decent and trustworthy.

H2.4 Agreeable personas having the tendency to be good-natured, helpful, caring and sympathetic might be more likely to purchase organic in an attempt to contribute to animal welfare as well as the health status of farm workers and the more environmentally production methods that help to "save the earth".

Neuroticism regards emotional instability, anxiety and sadness. People who are high in neuroticism are more self-conscious than many and find it difficult to not get caught up by anxious or stressful situations. These personas are in touch with their own feelings.

H2.5 Neurotic people might be more likely to purchase organic foods due to the assumed healthfulness of these products which could be perceived as beneficial towards their own health.

3. Methodology

Here, the relationships between values and demand for organic foods are assessed for a sample of U.S. consumers. The objectives of this study were twofold. Firstly, it was tested whether in

the U.S. demand for organic produce is dependent on human values and/or personality. Secondly, it was investigated whether values or personality have a higher explanatory power for demand, i.e. which construct explains more of the error term. To assess the potential of personal values and personality to predict demand we choose open-ended choice experiments to determine self-reported demand using an online survey.

3.1 Schwartz Value Inventory and MIDI Personality Scale

In order to measure human values, the **Schwartz Value Inventory** (SVI) was applied. The SVI uses a 9-point scale from -1 (opposed to my values) to 7 (of supreme importance) and participants have to rate the importance of 56 value items as "a guiding principle in my life". Value items are for example "meaning in life" or "family security". Each value item is accompanied by a short description (e.g. family security: safety for loved ones). Those value items are then grouped into motivational domains described by Schwartz and Bilsky (1987, 1992).

The **Midlife Development Inventory** (MIDI) scale developed by Lachman and Weaver (1997) was used to measure the personality traits. In this case the traits are elicited by subjects evaluating a list of 30 adjectives (e.g. outgoing, worrying) using a scale from 1 (not at all) to 4 (a lot) to indicate how well the single adjective describes them. We chose the MIDI scale because it was constructed to provide "the shortest possible set of items to measure personality reliably" (Lachman and Weaver, 1997). As our survey was an online survey it was critical to keep the time short participants needed to answer the questions. The MIDI scale was developed using multiple pre-existing personality inventories (e.g., Goldberg, 1992; Trapnell & Wiggins, 1990).

3.2 Open-ended choice experiments

In order to determine demand for organic produce (tomatoes) we apply open-ended choice experiments (OECE). OECEs have been used by several authors so far, especially in the marketing literature. In this paper we follow the methodology applied by Gabor, Granger, and Sowter (1970) in using a hypothetical OECE. Compared to choice experiments where participants are asked to choose the preferred alternative (or none of the presented alternatives), OECE models have the advantage that consumers choose the quantity of each alternative (good) given a specific price. See an example of such a choice set in figure 1.

Figure 1: Example of OECE choice set

	Tomatoes at $2.00/lb.	Organic tomatoes at $2.50/lb.
I would like to buy…	_____lbs.	_____lbs.

By applying OECE individual consumers' willingness to pay for single units of a product can be estimated. The price for the substitute product – here conventional tomatoes – is fixed based on a field price observed in the market place. Fixing the price of one good in the OECE is a disadvantage compared to CE's. Using CEs prices vary across products which enables the estimation of cross-price elasticities. In the case of the OECE applied here only own-price elasticities can be calculated.

In the study participants received a short introduction into the choice mechanism and had to indicate how many pounds they wanted to buy of either tomato eight times. They were allowed to enter 0 lbs. The price combinations varied from choice set to choice set. The prices ranged from $0.50/lb. to $3.50/lb. according to a market price observation in a large city in the Midwest. The prices for the organic tomatoes were varied whereas the price of the conventional tomatoes was fixed.

Differently from the econometric analysis by Corrigan et al. (2009) who used a univariate panel count model we employ tobit models to determine the quantities of organic and non-organic produce bought in the context of an OECE.

4. Empirical Results

A pre-test was conducted in summer 2012, in order to investigate conceptual and wording issues of the draft questionnaire. Afterwards the survey was conducted online using Qualtrics to obtain an internet-based sample in the U.S. that would be reasonably representative of the population in terms of major socio-demographic features. The 185 participants in this study were, on average, 47 years old; 53% were female. Some 19% of the sample have a High School diploma, 36% have some college education, 26% hold a Bachelor's Degree, 10% hold a Master's Degree, 8% hold a Technical School diploma, 2% have a doctorate. The average income is US$ 51,633.

Household sizes ranged from 1 to 9 individuals, the mean being 3. Some 33% of participants had at least one child in the household.

4.1 Demand for organic tomatoes

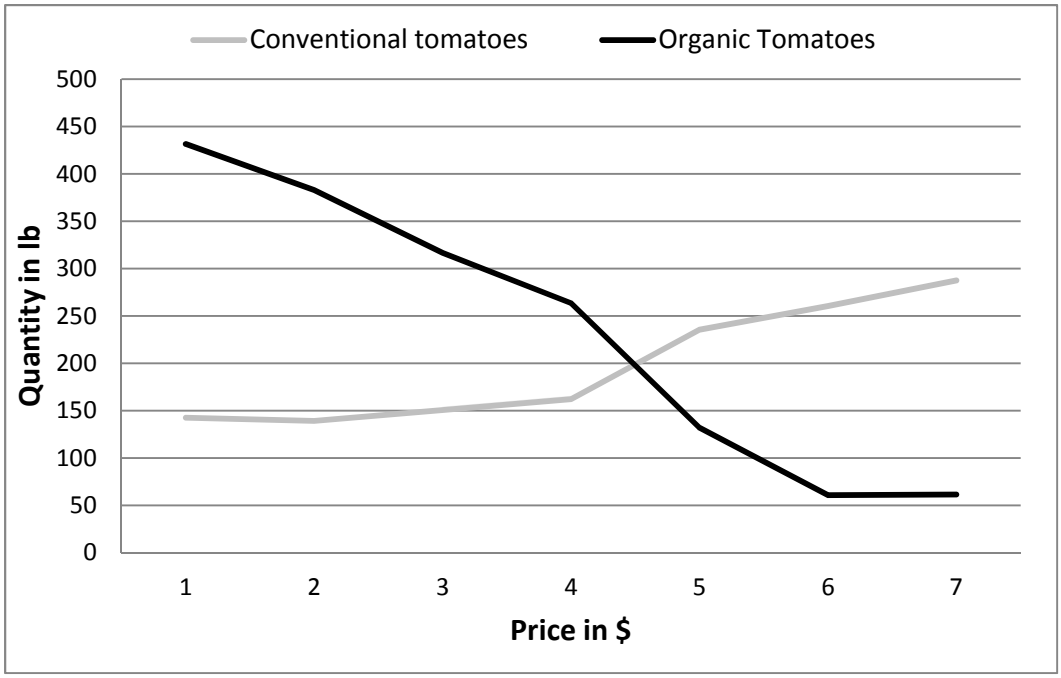
Table one depicts the demand for conventional and organic tomatoes. As described above the price for conventional tomatoes was fixed at $2 per pound. As we can see the demand for organic tomatoes declines with an increase in price from $0.50/lb to $3.50/lb while the demand for conventional tomatoes increases. The aggregated results show that the demand for organic tomatoes is about 100lb higher compared to the demand for conventional tomatoes when both products are sold at the same price. The table also reflects the percentage of no purchases at all which count about 82% for organic tomatoes once the price reaches $3.50/lb. The table also indicates that there is a certain share of customers who does not want to buy organic tomatoes at all – even for a price as low as $0.50/lb.

Table 1. Demand for conventional and organic tomatoes

Conventional			**Organic**		
Price in $	Quantity / lb	% Zero pounds	Price in $	Quantity / lb	% Zero pounds
2.00	142.5	60.6	0.50	431.5	8.0
2.00	139.0	61.7	1.00	383.0	9.1
2.00	150.5	58.3	1.50	316.5	13.7
2.00	162.0	54.9	2.00	263.5	28.6
2.00	235.5	30.9	2.50	132.0	61.7
2.00	260.5	23.4	3.00	60.7	78.3
2.00	287.5	21.1	3.50	61.5	81.7

Figure 2 graphically depicts the relationship between organic and conventional tomato demand.

Figure 2. Demand curve for organic and conventional tomatoes.



4.2 Importance of values

Table 2 shows the descriptive results for the SVI. The bold variables are the values and the variables below are the describing adjectives. The values are calculated by summing up all related adjectives and dividing it by the number of adjectives. Results show that the values are ordered in importance as follows: benevolence (m=7.2), self-direction (m=7.14), security (m=7.05), universalism (m=6.92), achievement (m=6.87), hedonism (m=6.64), tradition (6.03) and power (5.13). With regard to single items participants consider especially being honest, healthy and family security as a guiding principle in their life. Authority, detachment and social power are least important as a guiding principle.

Table 2. Schwartz Value Inventory

Variable	Mean	SD	Min	Max
Security	7.05	1.28	2.71	9
National security	7.25	1.83	2	9
Reciprocation of favors	6.33	2.07	1	9
Family security	7.74	1.58	1	9
Social order	6.31	2.01	1	9
Clean	7.12	1.63	2	9
Spirituality				
Sense of belonging	6.82	1.84	1	9
Healthy	7.78	1.37	3	9
Inner harmony	7.17	1.80	2	9
Meaning in life	7.02	1.71	2	9
Spiritual life	6.26	2.47	1	9
Detachment	4.97	2.23	1	9
Social recognition	5.86	1.85	1	9
Power	5.13	1.68	1.4	9
Public image	5.65	2.17	1	9
Authority	5.07	2.17	1	9
Wealth	5.40	2.04	1	9
Social power	3.66	2.26	1	9
Achievement	6.87	1.24	3.4	9
Ambitious	6.84	1.75	2	9
Successful	6.81	1.62	2	9
Influential	5.80	1.96	1	9
Capable	7.51	1.39	3	9
Intelligent	7.40	1.56	2	9
Hedonism	6.64	1.45	2.5	9
Pleasure	6.11	1.71	1	9
Enjoying life	7.18	1.72	1	9
Stimulation	5.79	1.60	2	9
Exciting life	6.01	1.84	2	9
Varied life	6.17	1.71	2	9
Self respect	7.62	1.51	2	9
Daring	5.18	2.15	1	9
Self direction	7.14	1.28	3.2	9
Choosing goals	7.18	1.59	2	9
Creativity	6.54	1.72	2	9
Curious	6.67	1.65	2	9
Freedom	7.58	1.58	2	9
Independent	7.25	1.69	1	9
Universalism	6.92	1.30	3.1	9

Wisdom	7.09	1.51	2	9
World at peace	7.27	1.85	1	9
Social justice	7.18	1.65	1	9
World of beauty	6.79	1.69	2	9
Protecting environment	6.53	1.78	2	9
Unity with nature	6.04	2.03	1	9
Equality	7.13	1.93	1	9
Broad minded	7.11	1.74	1	9
Benevolence	7.20	1.28	3.3	9
Loyal	7.39	1.61	1	9
Responsible	7.52	1.44	2	9
True friendship	7.43	1.48	1	9
Honest	7.82	1.40	3	9
Forgiving	7.17	1.60	2	9
Helpful	7.03	1.68	1	9
Mature love	7.13	1.80	2	9
Conformity	7.02	1.40	3	9
Obedient	6.38	2.03	2	9
Honoring elders	7.27	1.76	2	9
Politeness	7.32	1.67	1	9
Self discipline	7.04	1.60	2	9
Tradition	6.03	1.45	1.7	9
Accepting life	6.45	2.05	1	9
Moderate	5.90	1.92	1	9
Respect for traditions	6.31	1.97	1	9
Devout	5.71	2.56	1	9
Humble	6.85	1.67	2	9

4.3 Importance of personality traits

Table 3 shows the descriptive results for the MIDI scale. The bold variables are the personality traits and the variables below are the describing adjectives. The traits are calculated by summing up all related adjectives and dividing it by the number of adjectives. Results show that the personality traits are ordered in how far they describe someone best as follows: agreeableness (m=3.35), extraversion (m=3.02), openness (m=3.01), conscientiousness (m=2.98) and neuroticism (m=2.60). With regard to single items participants consider themselves especially being responsible, helpful and caring. Participants do not think of themselves as nervous, forceful or careless.

Table 3. Personality traits

Variable	Mean	SD	Min	Max
Agreeableness	3.35	0.55	1.4	4
Helpful	3.51	0.69	1	4
Warm	3.27	0.71	1	4
Caring	3.43	0.74	1	4
Softhearted	3.22	0.75	1	4
Sympathetic	3.33	0.67	1	4
Openness	3.01	0.55	1.4	4
Creative	2.90	0.87	1	4
Imaginative	3.10	0.80	1	4
Intelligent	3.33	0.67	1	4
Curious	3.18	0.78	1	4
Broadminded	3.18	0.83	1	4
Sophisticated	2.65	0.95	1	4
Adventurous	2.77	0.89	1	4
Neuroticism	2.60	0.57	1.3	4
Moody	2.42	0.95	1	4
Worrying	2.44	0.95	1	4
Nervous	2.34	0.98	1	4
Calm	3.09	0.80	1	4
Extraversion	3.02	0.61	1.2	4
Outgoing	2.94	0.89	1	4
Friendly	3.42	0.70	1	4
Lively	2.87	0.81	1	4
Active	3.01	0.84	1	4
Talkative	2.88	0.85	1	4
Conscientiousness	2.98	0.45	1.5	4
Organized	3.19	0.78	1	4
Responsible	3.54	0.67	1	4
Hardworking	3.39	0.80	1	4
Careless	1.79	0.89	1	4

4.4 Econometric Model

Results from the tobit model with lower boundary set to 0 show that if the tomatoes were organically produced demand dropped by 1.3 lbs. Variables included are whether the tomatoes were *organic* (equal to 1 if organically produced, 0 if otherwise), *price* (price in $/lb for tomatoes), values, personality traits, interaction effects between values and organic and

interaction effects between personality and organic to account specifically for the influence of human values and personality on demand for organic tomatoes.

Table 4. Influence of human values and personality on demand for organic tomatoes

Quantity in lbs.	Coef.	SE	z value	P>|z|
Organic	-1.272	0.712	-1.790	*
Price	-1.570	0.059	-26.790	***
V_Security	-0.238	0.163	-1.450	
V_Power	0.076	0.110	0.700	
V_Achievement	0.464	0.169	2.740	***
V_Hedonism	0.067	0.114	0.580	
V_Stimulation	0.130	0.100	1.300	
V_Self-Determination	-0.535	0.190	-2.820	***
V_Universalism	-0.184	0.160	-1.150	
V_Benevolence	0.082	0.222	0.370	
V_Conformity	-0.344	0.166	-2.080	*
V_Tradition	0.428	0.141	3.040	***
P_Agreeableness	0.162	0.309	0.520	
P_Openness	0.535	0.264	2.020	*
P_Neuroticism	-0.123	0.216	-0.570	
P_Extraversion	0.658	0.283	2.320	*
P_Conscienciousness	-0.771	0.301	-2.560	*
Organic*V_Security	0.479	0.122	3.910	***
Organic*V_Power	-0.113	0.081	-1.390	
Organic*V_Achievement	-0.180	0.132	-1.360	
Organic*V_Hedonism	-0.289	0.086	-3.370	***
Organic*V_Stimulation	-0.126	0.075	-1.670	*
Organic*V_Self-Determination	0.234	0.148	1.580	
Organic*V_Universalism	0.440	0.124	3.540	***
Organic*V_Benevolence	0.217	0.171	1.270	
Organic*V_Conformity	-0.243	0.128	-1.900	*
Organic*V_Tradition	-0.070	0.105	-0.670	
Organic*P_Agreeableness	-0.821	0.228	-3.610	***
Organic*P_Openness	-0.046	0.197	-0.230	
Organic*P_Neuroticism	0.188	0.162	1.160	
Organic*P_Extraversion	0.297	0.221	1.350	
Organic*P_Conscienciousness	-0.026	0.223	-0.120	
Constant	3.292	0.997	3.300	***

If the price increased by $1, demand decreased by 1.6 lbs. Several values and personality traits show to significantly influence demand for tomatoes. If someone holds strong values of achievement and tradition demand is likely to increase while those who value self-determination and conformity are less likely to demand tomatoes. Individuals with high levels of openness and extraversion are more likely to demand tomatoes – the opposite is true for conscientious consumers.

With regard to demand specifically for organic tomatoes the results show that values seem to have a higher impact on organic demand as only one personality trait is significant when included as interaction effect with a dummy variable for 'organically produced'. If consumers value security and universalism they are more likely to have a higher demand of organic tomatoes. If consumers value hedonism, stimulation and conformity they are less likely to demand organic tomatoes. Agreeable personas are less likely to demand organic tomatoes.

5. Conclusion

This paper analyzes the impact of human values and personality on the demand for organic tomatoes, thereby providing policy makers and the organic food industry with insight regarding demand for organic produce as well as explanatory factors of this demand. From a methodological point of view this paper shows another way of modeling data from OECE experiments. In contrast to the commonly used choice experiments the OECE experiments have not been used very often in the literature so far, this study provides insights into the method. Furthermore, the underdeveloped area of including psychometric variables in addition to socio-demographics in explaining demand is addressed.

With regard to hypothesis 1, results show that consumers do make a distinction between conventional and organic produce, such that human values have a differential impact with regard to predicting demand for products associated with organic labels. However, looking specifically at the hypothesis that social-centered values are stronger explanators for demand for organic produce than self-centered values the results are mixed. Consumers with strong individualistic domains of hedonism and stimulation are more likely to have a higher demand for organic, the same holds for consumers with the strong collectivist domain conformity and those values that regard both (security and universalism). Hence, the hypothesis that specifically

social- or self-centered values lead to demand cannot be accepted. Regarding the hypothesis that Hedonism, Achievement, Security, Conformity, Tradition and Universalism will be positively associated with demand for organic produce due to it's associated underlying values, results are also mixed. With regard to hypothesis 2, results show that consumers make do a distinction between conventional and organic produce, such that personality has a differential impact with regard to predicting demand for products associated with organic labels. However, results aren't as strong as for human values. Only agreeableness has a significant effect which is in contrast to the stated hypothesis with a negative influence of a high level of agreeableness on demand for organic produce. This discussion leads to the assumption that we fail to reject hypothesis 3, i.e. human values have a stronger influence on demand for organic produce than personality. Overall, results indicate that human values and personality are able to explain a portion of the variability of demand for organic tomatoes.

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