

Heterogenous social mechanisms drive the intention to purchase organic food

Jordi Lopez-Sintas, Giuseppe Lamberti and Pilar Lopez-Belbeze

*Department of Business, Facultat d'Economia i Empresa,
Universitat Autònoma de Barcelona, Bellaterra, Spain*

Abstract

Purpose – This article explores the heterogenous social mechanisms that drive responsible environmental behaviours by investigating differences in the mean effect of the psychosocial determinants of the intention to buy organic foods.

Design/methodology/approach – Using data for a representative sample of the Spanish population, we estimated the mean effect of the constructs represented in the responsible environmental behaviour (REB) theory that affect sustainable food consumption, and examined the social mechanisms that may explain heterogeneity in the mean effect of those constructs. Confirmatory factor analysis, linear regression, and latent class regression were used in the analysis.

Findings – We found that the effect of REB's psychosocial constructs varied significantly, demonstrating social heterogeneity in the estimated average effect. We identified different social mechanisms that explain variations in organic food purchase intentions: environmental attitudes and social norms shape these intentions among socioeconomically privileged consumers, whereas personal norms shape these intentions among less socially advantaged consumers.

Originality/value – Our research contributes to the literature by highlighting the existence of differing social mechanisms explaining organic food purchase intentions. The uncovering of three social mechanisms explaining differences in the mean effect of factors driving those intentions provides valuable insights with regard to both further developing a holistic framework for responsible environmental behaviours and developing new public policies and marketing strategies aimed at improving sustainable food consumption.

Keywords Purchase intentions, Organic food, Attitudes, Personal norms, Social norms, Systematic heterogeneity

Paper type Research paper

1. Introduction

Sustainable food consumption is a complex and urgent social challenge that can reduce the environmental impact of producing and consuming food (Grymshi *et al.*, 2022a) and help combat climate change. Moving from conventional foods to more sustainable options requires the implication of three principal stakeholders: the producers who supply the market, the consumers who choose among the different products on offer, and finally the policymakers, who regulate the kind of products that can be offered in the market (Gaitán-Cremaschi *et al.*, 2018). However, while the stakeholders have been identified, the best mechanism to speed the conversion toward sustainable food consumption is as yet unknown.

The two main approaches to promoting sustainable food consumption in the interest of combating climate change are via food production regulation and changes to consumer



ecological behaviours. Regarding regulation, research (e.g., [Poore and Nemecek, 2018](#)) indicates that, due to multiple environmental influences and supply chain interactions, policymakers' options are limited to influencing producers to reduce their ecological impact. One finding of research that underscores the critical importance of dietary modifications is that the environmental impact of even the lowest-impact animal production often surpasses that of vegetarian equivalents ([Poore and Nemecek, 2018](#)).

As for consumer ecological behaviours and the underlying drivers of sustainable consumption, recent research has focused on the psychosocial factors that influence sustainable food consumption and the intention to purchase environmentally friendly products ([Ahmed *et al.*, 2021](#); [Rana and Paul, 2017](#); among others). Nevertheless, a significant challenge facing policymakers arises from the existence of systematic heterogeneity among consumers. Indeed, the mean effect of the determinants of organic food purchase intentions may vary significantly across different consumer groups, e.g., between more and less privileged consumers, or between younger and older consumers. This heterogeneity substantially complicates the task of formulating effective sustainable consumption policies. While most research has focused on identifying the above-mentioned psychosocial factors, less research has been dedicated to how psychosocial drivers affecting environmentally friendly intentions in particular social contexts ([Ahmed *et al.*, 2021](#); [Ferreira and Pereira, 2023](#); [Klößner and Ohms, 2009](#); [Le-Anh and Nguyen-To, 2020](#); [Persson, 2013](#); [Radman, 2005](#); [Rana and Paul, 2017](#); [Rodríguez-Bermúdez *et al.*, 2020](#); [Sandhu *et al.*, 2019](#)). Even less research has been conducted into the heterogeneous social groups behind aggregate market demand, heterogeneity regarding particular food categories ([Palma *et al.*, 2017](#); [Peschel *et al.*, 2016](#)), consumer environmental knowledge ([Peschel *et al.*, 2016](#)), willingness to pay for organic food ([Palma *et al.*, 2017](#)), and sustainable consumer behaviours ([Aral and López-Sintas, 2023](#)). Finally, no research at all (as far as we are aware) has explored heterogeneity in the social mechanisms underpinning intentions regarding organic food, whose purchase and consumption constitutes a routinized social practice, a pragmatic and everyday action ([Spaargaren, 2003](#)). Social mechanisms refer to how consumers' everyday life shapes the influence of psychosocial drivers on organic food purchase intentions. Our research, based on a social mechanisms approach, aims to fill that gap by explaining how social context shapes the mean effect of the factors driving consumers' environmental behaviours.

To understand the factors influencing organic food purchase intentions in Spain and variations in their impact, we compiled a representative sample and framed it in a holistic responsible environmental behaviour (REB) framework that considers the individual and social dimensions of behaviours. The REB theory seeks to understand and explain why individuals engage in environmentally responsible actions ([Kurisu, 2015](#)), whether through self-interested or altruistic motivations. However, individual psychosocial factors are not developed in a vacuum, but in a social setting. Consequently, instead of examining only the global impact of the psychosocial factors suggested by the REB theory ([Bamberg and Möser, 2007](#); [Hines *et al.*, 1986](#); [Kurisu, 2015](#)), we are interested in uncovering the different social mechanisms that shape heterogeneity in the mean effect of the psychosocial factors influencing organic food purchase intentions.

Consequently, we aimed to (1) uncover systematic heterogeneity in the factors influencing organic food purchase intentions, and (2) identify social groups for which the mean effect of psychosocial factors differs.

2. Literature review and conceptual framework

In this research, we are interested in exploring consumer intentions to buy organic food, covering different food categories depending on the context, such as organic food, eco-friendly food, and even including food safety ([Mohd Suki, 2016](#)). Organic food is certified

as produced under environmental stewardship, in rotational crop systems without using synthetic chemicals and genetically modified seeds, and if processed, without using synthetic additives and preservatives (Paull, 2020). Eco-friendly food applies the same organic farming principles, but is also locally sourced and seasonal, and based on regenerative agriculture and transparent and ethical practices (Gaitán-Cremaschi *et al.*, 2018).

Consumer ecological behaviours have been studied mainly in two main individualistic theoretical psychosocial frameworks, subsumed in the REB theory (Bamberg and Möser, 2007; Hines *et al.*, 1986; Kurisu, 2015; Ajzen and Fishbein, 1977) theory of planned behaviour (TPB), exploring how self-interest explains behaviours (rational choice), and Schwartz's (1977) norm activation model (NAM), a theory of pro-social behaviours. The TPB and NAM both provide the main frameworks used to explain the factors driving ecological behaviour (Cottrell, 2003; Kaiser *et al.*, 1999; Minton and Rose, 1997).

REB theory seeks to understand and explain why individuals engage in environmentally responsible actions (Kurisu, 2015), whether for self-interested or altruistic reasons. This theory focuses on the individual, i.e., just one side of reality, yet individual motivations are not developed in a vacuum but in a social context. Consequently, since the mean effect of factors driving organic food purchase intentions may vary from one social context to another, we need a holistic approach that considers both the individual and social dimensions underlying sustainable consumption and the interdependence between both.

2.1 *The responsible environmental behaviour theory*

The REB theory, as a framework for decision-making and behaviours regarding the environment and sustainability, encompasses organic food purchase intentions (He *et al.*, 2019; Kamboj *et al.*, 2023; Yin *et al.*, 2010), the implementation of non-waste habits at home (Rezai *et al.*, 2013), and support for pro-environmental organizations and legislation (Hayward, 1990). Research into organic and eco-friendly food has partially applied elements of the REB theory, mainly regarding consumer attitudes to eco-labelled foods (Grymshi *et al.*, 2022a), organic food costs (Aschemann-Witzel and Zielke, 2017), organic and local food preferences (Zepeda and Deal, 2009), consumer awareness of organic foods (Briz and Ward, 2009), motivations for buying organic foods (Niva *et al.*, 2014; Rana and Paul, 2020), consumer trust in organic foods (Murphy *et al.*, 2022), the association between eco-friendly food purchases and the social position of consumers (Palma *et al.*, 2017), consumer context-based behaviours (Thi Nguyen and Dang, 2022), and the attitude-behaviour intention gap (Vermeir and Verbeke, 2006).

Still other researchers have studied the mean effect of psychosocial drivers on intentions or behaviours in particular social groups (Ahmed *et al.*, 2021; Ferreira and Pereira, 2023; Klöckner and Ohms, 2009; Le-Anh and Nguyen-To, 2020; Radman, 2005; Rana and Paul, 2017; Rodríguez-Bermúdez *et al.*, 2020; Sandhu *et al.*, 2019). However, as mentioned above, less research has been conducted into the possible social mechanisms that drive heterogeneous intentions and behaviours regarding particular food products (Palma *et al.*, 2017; Peschel *et al.*, 2016), eco-labelled food products (Grymshi *et al.*, 2022a), consumer knowledge (Peschel *et al.*, 2016), social distinctions and willingness to pay (Palma *et al.*, 2017; Wang, 2019), and sustainable consumer behaviours (Aral and López-Sintas, 2023). As far as we are aware, what remains unexplored is heterogeneity in the social mechanisms underpinning organic food purchase intentions.

2.2 *Hypothesis development*

2.2.1 *Self-interest factors.* According to the TPB, while all intended behaviours have a goal, internal and external factors may positively or negatively affect voluntary control over that goal. Regarding food consumption, intentions to act may fail due to an individual's difficulty

in changing habits due to cost or intentions may not be translated to acts due to a challenging social context. According to the REB theory, the organic food purchase intention depends on consumer beliefs, attitudes, and control over desired outcomes. A meta-analysis of research on responsible consumption has found that the cognitive variable of knowledge is also correlated with environmental behaviours (Hines *et al.*, 1986).

Ecological attitudes. This refers to consumer beliefs, values, and emotional responses that form a disposition that positively or negatively influences environmental behaviours (Tarkiainen and Sundqvist, 2005). Regarding the environment, according to Hungerford and Volk (1990), attitudes are beliefs that underpin the drivers behind pro-environmental behaviours. Attitudes are therefore value assessments regarding environmentally friendly foods and environmental protection. The stronger an individual's positive attitude to sustainable food, the stronger the intention to buy organic foods (Ferreira and Pereira, 2023; Minton and Rose, 1997). We therefore hypothesize as follows:

H1. A favourable attitude to organic foods is positively related to organic food purchase intentions.

Knowledge of environmental issues. Organic food purchase intentions also depend on how well the individual is informed. Consumers need to understand the environmental impact of food production and the benefits and harms associated with organic and conventional food production systems (Rana and Paul, 2017), as an intention to act in a particular way may be impeded by a lack of knowledge. Knowledge of the environmental impact of food production reflects an awareness of environmental issues, including of food components, processes, and challenges, and the interconnection between food-related behaviours and environmental impact (Kamboj *et al.*, 2023). This knowledge, encompassing a wide range of environment-related topics, plays a crucial role in shaping individual attitudes, behaviours, and decisions (Zepeda and Deal, 2009). Research has found that environmental knowledge positively influences organic food purchase intentions (He *et al.*, 2019; Le-Anh and Nguyen-To, 2020). Consequently, we hypothesize as follows:

H2. Knowledge of environmental issues is positively related to organic food purchase intentions.

2.2.2 Pro-social behaviours. Not all behaviours are self-interested, so the REB introduces another building block that explains consumer pro-social behaviours, namely, Schwartz's (1977) NAM. The NAM theory explains how the feeling of moral obligation experienced on perceiving another's need activates an internal structure of values and norms (Schwartz, 1977, p. 23). In the REB theory, since current and future generations are affected by environmental problems, these are predicted to activate personal norms. Awareness of interdependence and a sense of responsibility are the two main factors in altruistic behaviour, while awareness of consequences reflects knowledge of the interdependence between actions and outcomes. Taking responsibility through personal norms refers to internalizing the external consequences of environmental behaviours and the desire not to aggravate problems. Responsibility for one's acts fundamentally refers to our feeling of moral obligation regarding our actions (Schwartz, 1977).

Social norms. Social norms refer to the shared beliefs, attitudes, and behaviours considered acceptable within a particular social group (Kamboj *et al.*, 2023). According to Bierhoff (2002), social norms are formed and activated through the interaction of cognition (knowledge), emotions (affect), and social factors (people are essential to me). Social norms may cover a normative influence (what is right), descriptive content of what people are doing (what do people like me do), prescriptive content (what should people like me do), a social identity dimension (I am like that social group), a referent group (I belong to that social group), social learning dimensions (norms can be learned due to their descriptive content), social

pressures to conform (to do what is right), and collective action that shares the intention (Ahmed *et al.*, 2021; Kurisu, 2015; Vermeir and Verbeke, 2006) – in our case, to buy organic foods. Since social norms play a significant role in shaping consumer intentions and behaviours (Kamboj *et al.*, 2023), understanding how they influence individuals can be valuable for businesses, policymakers, and organizations seeking to promote sustainability to consumers. Accordingly, we hypothesize as follows:

H3. Social norms are positively related to organic food purchase intentions.

Personal norms. Personal norms regarding environmental behaviours are internalized beliefs and values that individuals believe to be morally and socially correct (Bamberg and Möser, 2007). Those norms guide an individual's sense of personal responsibility regarding the environment. When personal norms align with environmentally responsible actions, individuals are likelier to engage in pro-environmental behaviours (Klößner and Ohms, 2009). Research has found that personal norms are a positive and significant predictor of pro-environmental behaviours in different contexts, e.g., reduced personal car use and the intention to use electric vehicles (He and Zhan, 2018) and to purchase organic food (Klößner and Ohms, 2009; Sandhu *et al.*, 2019). We therefore hypothesize as follows:

H4. Personal norms are positively related to organic food purchase intentions.

2.3 Social mechanisms: heterogeneity in the mean effect of environmental drivers

The psychosocial constructs influencing environmental behaviours—consumer attitudes, knowledge of environmental issues, social norms, and personal norms—are developed through everyday life experiences and actions that take place in particular social contexts. Individuals live in a social context formed by their particular position in their social space and nearby people. This position in the social space, based on a person's economic, cultural, and social capitals and on their social environment (Bourdieu, 1984), builds different, although related, microsocial contexts that influence the individual's responsibility for their behaviours and norms (Blasius and Friedrichs, 2008). This is what sociologists call the social disposition of a group of people positioned similarly in their social space. That similitude of experiences shapes how consumers select and interpret actions and behaviours (their own and that of others) considered appropriate to the social context. Thus, different positions in the social space will be associated with different interpretations of social reality, while consumer attitudes, social norms, and personal norms locally influencing interpretations of reality and consequent actions (Silver, 2023; Spaargaren, 2003).

Research recognizes that social factors, such as personal position in the socioeconomic space, can influence responsible environmental behaviours (Aral and López-Sintas, 2021; Brand, 2010): social position influences an individual's actions and their interpretation of their own and others' actions (Niva *et al.*, 2014, p. 479). For that reason, an individual's cultural capital and economic capitals (usually proxied by education and income, respectively) have been found to directly and indirectly influence environmental behaviours (Aral and López-Sintas, 2021; He *et al.*, 2018; Hines *et al.*, 1986; Rezai *et al.*, 2013; Tarkiainen and Sundqvist, 2005). For instance, since organic food is typically more expensive than conventional food (Sanjuán *et al.*, 2003, p. 142), when it comes to the intention to buy organic food, economic capital positively moderates the influence of attitudes and personal responsibility (Aral & López-Sintas, 2020; He *et al.*, 2019), while cultural capital positively moderates the influence of knowledge and action (He *et al.*, 2019).

The usual way to prove such social influences is through a moderating effect (Ahmed *et al.*, 2021; He *et al.*, 2019; Sandhu *et al.*, 2019). A moderating effect provides evidence of systematic heterogeneity in factors influencing consumer behavioural intentions (Aral and López-Sintas, 2020), depending on their particular social group (e.g., educated people). However, moderation analysis

does not inform on the extent to which drivers influence organic food purchase intentions or inform on differing patterns according to position in the social space (Aral and López-Sintas, 2023).

Suppose, as social theory of practice predicts, that consumer actions and interpretations differ according to their social position (Lizardo and Strand, 2010). In that case, we should expect the influence of consumer attitudes, social norms, and personal norms to vary regarding organic food purchase intentions. An individual in a more advantaged social position has more extensive social networks (Lizardo, 2006), which means more social peers are likely to influence an individual's interpretations of reality, while an individual in a less advantaged social position lives in a more reduced social world and is influenced by fewer people. Consequently, the influence of norms will differ: for the former, social norms are likely to predominate, whereas for the latter, personal norms will predominate. Consumer attitudes, publicly expressed in social interactions, guide the interpretation of reality and predict actions. Hence, the influence of consumer attitudes on purchase intentions will consequently be greater and lesser for more advantaged and less disadvantaged social groups, respectively. What we call social mechanisms reflects the existence of heterogeneity in the mean effect of environmental drivers on the intention to behave in an environmentally friendly way. The reason for this heterogeneity is that the mean effect of environmental drivers is shaped by consumers' everyday experiences. Consequently, we propose the following research question:

RQ. To what extent does heterogeneity in the mean effect of psychosocial factors on organic food purchase intentions be explained by a few social mechanisms?

3. Methodology

3.1 Data collection

We analyse Spanish consumers' demand for organic food and the factors influencing their purchase intentions. According to the 2022 World of Organic Agriculture Yearbook (Bio Eco Actual, 2023), Spain is the third EU organic food producer (after Italy and France) and second in farmland hectares (after France), yet is not among the largest markets for organic foods (Sanjuán *et al.*, 2003). This is attributed to a possible confusion between organic, ecological, green, and locally and home-produced food (Rodríguez-Bermúdez *et al.*, 2020), and to the comparative higher cost of organic foods (Briz and Ward, 2009; Yin *et al.*, 2010). Since Spanish per-capita purchasing power standard (PPS) income in 2022 hovered just below the EU average (Eurostat data), Spain is a good candidate for a case study of a flourishing organic food market in terms of understanding the future of European organic food demand. Although the organic sector is still relatively small in Europe, the demand for and production of organic food is increasing: farmland dedicated to organic production, growing at the rate of 5.2%, in 2021 represented 9.6% of total EU farmland.

Our survey garnered responses from a representative Spanish sample of individuals, aged 18–85 years, selected between 1 and 12 January 2023 using the Netquest online panel. Data collection started by first establishing the sample size needed to represent the Spanish population and the population quotas that would ensure non-bias. Those quotas were based on geographical area (7 according to the Spanish Statistics Institute INE classification), gender, and age. Persons were then randomly invited to participate in the survey in four waves, to ensure representativeness and non-bias (reflecting size and different population shares, respectively). Of the initial total of 4226 invited people, 2976 completed the survey (participation rate 70.42%). Our sample was representative considering a confidence level of 0.95%, an error rate of 1.9%, and a proportion rate of 50%. No missing data were identified, other than income data, which resulted in the exclusion of 14 participants from the analysis, leaving a final sample of 2962 individuals.

Our individual-level theoretical constructs, obtained from the REB theory, were measured by indicators adapted from previous research: consumer attitudes (He *et al.*, 2019; Tanner and Wölfing Kast, 2003), knowledge of environmental issues (Cottrell, 2003; He *et al.*, 2019), personal norms (Bamberg *et al.*, 2007; Gärling *et al.*, 2003), social norms (Bamberg *et al.*, 2007), and organic food purchase intentions (adapted from He *et al.*, 2019; Tarkiainen & Sundqvist, 2005). All items were evaluated using a Likert scale ranging from 1 to 5 (lowest to highest score), reflecting agreement or disagreement with survey statements. Data were also collected on social indicators such as age, gender, income, education, living situation, and purchasing behaviours. (Details on the constructs, their definitions, the corresponding items, references, and descriptive statistics are available as [supplementary material online](#)).

Table 1 summarizes participant characteristics. Men accounted for 50.6% of the sample, and age was predominantly 35–54 years (approx. 40% of the sample). Most participants had upper secondary or postgraduate education (70%), had middle-to-high incomes (57% > 2001€), were living with a partner or with a partner/children (71%), and were currently employed (65.1%). Regarding organic food purchases, 42.9% were themselves the decision-maker, while for 51.8% the task was shared.

3.2 Data analysis

We employed a three-step approach in our analysis. First, to validate the constructs and derive their scores, we implemented confirmatory factor analysis (Gatignon, 2014), a widely accepted method in consumer research, particularly when theoretical constructs are latent and need to be estimated from survey items (Kyriazos, 2018). To ensure measurement reliability (Hair, 2018), we computed Cronbach’s α and average variance extracted (AVE) reliability indices, and assessed discriminant validity using the heterotrait–monotrait (HTMT) ratio score. (Scale validation details are available as [supplementary material online](#)). Second, we implemented linear regression analysis to estimate the average impact of consumer attitudes, knowledge of environmental issues, social norms, and personal norms on organic food purchase intentions, considering consumer characteristics (Table 1) as control variables. Finally, to uncover different consumer groups, we used latent class regression (Green *et al.*, 1976), as particularly suitable when the research is exploratory and when there is reason to suspect varying effects of predictors on the dependent variable due to the presence

Variable	Categories	%	Variable	Categories	%
Gender	Female	49.4	Living situation	Alone/shared	16.8
	Male	50.6		With parents	12.2
Age	18–24 y	11		With partner	32.5
	25–34 y	15	With partner + children	38.5	
	35–44 y	20.1	Occupation	Employed	65.1
	45–54 y	19.7		Retired	24.7
	55–64 y	15.6	Eco-food purchase	Unemployed	10.3
>65 y	18.6	Self		42.9	
Education	Lower sec/less	12.2		Other	5.3
	Upper sec	35	Shared	51.8	
	Graduate	16.7			
	Postgraduate	36.2			
Income	<1000€	13.3			
	1001–2000€	29.3			
	2001–3000€	28.3			
	>3000€	29.1			

Table 1. Survey participants ($n = 2962$) characteristics

Source(s): Authors work

of differing subgroups in the sample (in our study, subgroups exhibiting varying environmental behaviours). The model was estimated using R software (R Core Team, 2021).

4. Results

4.1 Linear regression analysis: homogenous social mechanisms

Linear regression was used to evaluate our theoretical hypotheses in two models (Table 2): one to explore the impacts of consumer attitudes, knowledge of issues, social norms, and personal norms on organic food purchase intentions (Table 2, Model 1), and the other exploring the same impacts but including consumer characteristics (Table 2, Model 2).

The findings from Model 1 indicate that the primary driver of organic food purchase intentions is consumer attitudes ($\beta = 0.543$), followed by personal norms ($\beta = 0.386$) and social norms ($\beta = 0.063$). All three are statistically significant, providing evidence in favour of hypotheses H1, H2, and H3. However, H4 is rejected, since the coefficient for knowledge of environmental issues is low and non-significant ($\beta = 0.004$).

Results for Model 2 reveal that social norms are correlated with social indicators as the mean effect is reduced in this model. The mean effect of social indicators shows significant effects only for ages 55–64 years ($\beta = -0.098$) and >65 years ($\beta = -0.193$), and income

	Model 1	Model 2
Coefficient		
Intercept		0.033 (0.041) ^{NS}
Attitudes	0.543 (0.016) *	0.541 (0.016) *
Personal norms	0.386 (0.015) *	0.397 (0.015) *
Social norms	0.063 (0.019) *	0.051 (0.019) *
Knowledge	0.004 (0.013) ^{NS}	0.019 (0.013) ^{NS}
Age (ref. 18–24 y)		
25–34 y		-0.0008 (0.031) ^{NS}
35–44 y		-0.027 (0.031) ^{NS}
45–54 y		-0.045 (0.031) ^{NS}
55–64 y		-0.098 (0.033) *
>65 y		-0.193 (0.033) *
Gender (ref. male)		
Female		-0.002 (0.015) ^{NS}
Income (ref. <1000€)		
1001–2000€		0.003 (0.024) ^{NS}
2001–3000€		0.019 (0.024) ^{NS}
>3000€		0.073 (0.026) *
Education (ref. low)		
Upper secondary		-0.003 (0.025) ^{NS}
Graduate		0.030 (0.028) ^{NS}
Postgraduate		0.047 (0.026) ^{NS}
Living situation (ref. alone/shared)		
Parents		-0.011 (0.033) ^{NS}
Partner		-0.028 (0.025) ^{NS}
Partner + children		-0.027 (0.017) ^{NS}
Eco-purchases (ref. self)		
Other		0.051 (0.037) ^{NS}
Shared		0.010 (0.017) ^{NS}
Adjusted R^2	0.835	0.845

Note(s): * $p < 0.05$; ^{NS} non-significant

Source(s): Authors work

Table 2.
Linear regression results (n = 2972)

>3000€ ($\beta = 0.073$). Those findings suggest that organic food purchase intentions diminish as individuals age, but increase as income increases.

The R^2 value, which increases slightly from Model 1 to Model 2 (0.835–0.845), underscores the models' robust predictive power, as they explain over 80% of variability in organic food purchase intentions.

4.2 Latent class regression analysis: uncovering heterogenous social mechanisms

We selected three clusters using the Akaike information criterion and Bayesian information criterion for model selection (they compare models and choose that which best fits the data, balancing goodness-of-fit with complexity). Sample sizes were 595, 425, and 1949 for Clusters 1, 2, and 3, respectively. Figure 1 shows latent class regression results for the uncovered social mechanisms, characterized by the varying effects on organic food purchase intentions of consumer attitudes, knowledge of environmental issues, social norms, and personal norms.

As for the three clusters, Figure 1 shows that the primary driver for organic food purchase intentions is personal norms ($\beta = 0.926$) in Cluster 1, personal norms ($\beta = 0.545$) followed closely by consumer attitudes ($\beta = 0.434$) in Cluster 2, and finally, consumer attitudes ($\beta = 0.639$), with social norms also playing significant role, in Cluster 3. Furthermore, social norms ($\beta = -0.029$) have a small negative effect in Cluster 1, while neither social norms nor knowledge of environmental issues are significant in Cluster 2.

To better understand the consumers classified in the three clusters, we examined social characteristics (see Table 3). Thus, cluster 1 was profiled as older (>65 years) (23.60%) and male (21.63%), cluster 2 as predominantly older (18.42%), low-income (1001–2000€; 16.39%), and less well educated (18.41%) individuals, and cluster 3 as predominantly younger (18–24 years; 74.45%), high-income (2001–3000€; 71.04%), and well-educated (postgraduate; 70.90%) individuals residing with their parents (72.38%) and not responsible for ecological purchases.

Summarizing, the effects of consumer attitudes, knowledge of environmental issues, social norms, and personal norms on organic food purchase intentions are not homogenous, but shaped three consumer clusters as follows: (1) retired men, mostly influenced by personal

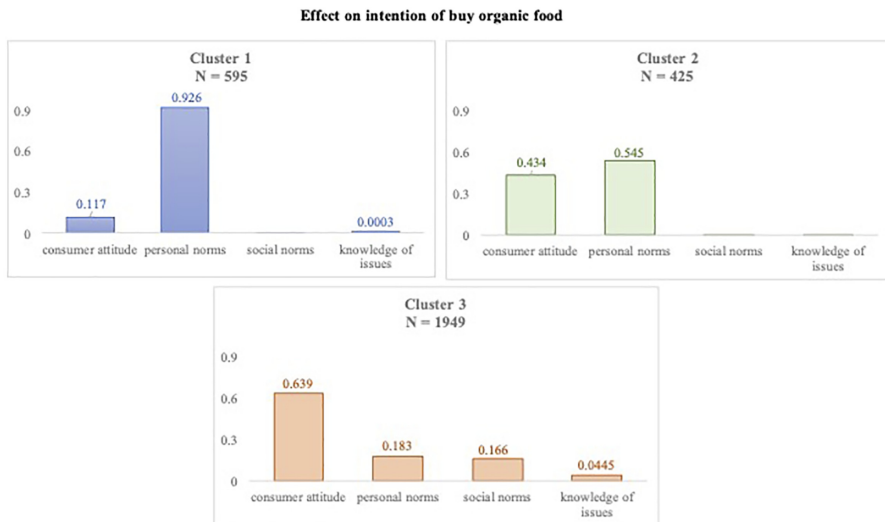


Figure 1. Latent class regression results

Source(s): Authors work

Table 3.
Cluster description by
control variables

Sociodemographics	Cluster 1 <i>n</i> = 595	Cluster 2 <i>n</i> = 425	Cluster 3 <i>n</i> = 1949
Age	23.60% (= >65)	18.42% (= >65)	74.45% (18–24)
Eco-purchases			78.34% (others)
Income		16.39% (1001–2000)	71.04% (2001–3000)
Education		18.41% (low)	70.90 (Postgraduate)
Gender	21.63% (male)		
Living situation			72.38% (living with parents)
Occupation			

Note(s): We report only the categories of variables that are highly representative of the cluster. When no % is shown, it means that there is no difference for that cluster according to that categorical variable

Source(s): Authors work

norms; (2) low-income and less well educated retired individuals, mainly influenced by personal norms and consumer attitudes, and (3) well-educated high-income younger individuals, mainly influenced by consumer attitudes.

5. Discussion

To uncover the social mechanisms that drive intentions to purchase organic foods, we selected theoretical constructs with good measurement properties whose influence on purchase intentions varies between different consumer groups. As suggested in various studies (Blasius and Friedrichs, 2008; Bourdieu, 1984; Lizardo, 2006; Lizardo and Strand, 2010; Silver, 2023), a consumer's position in the social space plays a significant role in shaping dispositions and actions regarding organic food purchase intentions. However, in estimating the average effects of consumer attitudes, knowledge of environmental issues, personal norms, and social norms on organic food purchase intentions, it is generally assumed that populations are homogenous, but that may not be true according to our findings.

We found the main driver of organic food purchase intentions to be consumer attitudes (see also Bamberg *et al.*, 2007); this contrasts with other findings (Bamberg and Möser, 2007; He *et al.*, 2019) that the main driver was the internal locus of control jointly with income (He *et al.*, 2019). The second factor influencing purchase intentions was personal norms; this contrasts with Minton and Rose (1997), who reported personal norms as the first factor influencing environmental concerns, attitudes, and behaviours. Other researchers (He *et al.*, 2019) have found that personal responsibility, a predictor of personal norms (Bamberg *et al.*, 2007; Bamberg and Möser, 2007), to come fourth in influencing behaviour. Knowledge of environmental issues was not statistically meaningful in our study, but was so in other research (Meas *et al.*, 2015; Zepeda and Deal, 2009). Other research has also found that the average effect of consumer attitudes is less than that of personal norms or environmental concerns (Ahmed *et al.*, 2021); those researchers also found that environmental concerns mediate the effect of consumer attitudes on organic food purchase intentions, and that environmental awareness (a proxy of knowledge of environmental issues) moderated the effect of environmental concerns and attitudes on intentions and behaviours (Ahmed *et al.*, 2021). Social norms have also been reported to influence purchase intentions (Vermeir and Verbeke, 2006), while a meta-analysis has reported heterogeneity in the relationships between health-related motivations and organic food consumption (Tarkiainen and Sundqvist, 2005) and health and attitudes (Rana and Paul, 2017).

We found that the effects of consumer attitudes and social and personal norms on organic food purchase intentions were not homogenous. Specifically, in response to our research question (the extent to which psychosocial factors influence organic food purchase intentions

depending on social position), we uncovered systematic heterogeneity in how consumer attitudes, social norms, and personal norms differed in their mean effect on organic food purchase intentions. This heterogeneity was reflected in three social mechanisms; thus, consumers were influenced most by personal norms in the first cluster, by personal norms and consumer attitudes in the second cluster, and by consumer attitudes, personal norms, and social norms in the third cluster. According to social indicators, the first cluster was mainly composed of retired men, with a varied mix of income, education, and living situations; the second cluster was characterized by low-income and less well educated retired individuals, heterogenous regarding gender and living situation; and finally, the third – most privileged – cluster was composed mainly of younger, well-educated, high-income individuals.

Thus, even though the homogenous model suggests that consumer attitudes, personal norms, and social norms influence organic food purchase intentions, this is only true for the third cluster—more socioeconomically advantaged than either the first or second cluster and representing around 60% of the Spanish sample. For the remainder of the sample, personal norms were the most influential construct. Our findings corroborate Silver's (2023) assertion that dispositions developed in particular social contexts (mainly family, friends, and school) contribute to reproducing environmental inequalities. More socioeconomically advantaged individuals have wider social networks and so are more outward-oriented and more influenced by their equally privileged social peers (Lizardo, 2006; Lizardo and Strand, 2010), and so will be less prone to feel responsible for their actions (Silver, 2023). If consumer actions and interpretations differ according to social position, then we can expect varying influences of consumer attitudes, social norms, and personal norms on organic food purchase intentions.

Other research has explored systematic heterogeneity in motivations to buy organic foods (Grymshi *et al.*, 2022a), willingness to pay for particular foods (Palma *et al.*, 2017), knowledge and preferences for organic food (Peschel *et al.*, 2016), social constraints affecting healthy lifestyle transitions (Wang, 2019), organic food-related motivations (Escobar-López *et al.*, 2017, 2019), and sustainable consumer behaviours (Aral and López-Sintas, 2023). All these findings suggest the existence of heterogeneity that can be explained by three (Grymshi *et al.*, 2022b; Wang, 2019) or four social clusters (Aral and López-Sintas, 2023; Escobar-López *et al.*, 2017, 2019; Palma *et al.*, 2017), depending on the research focus. Research also suggests that around 70% of people have utilitarian food choices (Palma *et al.*, 2017), are price-sensitive, are less willing to pay more for organic food, and have limited knowledge; these findings are consistent across Asia (Wang, 2019), the USA (Palma *et al.*, 2017), Canada, Germany (Peschel *et al.*, 2016), Mexico (Escobar-López *et al.*, 2017), Spain (Grymshi *et al.*, 2022a), and the EU (Aral and López-Sintas, 2023). Those complementary findings—contributing evidence of varying motivations, preferences, willingness to pay, social constraints, attitudes, personal norms, social norms, and environmental concerns according to social group—would point to the need for a more social focus on sustainable consumption if we are to understand the systematic heterogeneity in the effects of psychosocial factors on eco-friendly food choices.

5.1 Theoretical contribution

This study contributes to our knowledge of sustainable consumption by demonstrating that the mean effect of the REB on organic food purchase intentions hides the existence of social heterogeneity. The theoretical constructs driving the intention to buy differ in their effects depending on how consumers experience their everyday lives. These variations in the mean effect of psychosocial factors influencing consumer behaviours are reflected in social mechanisms whereby ordinary life shapes the influence of factors driving organic food purchase intentions. As far as we are aware, ours is the first study that provides a holistic framework—the social mechanisms influencing organic food purchase intentions—that blends individual and social approaches to studying sustainable food consumption.

5.2 Implications for practitioners

By encouraging the purchase of more eco-friendly foods, policymakers can lead change in the food production system. However, they need to consider to what extent psychosocial factors influence particular groups of consumers. An example of one persuasive argument to change attitudes and social norms is protection of the environment through the promotion of organic and locally produced foods. Our research shows that this argument can impact customers in two of the three social clusters identified by us, i.e., the clusters in which purchase intentions are affected by attitudes and social norms, as their reinforcement will increase organic food purchase intentions. Another argument that would be particularly persuasive for the third social cluster, whose personal norms most influence their intentions to purchase eco-friendly food, is to reinforce personal responsibility, a precursor of personal norms (Bamberg and Möser, 2007; Sandhu *et al.*, 2019).

5.3 Limitations and future research

While our study presents valuable insights into psychosocial factors influencing purchase intentions, focusing on attitudes, environmental knowledge, and social and personal norms, its limitations include the possibility of having overlooking additional influential factors and the potential bidirectional nature of relationships between constructs. Furthermore, the identified social groups need to be additionally validated through further exploration of psychosocial factors and a more intricate causality model. We acknowledge the preliminary nature of our study and call for additional research with more comprehensive models to understand how social environments impact on consumer decisions to purchase organic foods.

6. Conclusions

We show that the overall average impact of psychosocial factors on organic food purchase intentions masks the existence of systematic heterogeneity in consumer behaviours. We uncovered three social mechanisms reflecting distinct consumer clusters, each occupying a specific social position. Socioeconomically privileged consumers tend to be swayed by environmental attitudes and social norms, while personal norms influence more disadvantaged individuals. Marketing strategies and governmental policies targeting sustainable food consumption need to acknowledge the diverse social mechanisms that underpin intentions to purchase organic food.

References

- Ahmed, N., Li, C., Khan, A., Qalati, S.A., Naz, S. and Rana, F. (2021), "Purchase intention toward organic food among young consumers using theory of planned behavior: role of environmental concerns and environmental awareness", *Journal of Environmental Planning and Management*, Vol. 64 No. 5, pp. 796-822, doi: [10.1080/09640568.2020.1785404](https://doi.org/10.1080/09640568.2020.1785404).
- Ajzen, I. and Fishbein, M. (1977), "Attitude-behavior relations: a theoretical analysis and review of empirical research", *Psychological Bulletin*, Vol. 88, pp. 888-918, doi: [10.1037/0033-2909.84.5.888](https://doi.org/10.1037/0033-2909.84.5.888).
- Aral, Ö.H. and López-Sintas, J. (2020), "A comprehensive model to explain Europeans' environmental behaviors", *Sustainability*, Vol. 12 No. 10, p. 4307, doi: [10.3390/su12104307](https://doi.org/10.3390/su12104307).
- Aral, Ö.H. and López-Sintas, J. (2021), "Is pro-environmentalism a privilege? Country development factors as moderators of socio-psychological drivers of pro-environmental behavior", *Environmental Sociology*, Vol. 8 No. 0, pp. 1-17, doi: [10.1080/23251042.2021.2018123](https://doi.org/10.1080/23251042.2021.2018123), doi: 10/gnz2s9.

- Aral, Ö.H. and López-Sintas, J. (2023), "Environmental behavior patterns across clusters of European Union countries: uncovering heterogeneity in the attitude-behavior-context relationship", *Journal of Cleaner Production*, Vol. 388, 135936, doi: [10.1016/j.jclepro.2023.135936](https://doi.org/10.1016/j.jclepro.2023.135936).
- Aschemann-Witzel, J. and Zielke, S. (2017), "Can't buy me green? A review of consumer perceptions of and behavior toward the price of organic food", *The Journal of Consumer Affairs*, Vol. 51 No. 1, pp. 211-251, Wiley, doi: [10.1111/joca.12092](https://doi.org/10.1111/joca.12092).
- Bamberg, S. and Möser, G. (2007), "Twenty years after Hines, Hungerford, and Tomera: a new meta-analysis of psycho-social determinants of pro-environmental behaviour", *Journal of Environmental Psychology*, Vol. 27 No. 1, pp. 14-25, Elsevier Science, Netherlands, doi: [10.1016/j.jenvp.2006.12.002](https://doi.org/10.1016/j.jenvp.2006.12.002).
- Bamberg, S., Hunecke, M. and Blöbaum, A. (2007), "Social context, personal norms and the use of public transportation: two field studies", *Journal of Environmental Psychology*, Vol. 27 No. 3, pp. 190-203, doi: [10/bw5d9d](https://doi.org/10/bw5d9d), doi: [10.1016/j.jenvp.2007.04.001](https://doi.org/10.1016/j.jenvp.2007.04.001).
- Bierhoff, H.W. (2002), "Just world, social responsibility, and helping behavior", *The Justice Motive in Everyday Life*, Cambridge University Press, pp. 189-203.
- Bio Eco Actual (2023), "European organic market reached €54 billion in 2021", *Bio Eco Actual*, 15 February, available at: <https://www.bioecoactual.com/en/2023/02/15/european-organic-market-reached-54-billion-in-2021/> (accessed 7 September 2023).
- Blasius, J. and Friedrichs, J. (2008), "Lifestyles in distressed neighborhoods: a test of Bourdieu's 'taste of necessity' hypothesis", *Poetics*, Vol. 36 No. 1, pp. 24-44, doi: [10.1016/j.poetic.2007.12.001](https://doi.org/10.1016/j.poetic.2007.12.001).
- Bourdieu, P. (1984), *Distinction: A Social Critique of the Judgment of Taste*, Harvard University Press, Cambridge, Mass.
- Brand, K.-W. (2010), "Social practices and sustainable consumption: benefits and limitations of a new theoretical approach", in Gross, M. and Heinrichs, H. (Eds), *Environmental Sociology*, Springer, Netherlands, Dordrecht, pp. 217-235, doi: [10.1007/978-90-481-8730-0_13](https://doi.org/10.1007/978-90-481-8730-0_13).
- Briz, T. and Ward, R. (2009), "Consumer awareness of organic products in Spain: an application of multinomial logit models", *Food Policy*, Vol. 34 No. 3, pp. 295-304, doi: [10.1016/j.foodpol.2008.11.004](https://doi.org/10.1016/j.foodpol.2008.11.004).
- Cottrell, S.P. (2003), "Influence of sociodemographics and environmental attitudes on general responsible environmental behavior among recreational boaters", *Environment and Behavior*, Vol. 35 No. 3, pp. 347-375, doi: [10.1177/0013916503035003003](https://doi.org/10.1177/0013916503035003003).
- Escobar-López, S.Y., Espinoza-Ortega, A., Vizcarra-Bordi, I. and Thomé-Ortiz, H. (2017), "The consumer of food products in organic markets of central Mexico", *British Food Journal*, Vol. 119 No. 3, pp. 558-574, doi: [10.1108/BFJ-07-2016-0321](https://doi.org/10.1108/BFJ-07-2016-0321).
- Escobar-López, S.Y., Espinoza-Ortega, A., Lozano-Cabedo, C., Aguilar-Criado, E. and Amaya-Corchuelo, S. (2019), "Motivations to consume ecological foods in alternative food networks (AFNs) in Southern Spain", *British Food Journal*, Vol. 121 No. 11, pp. 2565-2577, doi: [10.1108/BFJ-01-2019-0051](https://doi.org/10.1108/BFJ-01-2019-0051).
- Ferreira, S. and Pereira, O. (2023), "Antecedents of consumers' intention and behavior to purchase organic food in the Portuguese context", *Sustainability*, Vol. 15 No. 12, p. 9670, doi: [10.3390/su15129670](https://doi.org/10.3390/su15129670).
- Gaitán-Cremaschi, D., Klerkx, L., Duncan, J., Trienekens, J.H., Huenchuleo, C., Dogliotti, S., Contesse, M.E. and Rossing, W.A.H. (2018), "Characterizing diversity of food systems in view of sustainability transitions. A review", *Agronomy for Sustainable Development*, Vol. 39 No. 1, p. 1, doi: [10.1007/s13593-018-0550-2](https://doi.org/10.1007/s13593-018-0550-2).
- Gärling, T., Fujii, S., Gärling, A. and Jakobsson, C. (2003), "Moderating effects of social value orientation on determinants of proenvironmental behavior intention", *Journal of Environmental Psychology*, Vol. 23 No. 1, pp. 1-9, doi: [10.1016/s0272-4944\(02\)00081-6](https://doi.org/10.1016/s0272-4944(02)00081-6).
- Gatignon, H. (2014), "Confirmatory factor analysis", *Statistical Analysis of Management Data*, pp. 77-154, Springer US, Boston, MA, doi: [10.1007/978-1-4614-8594-0_4](https://doi.org/10.1007/978-1-4614-8594-0_4).

- Green, P.E., Carmone, F.J. and Wachspress, D.P. (1976), "Consumer segmentation via latent class analysis", *Journal of Consumer Research*, Vol. 3 No. 3, p. 170, doi: [10.1086/208664](https://doi.org/10.1086/208664).
- Grymshi, D., Crespo-Cebada, E., Elghannam, A., Mesías, F.J. and Díaz-Caro, C. (2022a), "Understanding consumer attitudes towards ecolabeled food products: a latent class analysis regarding their purchasing motivations", *Agribusiness*, Vol. 38 No. 1, pp. 93-107, doi: [10.1002/agr.21714](https://doi.org/10.1002/agr.21714).
- Grymshi, D., Crespo-Cebada, E., Elghannam, A., Mesías, F.J. and Díaz-Caro, C. (2022b), "Understanding consumer attitudes towards ecolabeled food products: a latent class analysis regarding their purchasing motivations", *Agribusiness*, Vol. 38 No. 1, pp. 93-107, doi: [10.1002/agr.21714](https://doi.org/10.1002/agr.21714).
- Hair, J.F. (2018), *Advanced Issues in Partial Least Squares Structural Equation Modeling*, SAGE, Los Angeles.
- Hayward, K. (1990), *Responsible Environmental Behaviour: A Test of the Hines Model*, Vol. 588, Wilfrid Laurier University, Waterloo (Canada) Theses and Dissertations (Comprehensive).
- He, X. and Zhan, W. (2018), "How to activate moral norm to adopt electric vehicles in China? An empirical study based on extended norm activation theory", *Journal of Cleaner Production*, Vol. 172, pp. 3546-3556, doi: [10.1016/j.jclepro.2017.05.088](https://doi.org/10.1016/j.jclepro.2017.05.088).
- He, P., He, Y. and Xu, F. (2018), "Evolutionary analysis of sustainable tourism", *Annals of Tourism Research*, Vol. 69, pp. 76-89, doi: [10.1016/j.annals.2018.02.002](https://doi.org/10.1016/j.annals.2018.02.002).
- He, Q., Duan, Y., Wang, R. and Fu, Z. (2019), "Factors affecting consumers' purchase intention of eco-friendly food in China: the evidence from respondents in Beijing", *International Journal of Consumer Studies*, Vol. 43 No. 5, pp. 450-470, 12525, doi: [10.1111/ijcs.12525](https://doi.org/10.1111/ijcs.12525).
- Hines, J.M., Hungerford, H.R. and Tomera, A.N. (1986), "Analysis and synthesis of research on responsible environmental behavior: a meta-analysis", *The Journal of Environmental Education*, Vol. 18 No. 2, pp. 1-8, doi: [10.1080/00958964.1987.9943482](https://doi.org/10.1080/00958964.1987.9943482).
- Hungerford, H.R. and Volk, T.L. (1990), "Changing learner behavior through environmental education", *The Journal of Environmental Education*, Vol. 21 No. 3, pp. 8-21, doi: [10.1080/00958964.1990.10753743](https://doi.org/10.1080/00958964.1990.10753743).
- Kaiser, F.G., Wölfling, S. and Fuhrer, U. (1999), "Environmental attitude and ecological behaviour", *Journal of Environmental Psychology*, Vol. 19 No. 1, pp. 1-19, doi: [10.1006/jevp.1998.0107](https://doi.org/10.1006/jevp.1998.0107).
- Kamboj, S., Matharu, M. and Gupta, M. (2023), "Examining consumer purchase intention towards organic food: an empirical study", *Cleaner and Responsible Consumption*, Vol. 9, 100121, doi: [10.1016/j.clrc.2023.100121](https://doi.org/10.1016/j.clrc.2023.100121).
- Klößner, C. and Ohms, S. (2009), "The importance of personal norms for purchasing organic milk", *British Food Journal*, Vol. 111 No. 11, pp. 1173-1187, doi: [10.1108/00070700911001013](https://doi.org/10.1108/00070700911001013).
- Kurisu, K. (2015), *Pro-Environmental Behaviors*, Springer Japan, Tokyo. doi: [10.1007/978-4-431-55834-7](https://doi.org/10.1007/978-4-431-55834-7).
- Kyriazos, T.A. (2018), "Applied psychometrics: sample size and sample power considerations in factor analysis (EFA, CFA) and SEM in general", *Psychology*, Vol. 09 No. 08, pp. 2207-2230, doi: [10.4236/psych.2018.98126](https://doi.org/10.4236/psych.2018.98126).
- Le-Anh, T. and Nguyen-To, T. (2020), "Consumer purchasing behaviour of organic food in an emerging market", *International Journal of Consumer Studies*, Vol. 44 No. 6, pp. 563-573, doi: [10.1111/ijcs.12588](https://doi.org/10.1111/ijcs.12588).
- Lizardo, O. (2006), "How cultural tastes shape personal networks", *American Sociological Review*, Vol. 71 No. 5, pp. 778-807, doi: [10.1177/000312240607100504](https://doi.org/10.1177/000312240607100504).
- Lizardo, O. and Strand, M. (2010), "Skills, toolkits, contexts and institutions: clarifying the relationship between different approaches to cognition in cultural sociology", *Poetics*, Vol. 38 No. 2, pp. 205-228, doi: [10.1016/j.poetic.2009.11.003](https://doi.org/10.1016/j.poetic.2009.11.003).
- Meas, T., Hu, W., Batte, M.T., Woods, T.A. and Ernst, S. (2015), "Substitutes or complements? Consumer preference for local and organic food attributes", *American Journal of Agricultural Economics*, Vol. 97 No. 4, pp. 1044-1071, doi: [10.1093/ajae/aau108](https://doi.org/10.1093/ajae/aau108).

- Minton, A.P. and Rose, R.L. (1997), "The effects of environmental concern on environmentally friendly consumer behavior: an exploratory study", *Journal of Business Research*, Vol. 40 No. 1, pp. 37-48, doi: [10.1016/S0148-2963\(96\)00209-3](https://doi.org/10.1016/S0148-2963(96)00209-3).
- Mohd Suki, N. (2016), "Green product purchase intention: impact of green brands, attitude, and knowledge", *British Food Journal*, Vol. 118 No. 12, pp. 2893-2910, doi: [10.1108/BFJ-06-2016-0295](https://doi.org/10.1108/BFJ-06-2016-0295).
- Murphy, B., Martini, M., Fedi, A., Loera, B.L., Elliott, C.T. and Dean, M. (2022), "Consumer trust in organic food and organic certifications in four European countries", *Food Control*, Vol. 133, 108484, doi: [10.1016/j.foodcont.2021.108484](https://doi.org/10.1016/j.foodcont.2021.108484).
- Niva, M., Mäkelä, J., Kahma, N. and Kjærnes, U. (2014), "Eating sustainably? Practices and background factors of ecological food consumption in four nordic countries", *Journal of Consumer Policy*, Vol. 37 No. 4, pp. 465-484, doi: [10.1007/s10603-014-9270-4](https://doi.org/10.1007/s10603-014-9270-4).
- Palma, M.A., Ness, M.L. and Anderson, D.P. (2017), "Fashionable food: a latent class analysis of social status in food purchases", *Applied Economics*, Vol. 49 No. 3, pp. 238-250, doi: [10.1080/00036846.2016.1194965](https://doi.org/10.1080/00036846.2016.1194965).
- Paull, J. (2020), "Organic food and agriculture", *Food and Society*, pp. 179-199, doi: [10.1016/B978-0-12-811808-5.00008-8](https://doi.org/10.1016/B978-0-12-811808-5.00008-8).
- Persson, A. (2013), *Determinants of Sustainable Food Consumption*, University of Gothenburg, Gothenburg, Master thesis.
- Peschel, A.O., Grebitus, C., Steiner, B. and Veeman, M. (2016), "How does consumer knowledge affect environmentally sustainable choices? Evidence from a cross-country latent class analysis of food labels", *Appetite*, Vol. 106, pp. 78-91, doi: [10.1016/j.appet.2016.02.162](https://doi.org/10.1016/j.appet.2016.02.162).
- Poore, J. and Nemecek, T. (2018), "Reducing food's environmental impacts through producers and consumers", *Science*, Vol. 360 No. 6392, pp. 987-992, doi: [10.1126/science.aag0216](https://doi.org/10.1126/science.aag0216).
- R Core Team (2021), *R: A Language and Environment for Statistical Computing*, R Foundation for Statistical Computing, Vienna, Austria.
- Radman, M. (2005), "Consumer consumption and perception of organic products in Croatia", *British Food Journal*, Vol. 107 No. 4, pp. 263-273, doi: [10.1108/00070700510589530](https://doi.org/10.1108/00070700510589530).
- Rana, J. and Paul, J. (2017), "Consumer behavior and purchase intention for organic food: a review and research agenda", *Journal of Retailing and Consumer Services*, Vol. 38, pp. 157-165, doi: [10.1016/j.jretconser.2017.06.004](https://doi.org/10.1016/j.jretconser.2017.06.004).
- Rana, J. and Paul, J. (2020), "Health motive and the purchase of organic food: a meta-analytic review", *International Journal of Consumer Studies*, Vol. 44 No. 2, pp. 162-171, doi: [10.1111/ijcs.12556](https://doi.org/10.1111/ijcs.12556).
- Rezai, G., Kit-Teng, P., Mohamed, Z. and Nasir-Shamsudin, M. (2013), "Is it easy to go green? Consumer perception and green concept", *American Journal of Applied Sciences*, Vol. 10 No. 8, pp. 793-800, doi: [10.3844/ajassp.2013.793.800](https://doi.org/10.3844/ajassp.2013.793.800).
- Rodríguez-Bermúdez, R., Miranda, M., Orjales, I., Ginzo-Villamayor, M.J., Al-Soufi, W. and López-Alonso, M. (2020), "Consumers' perception of and attitudes towards organic food in Galicia (Northern Spain)", *International Journal of Consumer Studies*, Vol. 44 No. 3, pp. 206-219, doi: [10.1111/ijcs.12557](https://doi.org/10.1111/ijcs.12557).
- Sandhu, Y.A., Perumal, S.a/l and Fauzi, W.I.M. (2019), "The predictors and consequences of personal norms in context of organic food among Pakistani consumers", *International Journal of Financial Research*, Vol. 10 No. 3, p. 314, doi: [10.5430/ijfr.v10n3p314](https://doi.org/10.5430/ijfr.v10n3p314).
- Sanjuán, A.I., Sánchez, M., Gil, J.M., Gracia, A. and Soler, F. (2003), "Brakes to organic market enlargement in Spain: consumers' and retailers' attitudes and willingness to pay", *International Journal of Consumer Studies*, Vol. 27 No. 2, pp. 134-144, doi: [10.1046/j.1470-6431.2003.00295.x](https://doi.org/10.1046/j.1470-6431.2003.00295.x).
- Schwartz, S.H. (1977), "Normative influences on altruism", in Berkowitz, L. (Ed.), *Advances in Experimental Social Psychology*, Academic Press, Vol. 10, pp. 221-279, doi: [10.1016/S0065-2601\(08\)60358-5](https://doi.org/10.1016/S0065-2601(08)60358-5).
- Silver, B.R. (2023), "Understanding the individual in context: socioeconomic inequality in college students' perspectives", *Social Currents*, Vol. 11 No. 1, pp. 61-79, doi: [10.1177/23294965231197183](https://doi.org/10.1177/23294965231197183).

- Spaargaren, G. (2003), "Sustainable consumption: a theoretical and environmental policy perspective", *Society & Natural Resources*, Vol. 16 No. 8, pp. 687-701, doi: [10.1080/08941920309192](https://doi.org/10.1080/08941920309192).
- Tanner, C. and Wölfing Kast, S. (2003), "Promoting sustainable consumption: determinants of green purchases by Swiss consumers", *Psychology & Marketing*, Vol. 20 No. 10, pp. 883-902, doi: [10.1002/mar.10101](https://doi.org/10.1002/mar.10101).
- Tarkiainen, A. and Sundqvist, S. (2005), "Subjective norms, attitudes and intentions of Finnish consumers in buying organic food", *British Food Journal*, Vol. 107 No. 11, pp. 808-822, doi: [10.1108/00070700510629760](https://doi.org/10.1108/00070700510629760).
- Thi Nguyen, N.P. and Dang, H.D. (2022), "Organic food purchase decisions from a context-based behavioral reasoning approach", *Appetite*, Vol. 173, 105975, doi: [10.1016/j.appet.2022.105975](https://doi.org/10.1016/j.appet.2022.105975).
- Vermeir, I. and Verbeke, W. (2006), "Sustainable food consumption: exploring the consumer 'attitude – behavioral intention' gap", *Journal of Agricultural and Environmental Ethics*, Vol. 19 No. 2, pp. 169-194, doi: [10.1007/s10806-005-5485-3](https://doi.org/10.1007/s10806-005-5485-3).
- Wang, F. (2019), "Status constraint and lifestyle transition: a latent class analysis of health-related lifestyles among different social strata in China", *The Journal of Chinese Sociology*, Vol. 6 No. 1, p. 23, doi: [10.1186/s40711-019-0112-2](https://doi.org/10.1186/s40711-019-0112-2).
- Yin, S., Wu, L., Du, L. and Chen, M. (2010), "Consumers' purchase intention of organic food in China", *Journal of the Science of Food and Agriculture*, Vol. 90 No. 8, pp. 1361-1367, doi: [10.1002/jsfa.3936](https://doi.org/10.1002/jsfa.3936).
- Zepeda, L. and Deal, D. (2009), "Organic and local food consumer behaviour: alphabet Theory", *International Journal of Consumer Studies*, Vol. 33 No. 6, pp. 697-705, doi: [10.1111/j.1470-6431.2009.00814.x](https://doi.org/10.1111/j.1470-6431.2009.00814.x).

Further reading

- Haron, S.A., Paim, L. and Yahaya, N. (2005), "Towards sustainable consumption: an examination of environmental knowledge among Malaysians", *International Journal of Consumer Studies*, Vol. 29 No. 5, pp. 426-436, doi: [10.1111/j.1470-6431.2005.00460.x](https://doi.org/10.1111/j.1470-6431.2005.00460.x).
- Hempel, C. and Hamm, U. (2016), "Local and/or organic: a study on consumer preferences for organic food and food from different origins", *International Journal of Consumer Studies*, Vol. 40 No. 6, pp. 732-741, doi: [10.1111/ijcs.12288](https://doi.org/10.1111/ijcs.12288).
- Lockie, S., Lyons, K., Lawrence, G. and Mummery, K. (2002), "Eating 'Green': motivations behind organic food consumption in Australia", *Sociologia Ruralis*, Vol. 42 No. 1, pp. 23-40, doi: [10.1111/1467-9523.00200](https://doi.org/10.1111/1467-9523.00200).
- McEachern, M.g. and McClean, P. (2002), "Organic purchasing motivations and attitudes: are they ethical?", *International Journal of Consumer Studies*, Vol. 26 No. 2, pp. 85-92, doi: [10.1046/j.1470-6431.2002.00199.x](https://doi.org/10.1046/j.1470-6431.2002.00199.x).

Appendix

The supplementary material for this article can be found online.

Corresponding author

Giuseppe Lamberti can be contacted at: giuseppe.lamberti@uab.cat

For instructions on how to order reprints of this article, please visit our website:

www.emeraldgrouppublishing.com/licensing/reprints.htm

Or contact us for further details: permissions@emeraldinsight.com