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31

Ecological citizens and consumers: trust and environmental concern in Italian local and organic products consumption

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Abstract

Purpose – This paper aims to explore the dual role of individuals as consumers and citizens in sustainability transitions, clarifying the connection between private and public spheres. It examines how the purchase of local and organic food products among Italian consumers correlates with other pro-environmental behaviours as well as environmental concern, lifestyle, trust and contextual and socio-demographic variables, under the perspective of ecological citizenship.

Design/methodology/approach – The study uses data on more than 72,000 households from the Italian Multipurpose Household Survey (2014 and 2019–2021). Data are analysed using an ordered probit model focusing on the frequency of local and organic products purchases.

Findings – Results show that higher levels of environmental concern, trust in institutions and people, other pro-environmental behaviours and various socio-demographic characteristics significantly increase the likelihood of purchasing local and organic food products. These findings support the idea of consumers as ecological citizens in sustainable consumption behaviour.

Practical implications – Findings offer valuable insights for promoting sustainable food choices, going beyond individual preferences but evaluating consumption as a form of active participation in public life through choice.

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Originality/value – Using large-scale data, this study applies the concept of ecological citizenship to consumption, highlighting how private choices connect with public responsibility and emphasising the role of institutions, trust and environmental concern in supporting sustainable behaviour.

Keywords Sustainable consumption, Ecological citizenship, Trust, Organic and local food products, Italian multipurpose household survey

Paper type Research article

1. Introduction

Sustainable development entails the satisfaction of individual needs while minimising the use of natural resources. Current agricultural policy in the European Union (EU) validates the prominent role of consumers in the transition to a more sustainable agri-food sector, critically relying on individual responsibility and engagement with society. This role can be fulfilled through informed, healthy and sustainable choices (European Commission, 2020).

Marketing literature confirms that consumers increasingly seek information on production methods (e.g. organic farming practices) and on the origin of foods that reach their table, showing increased preference for organic and local food products, which are often perceived as environmentally friendly alternatives (Toma and Aschemann-Witzel, 2018; Caputo *et al.*, 2010). Moreover, the COVID-19 pandemic has exacerbated the trend towards healthier and more sustainable food choices, with consumers paying more attention to label, origin and production methods (Timpanaro and Cascone, 2022). In this context, two guiding forces of sustainable consumption choice emerge: (1) trust in the food supply chain actors and the information they provide on food labels and (2) an overall sense of individual responsibility towards the public good.

This falls under the concept of "ecological citizenship" introduced by Dobson (2003), according to which pro-environmental behaviour is guided by a sense of duty, responsibility and justice towards the environment (Jagers *et al.*, 2014). This perspective is increasingly relevant in the context of sustainable food-system transition, as it involves internal motivation more than external forces, i.e. even well-structured institutions and optimal policies risk failing without civic support and without a shift in citizens' mindsets and lifestyles (Gao, 2025).

Studying these patterns and profiling "ecological citizens" allow a deeper understanding of the consumption of sustainable food products and their determinants. While earlier research emphasises values, environmental concern and psychological factors driving - or hindering - pro-environmental behaviour (Barr *et al.*, 2001), few explicitly connect private consumption to public responsibility through the framework of ecological citizenship (Jagers *et al.*, 2014; Asilsoy and Oktay, 2018). Our study builds on this literature by integrating ecological citizenship ideals with observed behaviours, focusing on organic and local food purchases as civic actions.

The novelty of our contribution is threefold. First, we empirically link ecological citizenship theory to sustainable food choices in Italy, where interest in organic products has grown over the last years. Second, we introduce new explanatory variables – political motivation, trust and other-regarding behaviours (e.g. saving water/electricity and using alternative transport) – as proxies for ecological citizenship. Third, we employ a large-scale dataset and apply ordered probit models to profile ecological citizens. This approach complements and extends existing research on sustainable consumption.

The Italian market for organic products more than doubled from €1.8 bn in 2010 to €4.3 bn in 2020, with per capita spending rising from €30 to €71 (European Commission, 2023; DG-AGRI, 2023). Growth was driven by retail chains, specialized organic stores and initiatives such as Coldiretti's "Campagna Amica" (European Commission, 2023).

Given the positive shift towards sustainable alternatives, we profile Italian consumers of organic and local food, investigating how socio-demographics, environmental concern, trust in people and institutions, political motivation and other-regarding behaviours influence purchasing. We employ ordered probit models with four waves of Multipurpose Household Survey data (2014, 2019–2021) collected by the Italian National Institute of Statistics (ISTAT).

The following section provides the conceptual framework behind our study by reviewing the main factors affecting choice, and specifically the features of ecological citizenship;

section 3 describes the methodology and the data, while results are discussed in section 4. Finally, section 5 provides the conclusion and policy implications of our findings.

2. Literature review

2.1 Ecological citizenship and pro-environmental behaviour

Pro-environmental behaviours relate to actions aiming to reduce negative environmental externalities (e.g. emissions) and preserve natural resources (materials and energy) (Goldman *et al.*, 2020). Ecological citizens express their civic responsibilities through pro-environmental behaviours. Dobson (2003) introduces the concept of ecological citizenship to connect citizenship and the environment, shifting focus from territorial politics to individuals' ecological footprints and responsibilities for the common good (Jagers *et al.*, 2014). The key components of ecological citizenship include a sense of social justice and fairness, blurred boundaries between private and public, non-territorial responsibilities across space and generations and asymmetrical obligations that grow with emissions. Our conceptual framework considers intentions as mediating between ecological citizenship ideals and actual behaviour (Barr *et al.*, 2001), following the application of the theory of planned behaviour (TPB) by Ajzen (1991), which is the most applied in models of environmental behaviour (Goldman *et al.*, 2020).

According to Asilsoy and Oktay (2018), ecological citizenship is most visible in the private sphere through household-level actions such as energy and water conservation, waste management, sustainable transportation and green consumption, including local and organic food purchases. Private choices have public consequences (Dobson, 2007), and ecological citizenship literature highlights the role of changes in collective mindsets and lifestyles as key to sustainability transitions (Gao, 2025).

For our study, we follow Barr *et al.* (2001, 2005) in distinguishing green consumption from other pro-environmental behaviours. This allows us to specifically focus on food consumption, connecting purchasing decisions to civic participation (Melo Escrihuela, 2009, 2022). In this paper, we include trust in institutions as a proxy for acceptance of political authority and collective regulation of private environmental behaviours (Jagers *et al.*, 2014). We also include political motivation and other-regarding behaviour, like saving water and electricity and use of alternative means of transport, to capture ecological citizenship [1]. Few empirical studies have applied this framework to food consumption with large-scale data. By incorporating political motivation and other pro-environmental behaviours as proxies for civic responsibility, our study extends existing research and operationalises the consumer–citizen duality in the context of organic and local food purchasing.

Based on the above discussion, we formulate and test the following hypothesis:

H1. Consumers who are politically motivated and exhibit other pro-environmental behaviours exhibit a greater frequency of purchasing local and organic food products.

Moreover, we include environmental concern, life-style indicators, socio-demographics and contextual factors as determinants of the purchase of local and organic products. These relationships are represented in Figure 1.

2.2 General and institutional trust

Trust is a pivotal factor affecting consumers' attitudes and food purchasing decisions (Ding *et al.*, 2012). In the context of purchasing local and organic food products, trust plays a crucial role, as these are credence goods (Jahn *et al.*, 2005). Trust encompasses general trust, defining the societal relations across individuals (Uslaner, 2008) and institutional trust, regarding institutions that set the role and laws of societal functioning (Mansbridge, 1999).

Research also emphasizes the role of peers and community members in purchase actions (Zepeda and Leviten-Reid, 2004; Wilkins *et al.*, 2002; Dumortier *et al.*, 2017). Direct communication with farmers at the local market, where formal certification may be less

prevalent (Sage, 2003; Zepeda and Deal, 2009) or through community-supported agriculture (CSA) programmes help build trust and verify claims directly.

Similarly, local certifications and labelling schemes endorsed by trusted local institutions can enhance consumer confidence in the authenticity and quality of local foods (Adams and Salois, 2010) and become fundamental during food safety incidents in maintaining consumer trust in local food systems, reinforcing their willingness to consume local products (Wilkins *et al.*, 2002; Zepeda and Leviten-Reid, 2004).

Based on the above discussion, we formulate and test the following research hypothesis:

H2. Consumers with higher levels of trust in people and institutions that regulate organic and local food production exhibit a greater frequency of purchasing local and organic food products.

2.3 Environmental concern and healthy behaviour

Environmental concern is a major driver of consumer behaviour towards sustainable food choices. Consumers who prioritise sustainability are more inclined to choose organic products since they associate them with reduced pesticide use, better soil management and lower harm to ecosystems, playing a crucial role in biodiversity preservation and believing they are better for the environment (Toma and Aschemann-Witzel, 2018; Hughner *et al.*, 2007; Thøgersen, 2010). Local food purchases align with the desire to minimise carbon footprints by reducing food miles (Caputo *et al.*, 2010). In the Italian context, the likelihood of purchasing organic and local food products increases with environmental awareness (Agovino *et al.*, 2017; Bimbo *et al.*, 2021), in line with other studies focusing on environmental concerns (Smith and Paladino, 2010; Çabuk *et al.*, 2014; Yadav and Pathak, 2016).

Environmental concern enters ecological citizens' actions in terms of perceived responsibility, leading to a long-term commitment to pro-environmental behaviour (Jagers *et al.*, 2014; Dobson, 2003), by acting on individual values (Jagers *et al.*, 2014). Therefore, we formulate and test the following:

H3. Consumers with a stronger environmental concern record a higher frequency of purchasing local or organic food products.

Alongside with trust and environmental concern, we include variables related to individual characteristics and the context to influence intention to pro-environmental behaviours (Barr *et al.*, 2001; Asilsoy and Oktay, 2018; Goldman *et al.*, 2020). Individuals more concerned with their health are more likely to purchase organic and sustainable products (Hartman Group, 2020) and Italian consumers perceive local and organic food products to be healthier, safer, more nutritious (Naspetti and Zanoli, 2009; Hartman Group, 2020) and more "natural" (Grunert *et al.*, 2014; Schleenbecker and Hamm, 2013).

Additionally, individuals who prioritise environmental sustainability often integrate these values with personal health goals (Sörqvist *et al.*, 2015), prompting higher consumption of local and organic foods. As a measure of health-related lifestyle, we include variables related to reading labels, being physically active and smoking and hypothesize and test:

H4. Consumers who engage in more health-related behaviours record a higher frequency of purchasing local or organic food products.

Finally, we include contextual variables such as region and access to the supermarket and socio-demographic factors. The latter have been identified as significant determinants of sustainable food consumption. Studies indicate that marital status, household size, education level and employment status shape consumers' choices for local and organic foods. For example, Agovino *et al.* (2017), McFadden and Huffman (2017) and Bimbo *et al.* (2021) show that higher education levels, along with greater environmental awareness, are associated with increased consumption of organic and local foods. Annunziata and Vecchio (2016) argue that

effective labelling can bridge the information gap and foster trust in sustainable food products. This is supported by Van Loo *et al.* (2013), who find that detailed and trustworthy labels increase the likelihood of consumers choosing sustainable food options. This brings us to the final research hypothesis which is:

H5. There is a significant association between socio-demographic factors (i.e. gender, age, education, job position and family composition) and the purchasing frequency of local or organic food products.

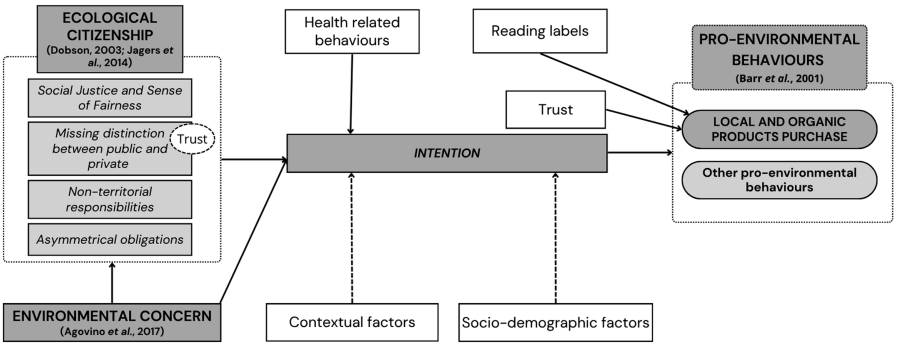

Figure 1. Conceptual framework. Source: Authors' own elaboration

3. Methodology and data

3.1 Data

We use data from the Italian Multipurpose Household Survey "Aspects of daily life" for the years 2014 and 2019–2021 collected by the ISTAT, covering a sample of more than 72,000 households. To explore our research objectives, we consider a respondents' frequency of purchase of local or organic products. In particular, the dependent variable is based on the answers to "How often do you buy organic products?" and "How often do you buy local products?" with potential answers being "usually", "sometimes", "rarely" and "never". An individual's purchase frequency of local or organic products is then analysed using an ordered probit model. In the model, we assume that the higher frequency of purchasing a local or an organic product corresponds to a stronger preference.

To measure environmental concern, we developed an environmental concern index for each survey respondent following Agovino *et al.* (2017), based on 15 questions regarding environmental issues. Respondents were asked to indicate which of the following issues worry them the most, including greenhouse gas emissions, extinction of animal/plant species, climate change, waste production and disposal, noise, soil pollution, air pollution, sea and river pollution, earthquake and floods, catastrophic events, deforestation, electromagnetic pollution, landscape degradation (excessive construction of buildings), resource depletion and other problems. The respondents could select up to five, and we summed up the number of issues they noted.

3.2 Econometric model

In the econometric model, we assume that there is a latent (unobserved) continuous variable y^* that determines the observed ordinal purchase behaviour y. The latent variable y^* is modelled as:

$$y_i^* = X_i\beta + \epsilon_i \quad (1)$$

where y_i^* is the latent variable for individual i, X_i is the vector of explanatory variables including socio-demographic, contextual variables, environmental concern score, other pro-environmental behaviours and trust variables, β is the vector of coefficients to be estimated. ϵ_i is the error term which is assumed to be normally distributed with $\epsilon_i \sim N(0, 1)$. The observed purchase frequency y_i is determined by the latent variable y_i^* falling within certain threshold values. Specifically, we model y_i the following way:

$$y_i = k \; if \; \theta_{k-1} < y_i^* \leq \theta_k \quad (2)$$

where y_i^* is the latent variable representing the underlying propensity for different outcome levels (k) and θ_k are the threshold parameters that determine the boundaries between different ordered outcomes to be estimated along with β.

3.3 Summary statistics

Table 1 reports respondents' consumption frequency of local and organic food products during 2014 and 2019–2021. Results indicate that the percentage of people who "often" buy local or organic products has increased over the years, while for those who "never" buy has decreased.

Table 1. Frequency of consumption (in percentage) of organic and local products

Consumption frequency	Organic consumption					Local consumption				
	Year					Year				
	2014	2019	2020	2021	Total	2014	2019	2020	2021	Total
Never	37.81	26.69	24.09	23.25		24.56	16.21	13.54	13.46	
Rarely	23.75	23.09	22.72	22.02		17.47	15.33	14.45	15.03	
Sometimes	29.77	37.27	39.60	40.32		37.20	42.43	44.65	43.07	
Often	8.67	12.94	13.59	14.41		20.77	26.03	27.36	28.44	
Total	17,986	18,395	17,438	18,588	72,407	17,936	18,386	17,455	18,617	72,394

Source(s): Authors' own elaboration

The socio-demographic characteristics of the respondents used as independent variables are reported in Table 2. Female respondents constitute about 35% of our sample, almost 41% of the sample is more than 65 years old and about 50% is married. 14.7% of the sample have a college degree or higher. The sample includes a high proportion of retired people. 65.3% of the respondents said that they read food labels before purchasing. The variable concerning "trust in people" was based on the question "Do you think most people are trustworthy?" with "yes" or "no" as response options. Only 25% of the sample responded that they trust other people. The institutional trust variables were based on answers to a 0–10-point scale, 10 denoting the highest level of trust. We converted the institutional trust variables into a binary response to keep it comparable to the variable "trust in people". We assigned a value 1 for individuals responding above the mean value of the sample and 0 otherwise. Respondents showed a similar level of trust in the Italian Parliament (55.6%) and the European Parliament (54.1%), while a higher level of trust was shown in the municipal government (65.9%).

Table 2. Variable description and descriptive statistics

Variable	Definition	Mean	S.D.
Env. concern		3.99	1.47
Trust			
Italian Parliament[a]	= 1 if greater than mean value of the sample on trust in the Italian Parliament	0.556	0.496
EU Parliament[a]	= 1 if greater than mean value of the sample on trust in the European Parliament	0.541	0.498
Municipal govt.[a]	= 1 if greater than mean value of the sample on trust in the municipal government	0.659	0.474
People	= 1 if answered "most people are trustworthy"	0.250	0.433
Political motivation	Frequency of discussing Italian politics on a scale of 1–6, 6 being every day and 1 being never	4.203	1.977
Health related behaviours			
Physical activity	= 1 if any physical activity done in free time	0.607	0.488
Never smoked	= 1 if never smoked	0.797	0.402
Reading labels	= 1 if always/sometimes reading the food label	0.653	0.476
Other pro-environmental behaviours			
Saving water	= 1 if usually or sometime careful to save water	0.876	0.328
Saving electricity	= 1 if usually or sometime careful to save electricity	0.901	0.298
Use alternative transportation	= 1 if usually or sometime choose alternative means of transport other than car or private motor vehicle	0.373	0.484
Socio-demographic factors			
Female	= 1 if female	0.351	0.479
Married	= 1 if married	0.499	0.500
No. household	Number of household members	2.309	1.215
Couple with child	= 1 if couple with a child	0.319	0.466
Age $\leq$ *34*	= 1 age below 34 years old	0.058	0.233
35 $\leq$ *Age* $\leq$ *44*	= 1 age between 35 and 44 years old	0.138	0.344
45 $\leq$ *Age* $\leq$ *54*	= 1 age between 45 and 54 years old	0.197	0.397
55 $\leq$ *Age* $\leq$ *64*	= 1 age between 55 and 64 years old	0.199	0.399
Age $\geq$ *65*	= 1 age more than 65 years old	0.409	0.492
Middle school or below	= 1 if education middle school or below	0.514	0.499
Highschool	= 1 if education high school	0.339	0.473
Undergraduate or postgraduate	= 1 if education undergraduate or postgraduate	0.147	0.354
Managerial work	= 1 if main source of income from managerial and office work	0.244	0.430
Self-employed	= 1 if income from self-employment	0.066	0.249
Unemployed	= 1 if unemployed	0.074	0.261
Manual work	= 1 if main source of income from manual work	0.145	0.352
Retired	= 1 if retired	0.422	0.494
Inactive	= 1 if looking for a job but has some source of income	0.049	0.215
Contextual factors			
Access to supermarket	= 1 if considerable or some hurdle to access a supermarket	0.277	0.447
Northwest	= 1 if from Northwest of Italy	0.231	0.422
Northeast	= 1 if from the Northeast of Italy	0.213	0.410
Centre	= 1 if from the Centre of Italy	0.185	0.388
South	= 1 if from the South of Italy	0.269	0.443
Islands	= 1 if from the Islands of Italy	0.102	0.303

Note(s):, [a]Scored on a 0–10 scale, 10 being the highest level of trust.
Source(s): Authors' own elaboration

4. Results and discussion

Table 3 reports the parameter estimates from the ordered probit regression, where the dependent variable is the frequency of purchase by the respondents. There are four purchase frequencies: "often", "sometimes", "rarely" and "never", and therefore, the models included three threshold parameters. The Likelihood-ratios χ^2 for the local purchase model and the organic purchase model are, respectively, 15,002.87 and 23,500.01, with a p-value of 0.00, i.e. the models are statistically significant compared to the null model (intercept-only model), while the threshold parameters θ_k for the local purchase and the organic purchase model are all significant, implying a separation between the four purchase categories.

Our results indicate that being female, married and more educated increase the probability of local and organic purchase. Being older increases the probability of buying locally but decreases the probability of buying organic food products. Also, employment status is a significant determinant of local and organic food purchase (H5). Results align with existing findings suggesting that women are overall more health conscious and environmentally aware than men, which drives their preference for local and organic foods. Similarly, married individuals may prioritise family health, contributing to higher consumption of these products for themselves and their families. Educated and employed individuals are likely to have more disposable income and greater access to information about the benefits of local and organic foods, further explaining their increased consumption levels. These findings reinforce the notion that socio-economic factors play a critical role in shaping consumer preferences and behaviours regarding food choices (Nuttavuthisit and Thøgersen, 2017; Agovino *et al.*, 2017; Annunziata *et al.*, 2019).

Results also show that higher environmental concern increases the purchase frequency of both local and organic food (H3), similarly, being politically motivated and practising other pro-environmental behaviours significantly influence the decision to buy sustainable products (H1). Saving water, electricity or using alternative transportation reflect a broader sense of social and environmental responsibility, which extends into food choices by motivating consumers to purchase organic and local products as part of their commitment to collective well-being and sustainability; likewise, being politically motivated reinforces these decisions, as sustainable food choices are often understood as civic acts of ecological citizenship (Dobson, 2003; Seyfang, 2006; Jagers *et al.*, 2014; Misra, 2023).

Individuals who read food labels and are physically active are consistently more likely to purchase organic and local food than others (H4), confirming that these types of food products are perceived as healthier than conventional ones (Mørk *et al.*, 2017). The result confirms findings in the literature, supporting the generalisability of this association (Zepeda and Deal, 2009; Sirieix *et al.*, 2013).

Regarding the trust variables, we note that trust in people increases the probability of local and organic purchase (H2); trust in institutions like the national, municipal or the European government also affects the buying patterns. Trust in government at the local level, i.e. a higher trust in municipal government, increases the probability of both local and organic food purchase. At a broad geographic level, a higher trust in European government increases the probability of organic purchase, while a higher trust in Italian government increases the probability of local food purchase.

Our findings align with existing literature on food consumption behaviour: since consumers cannot directly verify the organic status of food due to its having a credence attribute nature (Caswell *et al.*, 2002; Grunert, 2002), trust in organic certification is crucial (Janssen and Hamm, 2014; Nuttavuthisit and Thøgersen, 2017). Compared to other labels like nutritional indicators, organic certifications have more complex effects on food choices due to the intricacies and ambiguities in the certification processes (Janssen and Hamm, 2012; Noblet and Teisl, 2015; Tonkin *et al.*, 2015). Some studies suggest that trust in labelling can influence trust in the labellers, typically the growers or manufacturers (Garretson and Burton, 2000). Credibility and reliability are crucial factors: when consumers trust local institutions, such as municipal governments, they are more likely to believe that local food is safe, high-quality and

genuinely local. This trust mitigates information asymmetry, enabling consumers to make informed choices about local products (Carfora *et al.*, 2019).

Our results reinforce the assumption of the duality of consumer-citizen and confirm our initial claim that identifies consumers of local and organic products as ecological citizens. Results also align with the findings of Seyfang (2006) on the motives of consumers purchasing from local organic markets. Consumers who are described as ecological citizens are more concerned about the environment and trustful of the institutions whose choices reflect not only personal preferences but also constitute a social action arising from a sense of responsibility (Dobson, 2003). Trust in people embodies the citizenship perspective of individuals feeling bonded to a society and fostering justice and fair exchanges between consumers and producers (Seyfang, 2006). Moreover, we highlight the positive role of trust in the local government (i.e. the municipalities) on both local and organic consumption, in the EU parliament for organic consumption and in the Italian government for local food purchases.

Table 3. Parameter estimates from ordered probit model of the outcome equation

Variable	Organic purchase	Local purchase
Env. concern	0.199*** (0.009)	0.194*** (0.009)
Trust		
Italian Parliament	−0.005 (0.012)	0.074*** (0.012)
EU Parliament	0.059*** (0.012)	−0.008 (0.012)
Municipal govt.	0.028** (0.010)	0.089*** (0.009)
People	0.151*** (0.010)	0.104*** (0.010)
Political motivation	0.031*** (0.002)	0.051*** (0.002)
Health related behaviours		
Physical activity	0.161*** (0.010)	0.162*** (0.010)
Never smoked	0.053*** (0.011)	−0.019 (0.011)
Reading labels	0.967*** (0.010)	0.654*** (0.010)
Other pro-environmental behaviours		
Saving water	0.128*** (0.018)	0.224*** (0.017)
Saving electricity	0.177*** (0.020)	0.326*** (0.020)
Use alternative transportation	0.143*** (0.009)	0.112*** (0.009)
Socio-demographic factors		
Male	−0.154*** (0.011)	−0.090*** (0.011)
Married	0.036** (0.012)	0.080*** (0.012)
No. household	−0.007 (0.006)	−0.012* (0.006)
Couple with child	0.002 (0.015)	0.017 (0.015)
Age ≤ 34(baseline)		
35 ≤ Age ≤ 44	−0.001 (0.021)	0.035 (0.020)
45 ≤ Age ≤ 54	−0.080*** (0.020)	0.000 (0.020)
55 ≤ Age ≤ 64	−0.123*** (0.020)	0.044* (0.020)
Age ≥ 65	−0.217*** (0.024)	0.036 (0.024)
Middle school or below(baseline)		
Highschool	0.247*** (0.015)	0.036* (0.015)
Undergraduate or postgraduate	0.142*** (0.010)	0.015 (0.010)
Managerial work(baseline)		
Self-employed	0.014 (0.019)	0.076*** (0.019)
Unemployed	−0.204*** (0.018)	−0.125*** (0.018)
Manual work	−0.120*** (0.015)	−0.108*** (0.015)
Retired	−0.109*** (0.018)	−0.033 (0.018)
Inactive	−0.118*** (0.022)	−0.068** (0.022)

(*continued*)

Table 3. Continued

Variable	Organic purchase	Local purchase
Contextual factors		
Access to supermarket	0.028** (0.009)	0.024** (0.009)
Northwest (baseline)		
Northeast	0.029* (0.012)	0.208*** (0.012)
Centre	0.068*** (0.013)	0.143*** (0.013)
South	0.151*** (0.012)	0.428*** (0.012)
Islands	0.195*** (0.016)	0.589*** (0.016)
Year 2014 (baseline)		
2019	0.272*** (0.012)	0.248*** (0.012)
2020	0.340*** (0.012)	0.320*** (0.012)
2021	0.395*** (0.012)	0.343*** (0.012)
Threshold parameters		
θ_1	0.841*** (0.032)	0.782*** (0.032)
θ_2	1.610*** (0.033)	1.383*** (0.032)
θ_3	2.956*** (0.034)	2.627*** (0.033)
N	71,249	71,240

Note(s): Standard errors in parentheses. ***$p < 0.01$, **$p < 0.05$ and *$p < 0.1$
Source(s): Authors' own elaboration

To accurately measure the influence of these variables on purchase frequencies, we compute the marginal effects, which are presented in Tables 4 and 5 for local and organic products, respectively.

Our results indicate that an average respondent has 17 and 16% probability, respectively, of never or rarely consuming local food products, 41% probability of consuming them sometimes and 25% probability of often consuming local products. For ordered probit models, the marginal effects across categories must sum to zero; therefore, an increase in the probability of a respondent choosing one consumption category must be offset by a decrease in the probability of choosing at least one other category.

Results suggest that for each point increase in environmental concern score, the probability of often or sometimes buying local product increases by 5.6 and 0.5% points, respectively. Individuals who discuss politics more frequently are more likely to purchase local products. Specifically, a one-point increase on the political discussion scale increases the probability of "often" buying by 1.5% points. Pro-social habits, such as saving water, saving electricity or using alternative transportation, show strong positive effects. For example, people who report saving electricity are 9.4% points more likely to "often" buy local products, while those saving water are 6.5% points more likely. These behaviours reflect broader social and environmental responsibility, which extends to food purchasing decisions. Our results show that political motivation and other-regarding behaviour significantly increase sustainable food purchases, supporting the idea of ecological citizenship, where consumption choices act as civic expressions of responsibility and justice (Dobson, 2003; Seyfang, 2006; Jagers *et al.*, 2014).

Male respondents are 2.6 and 0.2% points less likely to purchase local products often and sometimes, respectively, while they have 1.9 and 0.9% higher probability of never or rarely choosing local food products. Being married increases the probability of often purchasing local products by 2.3% points, while an additional family member decreases the probability by 0.3% points. Consumers in the age category 55 to 64 are 1.3% points more likely to often buy local products than consumers below 35 years of age. Compared to buyers with a middle school degree or below, having a college degree or higher increases the probability of often buying local product by 1.1% points. Compared to consumers with a white-collar job, self-employed people were 2.2% points more likely to often and 0.2% points more likely to sometimes buy

local products, while unemployed people or those that are looking for jobs and people with blue-collar jobs are more likely to never or rarely buy local food. Reading the label of the products that people buy increases the probability of often buying local products by 18.9% points. Respondents with higher trust in people are more likely to consume local products often by 3% points. Trust in the municipal government and the Italian parliament also increases the probability of often consuming local products by 2.6 and 1.6% points, respectively.

Table 4. Predicted probabilities and estimated marginal effects of local consumption

	Never	Rarely	Sometimes	Often
Predicted prob.	17.3	16.1	41.3	25.3
Env. concern	−0.042** (0.002)	−0.019** (0.001)	0.005** (0.000)	0.056** (0.003)
Trust				
Italian Parliament	−0.021** (0.004)	−0.002** (0.000)	0.007** (0.001)	0.016** (0.003)
EU Parliament	0.002 (0.003)	0.001 (0.001)	0.000 (0.000)	−0.002 (0.004)
Municipal govt.	−0.019** (0.002)	−0.009** (0.001)	0.002** (0.000)	0.026** (0.003)
People	−0.023** (0.002)	−0.010** (0.001)	0.003** (0.000)	0.030** (0.003)
Political motivation	−0.011** (0.001)	−0.005** (0.000)	0.001** (0.000)	0.015** (0.001)
Health related behaviours				
Physical activity	−0.035** (0.002)	−0.016** (0.001)	0.004** (0.000)	0.047** (0.003)
Never smoked	0.004 (0.002)	0.002 (0.001)	0.000 (0.000)	−0.005 (0.003)
Reading labels	−0.141** (0.002)	−0.065** (0.001)	0.017** (0.001)	0.189** (0.003)
Other pro-environmental behaviours				
Saving water	−0.048** (0.004)	−0.022** (0.002)	0.006** (0.001)	0.065** (0.005)
Saving electricity	−0.070** (0.004)	−0.032** (0.002)	0.009** (0.001)	0.094** (0.006)
Use alternative transportation	−0.024** (0.002)	−0.011** (0.001)	0.003** (0.000)	0.032** (0.003)
Socio-demographic factors				
Male	0.019** (0.002)	0.009** (0.001)	−0.002** (0.000)	−0.026** (0.003)
Married	−0.017** (0.003)	−0.008** (0.001)	0.002** (0.000)	0.023** (0.004)
No. household	0.003* (0.001)	0.001* (0.001)	−0.000* (0.000)	−0.003* (0.002)
Couple with child	−0.004 (0.003)	−0.002 (0.001)	0.000 (0.000)	0.005 (0.004)
Age ≤ 34 (baseline)				
35 ≤ Age ≤ 44	−0.008 (0.004)	−0.004 (0.002)	0.001 (0.001)	0.010 (0.006)
45 ≤ Age ≤ 54	0.000 (0.004)	0.000 (0.002)	0.000 (0.001)	0.000 (0.006)
55 ≤ Age ≤ 64	−0.010* (0.004)	−0.004* (0.002)	0.001* (0.001)	0.013* (0.006)
Age ≥ 65	−0.008 (0.005)	−0.004 (0.002)	0.001 (0.001)	0.010 (0.007)
Middle school or below (baseline)				
Highschool	−0.008* (0.003)	−0.004* (0.001)	0.001* (0.000)	0.011* (0.004)
Undergraduate or postgraduate	−0.003 (0.002)	−0.002 (0.001)	0.000 (0.000)	0.004 (0.003)
Managerial work (baseline)				
Self-employed	−0.016** (0.004)	−0.008** (0.002)	0.002** (0.001)	0.022** (0.005)
Unemployed	0.027** (0.004)	0.012** (0.002)	−0.003** (0.001)	−0.036** (0.005)
Manual work	0.023** (0.003)	0.011** (0.001)	−0.003** (0.000)	−0.031** (0.004)
Retired	0.007 (0.004)	0.003 (0.002)	−0.001 (0.000)	−0.009 (0.005)
Inactive	0.015** (0.005)	0.007** (0.002)	−0.002** (0.001)	−0.020** (0.006)
Contextual factors				
Access to supermarket	−0.005** (0.002)	−0.002** (0.001)	0.001** (0.000)	0.007** (0.003)
Northwest (baseline)				

(*continued*)

Table 4. Continued

	Never	Rarely	Sometimes	Often
Northeast	−0.050** (0.003)	−0.019** (0.001)	0.014** (0.001)	0.055** (0.003)
Centre	−0.035** (0.003)	−0.013** (0.001)	0.011** (0.001)	0.037** (0.003)
South	−0.095** (0.003)	−0.041** (0.001)	0.015** (0.001)	0.121** (0.003)
Islands	−0.122** (0.003)	−0.059** (0.002)	0.006** (0.001)	0.174** (0.005)
Year 2014 (baseline)				
2019	−0.058** (0.003)	−0.023** (0.001)	0.014** (0.001)	0.067** (0.003)
2020	−0.073** (0.003)	−0.031** (0.001)	0.015** (0.001)	0.089** (0.003)
2021	−0.078** (0.003)	−0.033** (0.001)	0.015** (0.001)	0.096** (0.003)

Note(s): Standard errors in parentheses. ***$p < 0.01$, **$p < 0.05$ and *$p < 0.1$
Source(s): Authors' own elaboration

Our results indicate that an average respondent has a 29, 23, 36 and 12% probability of never, rarely, sometimes and often consuming organic products. Table 5 reports that greater political engagement shifts consumers toward organic purchases, with a one-point rise in political motivation lifting the probability of "often" buying by 0.6% points. Likewise, other pro-environmental behaviours – such as saving electricity (+3.2%) or saving water (+2.3%) – substantially boost organic consumption. These patterns are consistent with ecological citizenship, where private consumption reflects public responsibility (Dobson, 2003; Seyfang, 2006; Jagers *et al.*, 2014). We observed similar purchasing patterns for organic products concerning the environmental concern score, gender, marital status, education and employment status of the respondents. However, we see that with consecutive higher age categories the frequency of purchasing organic products decreases further. Compared to the baseline age category of below 35 years, respondents in the age group 45–54 are 1.4% points less likely, age group 55–64 are 2.2% points less likely and age group above 65 years are 3.8% points less likely to consume organic products often. Reading food labels increases the probability of often or sometimes purchasing organic food by 17.2 and 14.2% points, respectively. Trust variables seem to affect organic consumption the same way they affect local consumption. Trust in people increases the probability of often buying organic products by 2.7% points. Regarding institutional trust, trust in the European Parliament affects organic consumption in addition to trust in the municipal government. Respondents with a higher trust in the European Parliament are 1.1% points more likely to consume organic products often.

Table 5. Predicted probabilities and estimated marginal effects of organic consumption

	Never	Rarely	Sometimes	Often
Predicted prob.	28.5	23.2	36.1	12.3
Env. concern	−0.053** (0.002)	−0.012** (0.001)	0.029** (0.001)	0.035** (0.002)
Trust				
Italian Parliament	0.001 (0.003)	0.000 (0.001)	−0.001 (0.002)	−0.001 (0.002)
EU Parliament	−0.016** (0.003)	−0.003** (0.001)	0.009** (0.002)	0.011** (0.002)
Municipal govt.	−0.007** (0.003)	−0.002** (0.001)	0.004** (0.001)	0.005** (0.002)
People	−0.040** (0.003)	−0.009** (0.001)	0.022** (0.001)	0.027** (0.002)
Political motivation	−0.008** (0.001)	−0.002** (0.000)	0.005** (0.000)	0.006** (0.000)
Health related behaviours				

(*continued*)

Table 5. Continued

	Never	Rarely	Sometimes	Often
Physical activity	−0.043** (0.003)	−0.009** (0.001)	0.024** (0.001)	0.029** (0.002)
Never smoked	−0.014** (0.003)	−0.003** (0.001)	0.008** (0.002)	0.009** (0.002)
Reading labels	−0.257** (0.002)	−0.057** (0.001)	0.142** (0.001)	0.172** (0.002)
Other pro-environmental behaviours				
Saving water	−0.034** (0.005)	−0.007** (0.001)	0.019** (0.003)	0.023** (0.003)
Saving electricity	−0.047** (0.005)	−0.010** (0.001)	0.026** (0.003)	0.032** (0.004)
Use alternative transportation	−0.038** (0.002)	−0.008** (0.001)	0.021** (0.001)	0.025** (0.002)
Socio-demographic factors				
Male	0.041** (0.003)	0.009** (0.001)	−0.023** (0.002)	−0.027** (0.002)
Married	−0.010** (0.003)	−0.002** (0.001)	0.005** (0.002)	0.006** (0.002)
No. household	0.002 (0.002)	0.000 (0.000)	−0.001 (0.001)	−0.001 (0.001)
Couple with child	−0.001 (0.004)	0.000 (0.001)	0.000 (0.002)	0.000 (0.003)
Age ≤ 34 (baseline)				
35 ≤ Age ≤ 44	0.000 (0.005)	0.000 (0.001)	0.000 (0.003)	0.000 (0.004)
45 ≤ Age ≤ 54	0.021** (0.005)	0.005** (0.001)	−0.012** (0.003)	−0.014** (0.004)
55 ≤ Age ≤ 64	0.033** (0.005)	0.007** (0.001)	−0.018** (0.003)	−0.022** (0.004)
Age ≥ 65	0.058** (0.006)	0.013** (0.001)	−0.032** (0.004)	−0.038** (0.004)
Middle school or below (baseline)				
Highschool	−0.066** (0.004)	−0.014** (0.001)	0.036** (0.002)	0.044** (0.003)
Undergraduate or postgraduate	−0.038** (0.003)	−0.008** (0.001)	0.021** (0.002)	0.025** (0.002)
Managerial work (baseline)				
Self-employed	−0.004 (0.005)	−0.001 (0.001)	0.002 (0.003)	0.002 (0.003)
Unemployed	0.054** (0.005)	0.012** (0.001)	−0.030** (0.003)	−0.036** (0.003)
Manual work	0.032** (0.004)	0.007** (0.001)	−0.018** (0.002)	−0.021** (0.003)
Retired	0.029** (0.005)	0.006** (0.001)	−0.016** (0.003)	−0.019** (0.003)
Inactive	0.031** (0.006)	0.007** (0.001)	−0.017** (0.003)	−0.021** (0.004)
Contextual factors				
Access to supermarket	−0.008** (0.003)	−0.002** (0.001)	0.004** (0.001)	0.005** (0.002)
Northwest (baseline)				
Northeast	−0.008* (0.003)	−0.001* (0.001)	0.004* (0.002)	0.005* (0.002)
Centre	−0.019** (0.004)	−0.004** (0.001)	0.010** (0.002)	0.012** (0.002)
South	−0.040** (0.003)	−0.009** (0.001)	0.022** (0.002)	0.027** (0.002)
Islands	−0.051** (0.004)	−0.012** (0.001)	0.028** (0.002)	0.035** (0.003)
Year 2014 (baseline)				
2019	−0.077** (0.003)	−0.012** (0.001)	0.046** (0.002)	0.043** (0.002)
2020	−0.094** (0.003)	−0.017** (0.001)	0.056** (0.002)	0.055** (0.002)
2021	−0.108** (0.003)	−0.021** (0.001)	0.063** (0.002)	0.066** (0.002)

Note(s): Standard errors in parentheses. ***$p < 0.01$, **$p < 0.05$ and *$p < 0.1$

Source(s): Authors' own elaboration

Environmental consciousness, gender, marital status, number of household members, education level (high school diploma and college), employment status, location, awareness regarding food labelling, trust in people and institutional trust significantly affect consumers' decision to purchase local and organic products. Favourable attitudes towards a product are related to the perceived health and environmental benefits.

Findings suggest that trust in municipal government increases the probability of consuming both local and organic products, whereas trust in the Italian Parliament boosts the purchase of

local products only, and trust in the European Parliament encourages organic products purchase decision only. This is in line with Gorton *et al.*'s (2021) identification of the positive effects of institutional trust on trust in eco-labels and the EU organic label. Based on Maniates (2001), we postulate that trust in the institutions goes beyond the consumers' perspective and entails the citizens' dimension, in which citizens see the institution as an expression of their actions and reliable support and not an entity to confront and therefore trust them.

These results can be valuable in identifying consumers with common consumption attitudes in Italy and support the importance of the dual role of consumers and ecological citizens that purchase local and organic products. They can support producers in understanding the antecedents of choice, enhancing their trademarks and becoming more competitive in the market. The role of labels as means to reduce information asymmetry between consumers and the food sector is crucial, especially in adapting strategies to the target population and promoting sustainable consumption. Reading food labels has been found to increase the likelihood of choosing local and organic products by empowering consumers to make more informed choices. This is in line with the European Commission's consideration of the extension of mandatory origin and harmonisation of voluntary green claims (European Commission, 2020) as a tool to shift dietary patterns.

Moreover, producers could invest in promotional initiatives targeting families with different income levels and life-stage compositions by introducing discounts on family packages or targeted coupons for low-income or retired consumers. From the institutional perspective, building trust of citizens and understanding their role in the society is fundamental, encouraging a sense of responsibility and the role of their individual actions on the overall environment as environment concern is a relevant driver in choice.

5. Conclusion

In this paper, we profile Italian consumers of organic and local food products, assessing the relationship between the frequency of consumption with respondents' demographic characteristics as well as their environmental concerns, trust in people and in institutions and their propensity to engage in food labelling using an ordered probit model. We also explore the concept of ecological citizenship.

Results show that institutional trust at different scales – municipal, national and European – shapes purchasing patterns in distinct ways, which can be strategically leveraged in policymaking. At the municipal level, higher trust increases both local and organic purchases, suggesting that empowering local governments to promote farmers' markets, short supply chains and community-supported agriculture can be highly effective. At the national level, trust in the Italian Parliament particularly encourages local consumption, indicating that national campaigns highlighting "Made in Italy" food quality, authenticity and regional identity can reinforce sustainable choices. Finally, at the European level, trust in EU institutions boosts organic food consumption, which supports the effectiveness of EU-wide labelling and certification schemes under the Farm to Fork strategy. In addition, personal trust in people significantly increases the probability of buying local and organic foods, highlighting the importance of community relations and social norms in reinforcing sustainable behaviour. Designing policies that layer these levels of trust – personal, local, national and European – can create a multi-scalar framework that strengthens citizens' confidence and activates their role as ecological citizens, aligning everyday consumption with broader sustainability goals.

The findings also confirm the importance of ecological citizenship. Political engagement and other pro-environmental behaviours significantly raise the likelihood of buying local and organic products. This shows that consumers act not just as private individuals but as ecological citizens, embedding civic responsibility and collective well-being into everyday food choices. Policies should therefore go beyond individual incentives to cultivate a culture of shared responsibility for sustainability.

Finally, environmental concern emerges as a central driver of sustainable choices, confirming that awareness of ecological risks translates into pro-environmental behaviour. Policies that promote environmental literacy – through education, campaigns and clear communication of food system impacts – can strengthen this link. Framing sustainable consumption as both an environmental necessity and a civic contribution to climate resilience can further anchor everyday practices in long-term sustainability goals.

6. Limitations and future research

This work does not come without limitations, the first being the use of self-reported measures of frequency of consumption. It would be ideal to measure actual purchasing choices while monitoring the beliefs and behavioural tendency of the consumers. Secondly, our data are repeated cross sections of individuals; this means that there are limits to properly identifying the causal relationship between sustainable food consumption behaviour and the explanatory variables. Using longitudinal data could help to reduce potential biases and confounding factors. Lastly, the analysis refers to the Italian population, so the result of this study cannot be generalised to other demographic groups which could exhibit different relationship among the variables of interest. Future research could combine survey data with experimental approaches, use longitudinal designs to assess causality and test ecological citizenship measures in other national contexts.

Data availability statement

The data supporting the findings of this study are available from the corresponding author upon request.

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Notes

1. We do not include all the dimensions of ecological citizenship as listed in Jagers *et al*. (2014) due to unavailability of the survey data.

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