

Pre-print version of: Valero-Gil, J., Escario, J.J., Belanche, D., Casaló, L. V., 2023. Understanding organic food consumption in the European Union: the interaction between health and environmental consumer's goals. *British Food Journal*.

Access to final publication:

<https://www.emerald.com/insight/content/doi/10.1108/BFJ-10-2022-0907/full/html>

## **Understanding organic food consumption in the European Union: the interaction between health and environmental consumer's goals**

### **Abstract**

#### *Purpose*

Based on goal-directed behavior, our study explores the direct effects and the interaction between health and environmental concerns as the main drivers of organic food consumption. Consumer's economic problems are proposed as the main barrier for such behavior from a cost-benefit approach theoretically grounded on decision theory.

#### *Design/methodology/approach*

Data were collected using the 26,669 European 95.1 wave participants of the Eurobarometer survey. Logistic regression estimates are used to analyze the hypotheses postulated.

#### *Findings*

The results indicated the significant association of both health and environmental concerns with organic food consumption, as well as the existence of an interactive effect between both consumer goals. As a novel finding, health concern weakens the influence of environmental concern on organic food consumption. Consumer's economic problems harms the expansion of organic food consumption as well as other socio-demographic factors included as control variables.

#### *Originality*

For the first time, this research explores the interaction effect between health and environmental concerns as antecedents of organic food consumption. The study argues that these consumer goals present differential features in terms of individual importance, feasibility, abstractness and outcome demonstrability, resulting in a prevalence of health over environmental goals for some consumers. The research provides not only novel insights for understanding organic food consumption but also provides additional evidence for practitioners to develop sales strategies and policymakers to formulate policies to guide the promotion of this so desired example of sustainable consumption.

**Keywords:** Organic food, health concern, environmental concern, goal-directed behavior, economic problems, cost-benefit approach, socio-demographic profile.

## 1. INTRODUCTION

Food has become a grand societal issue due to this impact on the environment, the economy, and society. In the European Union, food and other related sectors have been identified as strategic for this impact on the economy (12% GDP in 2019) and on the nutrition of their inhabitants (EUROSTAT, 2022). Nevertheless, this sector also highlights the disproportionate impact on nature and people's health. Food production is responsible for about 26% of the greenhouse gases emitted, 50% of the total land use, 70% of the freshwater use, and 78% of the global ocean pollution by eutrophication (Ritchie and Roser, 2020). Given the United Nations (2022) scenario for 2050 with a 22% growth in world population with respect to 2022, finding a sustainable way to feed the world, satisfying growing demand while preserving the environment and the population's health, is one of the century's most pressing challenges. Indeed, organic food is incrementing its popularity because, compared to traditional food, it is healthier and more environmentally friendly, being considered an important way to attain sustainable food consumption (Cao *et al.*, 2022; De-Magistris and Gracia, 2016; Katt and Meixner, 2020; Seconda *et al.*, 2017). However, organic food products use to have higher prices than their non-organic alternatives, which reduces their affordability (e.g., Aschemann-Witzel and Zielke, 2017; Prentice *et al.*, 2019).

Due to the growing emergency and importance of this issue, the determinants of organic food consumption have been a prolific research topic in recent years. Well-established theories, such as the Theory of Planned behavior (TPB [Ajzen, 1991]) or Theory of Reasoned action (TRA [Fishbein and Ajzen, 1975]), have been employed to explain the purchase process for organic food (Aertsens *et al.*, 2009; Rana and Paul, 2017; Ahmed *et al.*, 2021; Carrión Bósquez *et al.*,

Pre-print version of: Valero-Gil, J., Escario, J.J., Belanche, D., Casaló, L. V., 2023. *Understanding organic food consumption in the European Union: the interaction between health and environmental consumer's goals. British Food Journal.*

Access to final publication:

<https://www.emerald.com/insight/content/doi/10.1108/BFJ-10-2022-0907/full/html>

2023). Previous research on these theories suggest that consumers' motivations to purchase organic food act in an additive way, such that higher levels in any of the relevant motivations lead to higher behavioral intentions (Aertsens *et al.*, 2009; Katt and Meixner, 2020; Rana and Paul, 2017). However, the simplicity and parsimony of TRA and TPB also entail criticisms about the positivistic and deterministic approaches of these framework (Bagozzi, 2007). As research gaps, scholars have not deeply explained how the existing variables produce the effects, how motivations are moderated by other key variables and, more importantly, how the intention formation process is affected by individual's goals (Bagozzi, 2007; Wu *et al.*, 2019). Therefore, there is a need to renew and further deepen on these frameworks by analyzing complementary theoretical underpinnings that contribute to a better understanding of organic food consumption. By means of an integrative model overcoming previous research limitations, our investigation aims to help improving the promotion of organic food because of the emergency to obtain a more sustainable consumption model for our nutrition.

Our work assumes that organic food consumption perfectly serves as a mean for an end, that is, a behavior motivated by the active goal striving of personal, moral or self-evaluative standards (Bagozzi, 2006, 2007). Thus, based on the theoretical foundations of goal-directed behavior (Bagozzi and Dholakia, 1999; Baumgartner and Pieters, 2008), our model proposes that consumers decide to consume organic food pursuing the goals of being healthier and more environmentally friendly. To advance from previous knowledge suggesting independent direct positive effects of each of both factors on organic food consumption (e.g., Cao *et al.*, 2022; De-Magistris and Gracia, 2016; Katt and Meixner, 2020; Seconda *et al.*, 2017); we argue that both goals differ in nature and act at a different level (Baumgartner and Pieters, 2008), proposing that there is an interaction effect between them. In particular, our research hypothesizes that

Pre-print version of: Valero-Gil, J., Escario, J.J., Belanche, D., Casaló, L. V., 2023. *Understanding organic food consumption in the European Union: the interaction between health and environmental consumer's goals. British Food Journal.*

Access to final publication:

<https://www.emerald.com/insight/content/doi/10.1108/BFJ-10-2022-0907/full/html>

health concern (as a feasible, concrete and important goal at the individual level) weakens the influence of the environmental goal (as an abstract goal, with less observable outcomes and less directly affecting the individual). Complementarily, rooted on decision theory (Savage, 1954) and the relevance of the cost-benefit paradigm (e.g., Kleijnen *et al.*, 2007), our model also accounts for the key barrier restraining consumers from organic food consumption, that is, the negative impact of the economic costs that consumers have to afford to purchase organic food (Aschemann-Witzel and Zielke, 2017; Prentice *et al.*, 2019).

This paper intends to make three significant contributions to the literature. First, despite the accumulation of literature on the topic, many works have relied on deterministic models (e.g., TPB, TRA...). To the best of our knowledge, the goal-directed and decision theory approaches have not been used to address this issue, and it offers us a theoretical opportunity to construct a more precise holistic model of organic food consumption. For instance, previous studies have usually focused on either the motivating or inhibiting factors without considering both set of factors at the same time. Second, although there have been many studies on the relationships between health and environmental superior qualities interest and organic food consumption, less has been discussed about the relationship between both goals and the possible tradeoff relationship between them. To fill this gap, this research analyzes the interaction between environmental and health concerns and assumes that the influence of environmental concern is nuanced by consumer's health concern. This contribution is particularly important considering that previous research investigated independent additive effects (Aertsens *et al.*, 2009; Katt and Meixner, 2020), ignoring the psychological mechanism explaining how the existing variables produce the effects, such as a primary consumer goal moderating a secondary goal. Finally, we contribute to previous literature that have studied organic food consumption in specific

Pre-print version of: Valero-Gil, J., Escario, J.J., Belanche, D., Casaló, L. V., 2023. *Understanding organic food consumption in the European Union: the interaction between health and environmental consumer's goals. British Food Journal.*

Access to final publication:

<https://www.emerald.com/insight/content/doi/10.1108/BFJ-10-2022-0907/full/html>

countries or geographical areas, focusing our work on a representative sample of 26,669 citizens from all Europe. In this regard, socio-demographic characteristics (i.e., gender, age, education, place of living, life satisfaction and political orientation) are included as control variables in a holistic model which aims to explain organic food consumption combining well-established factors with novel points of view.

## **2. THEORETICAL UNDERPINNING AND RESEARCH HYPOTHESES**

### *2.1 Organic food, a global phenomenon*

The production and consumption of organic food is steadily increasing worldwide (Carrión Bósquez *et al.*, 2023). As a result, a mainstream body of literature has focused on analyzing and identifying the main determinants of organic food demand along the world. Even though most studies have focused on developed countries, we can find studies on organic food consumption almost everywhere: in Africa (e.g., Egypt [Mohamed *et al.*, 2012], South-Africa [Naidoo and Ramatsetse, 2016]), America (e.g., Brazil [Eberle *et al.*, 2022], Mexico [Leyva-Hernández *et al.*, 2021], US [Lee, 2016]), Asia (e.g., China [Chen and Lobo, 2012], Pakistan [Akbar *et al.*, 2019], Thailand [Sangkumchaliang and Huang, 2012]) and Oceania (e.g., Australia [Lea and Worsley, 2005]). In Europe, most of the studies have focused on a single country (e.g., France [e.g., Kesse-Guyot *et al.*, 2022], Serbia [e.g., Kranjac *et al.*, 2017], Spain [e.g., De-Magistris and Gracia, 2016]). A review of the multiple approaches within the vast amount of literature in this field indicates that product related factors and individual related factors motivates organic food consumption. Our model brings together both research streams assuming that, apart from some crucial economic and sociodemographic individual factors, consumers seek for organic food attributes as a mean to attain their own goals, being these goals (i.e., health and environmental purposes) the main antecedents of organic food consumption.

Pre-print version of: Valero-Gil, J., Escario, J.J., Belanche, D., Casaló, L. V., 2023. *Understanding organic food consumption in the European Union: the interaction between health and environmental consumer's goals. British Food Journal.*

Access to final publication:

<https://www.emerald.com/insight/content/doi/10.1108/BFJ-10-2022-0907/full/html>

## 2.2 Goal-directed behavior

In contrast to other motivational constructs such as needs or drives, goals tend to be more concrete and domain specific such that they exert a stronger influence on specific consumer behaviors (Baumgartner and Pieters, 2008). Thus, according to the goal-directed behavior rationale (Bagozzi and Dholakia, 1999; Baumgartner and Pieters, 2008), consumer behaviors serve as a mean for an end, becoming an active goal striving of a personal, moral or self-evaluative standard (Bagozzi, 2006, 2007). We assume that this rationale is very suitable to the field of organic food consumption, which means that consumers decision to consume organic food is mostly based on consumers goals. More precisely, previous research on the benefits of organic food consumption suggested that consumers value organic food for being healthy (Prentice *et al.*, 2019), and environmentally-friendly (e.g., Kuchler *et al.*, 2000; Kareklas *et al.*, 2014; Yadav, 2016).

In this line, previous research has traditionally proposed that organic food is first related to individuals' health (e.g. Hartman, 1997; Crinnion, 2010; Guilabert and Wood, 2012; Kareklas *et al.*, 2014; Yadav, 2016). In general, organic food is perceived to be healthier than conventional food (e.g. Asif *et al.*, 2018) because, among others, it is perceived as safer (Prentice *et al.*, 2019) and it offers a higher nutritional value (e.g., Grankvist and Biel, 2001; Lea and Worsley, 2005). For example, organic food products contain greater levels of vitamins (e.g. vitamin C) and minerals (e.g. iron, magnesium, and phosphorus), as well as lower levels of nitrates and pesticides, than non-organic varieties of the same foods (e.g. Crinnion, 2010). As a result, previous studies have systematically considered health related issues as one of the main drivers of the purchase of organic food (e.g., Kuchler *et al.*, 2000; Goetzke and Spiller, 2014; Kareklas *et al.*, 2014; Yadav, 2016; Asif *et al.*, 2018) as well as of the growth of the

Pre-print version of: Valero-Gil, J., Escario, J.J., Belanche, D., Casaló, L. V., 2023. *Understanding organic food consumption in the European Union: the interaction between health and environmental consumer's goals. British Food Journal.*

Access to final publication:

<https://www.emerald.com/insight/content/doi/10.1108/BFJ-10-2022-0907/full/html>

organic market (e.g. Guilabert and Wood, 2012). From the lenses of goal-directed behavior, those individuals with a greater health concern will be more motivated to buy organic food to obtain the associated health benefits. Therefore, we propose our first hypothesis:

*H1: Health concern is positively associated with an increase in organic food consumption.*

A second factor attracting consumers to organic food is related to its environmental-related benefits (e.g., Kuchler *et al.*, 2000; Kareklas *et al.*, 2014; Yadav, 2016). Specifically, consuming organic food is strongly associated as a way to protect the environment (e.g., Eberle *et al.*, 2022) and to be considered as more environmentally-friendly (e.g., Kuchler *et al.*, 2000). Differently from conventional food, organic food “it is produced without using harmful chemical fertilizers, herbicides, and pesticides, which contribute to air, water, and soil pollution” (Kareklas *et al.*, 2014, p. 19). Indeed, previous research has suggested that environmental concern (e.g., Smith and Paladino, 2010; Yadav, 2016; Ahmed *et al.*, 2021), and related variables such as a pro-environment lifestyle (Kareklas *et al.*, 2014), leads to a greater intention to purchase organic food. As a result, consumers with high levels of environmental concern –the degree to which people are aware of environmental problems, support efforts to solve the problems, and are willing to contribute personally to the solution (Dunlap and Jones, 2002)– may more likely consume organic food products as it is a pro-environmental behavior (Yadav, 2016). That is, consumers with clear pro-environmental goals will more likely buy organic food in order to protect and do not harm the environment, that is, as a mean to achieve that goal. Following this reasoning, we propose that:

*H2: Environmental concern is positively associated with an increase in organic food consumption.*

Pre-print version of: *Valero-Gil, J., Escario, J.J., Belanche, D., Casaló, L. V., 2023. Understanding organic food consumption in the European Union: the interaction between health and environmental consumer's goals. British Food Journal.*

Access to final publication:

<https://www.emerald.com/insight/content/doi/10.1108/BFJ-10-2022-0907/full/html>

To further understand organic food consumption, we deepen on goal-directed behavior as the main basis for such consumer behavior. Previous theoretical research identifies the crucial features determining the relevance of goals: goal importance, feasibility and abstractness. Goal importance reflects the individual commitment, involvement and personal relevance of a desired goal (Baumgartner and Pieters, 2008) and could be interpreted as the level of importance of the goal for each individual. In turn, goal feasibility is defined as “a consumer’s perception of control over whether or not a goal can be achieved” (Baumgartner and Pieters, 2008, p. 369), that is, the individual capacity to attain the pursued goal. Thus, in feasible goals, individuals may easily identify the means-ends relations and the personal agency or abilities to accomplish the goal-directed task. Goal feasibility is also related to consumers’ locus of control in attribution theory (Bandura, 1989), that is, the assumption that means-ends relations have internal (i.e., me) rather than external (i.e., others) causes that would lead to desirable or undesirable outcomes (Baumgartner and Pieters, 2008). Finally, goal abstractness is a feature that help differentiate between concrete and abstract goals. Concrete goals refer to specific ways in which an outcome can be accomplished and are easier to observe than abstract goals; in turn, abstract goals are high-level motivational concerns about what the individual values, with many possible behaviors available to attain the preferred outcomes but not being specifically linked to any specific behavior. As an example, Baumgartner and Pieters (2008) identified that eating decisions as part of a dieting plan represent concrete goals linked to the health goal (i.e. specific actions, observable outcome), whereas being environmentally friendly and a good citizen represent abstract goals (i.e. many potential actions, less observable outcome). In a similar vein, from a consumer goal-directed approach, the health goal would be also considered more relevant at the individual level (i.e. taking care of one’s own health) and more feasible (i.e.,



Pre-print version of: Valero-Gil, J., Escario, J.J., Belanche, D., Casaló, L. V., 2023. *Understanding organic food consumption in the European Union: the interaction between health and environmental consumer's goals. British Food Journal.*

Access to final publication:

<https://www.emerald.com/insight/content/doi/10.1108/BFJ-10-2022-0907/full/html>

easier to establish a plan and targets) than the environment protection goal. Previous research on organic food also concur with this view and argued that health and environmental benefits have a different nature (Kareklas *et al.*, 2014, Yadav, 2016). While personal health benefits are more related to egoistic motivations, environmental benefits are more linked to altruistic ones because everybody may benefit from that (Kareklas *et al.*, 2014; Escario *et al.*, 2022).

Complementarily, literature on goal-directed behavior establishes that when there are multiple goals or even goal conflict, consumers tend to implement a “winner takes all” approach, that is, they focus on the more desirable, feasible and concrete goal and pay less attention to a less relevant goal that becomes secondary (Baumgartner and Pieters, 2008). In addition, when goals are perceived as simple, achievable and easily to implement, they lead to a successful goal achievement, as an attainable way to obtain a reward (Gollwitzer *et al.*, 2004). There are numerous reasons why a concrete and feasible goal leads to higher behavioral intentions than an abstract and less feasible goal, such as the volitional control by the individual, the possibility to set a deliberate planning and to motorize the progress, the shorter interval between decision making and outcome, and the affective rewards associated to the evaluation of the goal achievement (Dholakia and Bagozzi, 2002; Baumgartner and Pieters, 2008).

These reasonings suggest that consumer's health goal (as a feasible, concrete and important goal at the individual level) nuance the influence of consumer's environmental goal (as an abstract goal, less observable and less directly affecting the individual). Because of their different features (Park *et al.*, 2011; Baumgartner and Pieters, 2008), we propose that as health concern increases, consumers may be more worried about this goal, reducing the influence of the environmental concern on organic food consumption. As a result, we proposed the following hypothesis:

Pre-print version of: Valero-Gil, J., Escario, J.J., Belanche, D., Casaló, L. V., 2023. *Understanding organic food consumption in the European Union: the interaction between health and environmental consumer's goals. British Food Journal.*

Access to final publication:

<https://www.emerald.com/insight/content/doi/10.1108/BFJ-10-2022-0907/full/html>

*H3: As health concern increases, the positive association between environmental concern and organic food consumption will be reduced.*

### ***Cost-benefit approach***

This research also builds on the cost-benefit paradigm (e.g., Kleijnen *et al.*, 2007) under the premises of decision theory (Savage, 1954), which suggest that individuals' decision making is based on the comparison between benefits and costs associated to a given behavior. In particular, this theory relies on the assumptions of rationality and normative decision making, which means that consumers focus on the maximization utility (Savage, 1954). Therefore, following the cost-benefit paradigm from an economic approach, consumers not only consider the expected benefits of the decision but also the economic costs that this decision entail (Belanche *et al.*, 2023). Consequently, consumer's anticipation of positive outcomes results in a higher purchase decision, whereas the cost of such purchase represents a barrier for implementing such behavior (Belanche *et al.*, 2023). This balance of costs against benefits leads consumer decision-making (e.g., Kleijnen *et al.*, 2007).

In this respect, the main cost associated to organic food products is their higher prices with respect to non-organic food (e.g., Zepeda and Li, 2007; Marian *et al.*, 2014), caused by higher costs of production and retailer margins (Soler *et al.*, 2002). Therefore, it is not surprising that price is considered the major barrier to purchase these products (e.g., Aschemann-Witzel and Zielke, 2017). The willingness to pay price premiums for organic food may depend on consumer characteristics. Since price represents the amount of money consumers must sacrifice for a transaction (Lichtenstein *et al.*, 1993), and with cheaper conventional alternatives available, it has been found that consumers with less income are less likely to buy organic food (e.g., Roitner-Schobesberger *et al.*, 2008; Chen *et al.*, 2014), probably because of its limited

Pre-print version of: Valero-Gil, J., Escario, J.J., Belanche, D., Casaló, L. V., 2023. *Understanding organic food consumption in the European Union: the interaction between health and environmental consumer's goals. British Food Journal.*

Access to final publication:

<https://www.emerald.com/insight/content/doi/10.1108/BFJ-10-2022-0907/full/html>

budget to provide the household with provisions (Padel and Foster, 2005). In other words, people with higher disposable income can afford organic food more and thus may consume it more often (e.g., Kranjac *et al.*, 2017). As a result, we expect that consumers experiencing economic difficulties will be less likely to buy organic food due to its higher economic cost (i.e., price) compared to other alternatives, proposing the following hypothesis:

*H4: Consumer's economic problems are negatively associated with an increase in organic food consumption.*

#### *Control variables*

Following previous studies (e.g., Bravo *et al.*, 2013; Singh and Verma, 2017; Kranjac *et al.*, 2017), the subsequent socio-demographic factors were included as control variables potentially impacting organic food consumption: gender (higher consumption by women than by men [Bravo *et al.*, 2013; Kranjac *et al.*, 2017]); age (higher consumption among young [Zvěřinová *et al.*, 2011; Singh and Verma, 2017; Kranjac *et al.*, 2017] and mid-aged consumers [Kriwy and Mecking, 2011]); level of education (higher consumption as education level increases [e.g., Singh and Verma, 2017; Kranjac *et al.*, 2017]); place of living (higher consumption in larger cities [Zvěřinová *et al.*, 2011; Kranjac *et al.*, 2017]); life satisfaction (higher consumption among people more satisfied with their lives [Seconda *et al.*, 2017; Hempel and Roosen, 2022]) and political ideology (higher consumption among left-wing oriented consumers [Neumayer, 2004; Lena and London, 1993]). The inclusion of these individual factors as control variables allow us to assess well-established effects identified in previous literature on this field. The research model is summarized in Figure I.

-----  
INSERT FIGURE I ABOUT HERE

Access to final publication:

<https://www.emerald.com/insight/content/doi/10.1108/BFJ-10-2022-0907/full/html>

-----

## METHODS

The analyses in this paper were carried out with the wave 95.1 of the Eurobarometer survey (European Commission and European Parliament, 2021). The universe of the survey were residents in any of the 27 Member States and aged 15 years and over. This European representative survey interviewed 26,669 persons between the 15<sup>th</sup> March and 14<sup>th</sup> April 2021. A multi-stage random sample design was applied in each country. Face-to-face interviews were carried out whenever possible, however, if as a consequence of the measures to control the coronavirus pandemic, this procedure could not be carried out a Computer Assisted personal Interviewed (CAPI) was used<sup>1</sup>.

The dependent variable is computed with the response to question QB6 of the survey (“Which of the following actions, if any, apply to you?”) is used. One response option is “You buy and eat more organic food”. Consequently, the dependent variable *Organic Food* takes value 1 if the respondent selected this response option and value 0 if the respondent did not select it.

The key variables used to check the research hypotheses are the following. In order to measure environmental concern, the variable computes how many of the following options related with environment (*Climate change; Poverty, hunger and lack of drinking water; Health problems due to pollution; The increasing global population; Deterioration of nature*) were considered by the respondent as serious problems for the world, who were able to select up to 4 options. The resulting variable, *Environment Concern*, ranges from 0 (if no option is selected) to 4 (if the maximum number of options are selected). The variable to check the influence of health-

---

<sup>1</sup> More information about the sample procedure can be found in the following link: [https://search.gesis.org/research\\_data/ZA7781](https://search.gesis.org/research_data/ZA7781)

Pre-print version of: Valero-Gil, J., Escario, J.J., Belanche, D., Casaló, L. V., 2023. *Understanding organic food consumption in the European Union: the interaction between health and environmental consumer's goals. British Food Journal.*

Access to final publication:

<https://www.emerald.com/insight/content/doi/10.1108/BFJ-10-2022-0907/full/html>

oriented goals, *Health Concern*, is a dichotomous variable that indicates whether or not the respondent considers that the European Parliament should consider Public Health as one of its priorities. To contrast the fourth hypothesis (i.e. about consumers' economic problems), the response to the following question “*During the last twelve months, would you say you had difficulties to pay your bills at the end of the month?*” is used. The three possible answers are “*Almost never/never*”, “*From time to time*”, and “*Most of the time*”. Three dichotomous variables are computed in order to reflect whether or not the respondent ticks each of the possible responses. The three dichotomous variables are labeled *No Bill Problems*, *Few Bill Problems*, and *Quite Bill Problems*, respectively.

The additional predictors included as control variables are the following. The variable *Female* indicates the gender (1 = Female; 0 = Male). The variable *Age* measures the age in years of the respondent. To measure the education level, five dichotomous variables are computed indicating the level of education that the respondent has attained. These variables are: *Primary* (1 = Primary or less; 0 = Other education level; this variable acts as the reference category); *Lower Secondary* (1 = Lower secondary education; 0 = Other education level); *Upper Secondary* (1 = Upper secondary education; 0 = Other education level); *Undergraduate* (1 = Undergraduate degree; 0 = Other education level); *Graduate* (1 = Graduate degree; 0 = Other education level). Three dichotomous variables indicate the type of town where the respondent lives: *Rural*, *Middle Town* and *Large Town*, acting the second variable as the reference category. The variable *Life Satisfaction* is an index that measures how satisfied the respondent feels with the life he/she lives (0= Not at all satisfied; 1 = Not very satisfied; 2 = Fairly satisfied; 3 = Very satisfied). Finally, the variable *Left-Right* measures where the respondent places his/her political orientation in a scale from 1 (more at the left) to 10 (more at the right).

Pre-print version of: *Valero-Gil, J., Escario, J.J., Belanche, D., Casaló, L. V., 2023. Understanding organic food consumption in the European Union: the interaction between health and environmental consumer's goals. British Food Journal.*

Access to final publication:

<https://www.emerald.com/insight/content/doi/10.1108/BFJ-10-2022-0907/full/html>

Logistic regression estimates are used in order to analyze the hypotheses postulated. In addition to the key and control predictors, and with the aim of controlling for country unobservable differences, a dichotomous variable for each country is computed and introduced in the regression analysis. Omitting these dichotomous variables could attribute the effects of the non-observable country characteristics to the socio-economic control variables included in the analysis. All the statistical analyses were carried out with R statistical software (version 4.0.5 [2021-03-31]).

**RESULTS**

According to the descriptive analysis provided in Table I, almost a third European people (30.5%) has increased their organic food consumption. Although a deeper inspection of the data reveals that this percentage varies a lot by countries. Thus, this percentage ranges from 12.0% in Bulgaria to 51.9% in Denmark. Regarding the key predictors of our model: the environmental concern index is slightly below its range mean of 2; 43.5% thought that public health should be a priority for the European Parliament; finally, 22.7% reported to have bill problems time to time and 6.7% most of the time. With respect to the control variables, the results indicate that females represent a slightly higher percentage than males, 52.4% versus 47.6%. Around half of the population has a bachelor's degree (31.1%) or/and master/PhD. degree (19.3%). The population is distributed almost equally between the rural world, medium-sized cities and large cities. The index that measures life satisfaction is quite above its mean range of 1.5; whereas the average in the index of political orientation is near to the mid-point which is 5.5.

-----  
INSERT TABLE I ABOUT HERE  
-----

Pre-print version of: *Valero-Gil, J., Escario, J.J., Belanche, D., Casaló, L. V., 2023. Understanding organic food consumption in the European Union: the interaction between health and environmental consumer's goals. British Food Journal.*

Access to final publication:

<https://www.emerald.com/insight/content/doi/10.1108/BFJ-10-2022-0907/full/html>

The results of the logistic regression with increase of organic food as the dependent variable appear in Table II. The independent factors of the hypothesized relationships appear at the beginning of the table. First, health concern is positively associated with buying more organic food; this provides evidence in favor of H1. Similarly, the results also show a positive association between environmental concern and buying more organic food as it was formally proposed in H2. Interestingly, the estimates also reveal a negative estimated coefficient for the interaction variable, which is in accordance with H3. Figure II shows a graphical representation of this interaction effect, indicating that the positive effect of environmental concern is lower when health concerns are higher for the citizen (moderation effect). In relation with economic situation, the estimates support partially the hypothesis of a negative association between economic problems and buying more organic food products (H4). Particularly, this association is significant when difficulties in paying bills are very frequent or most of the time, but not when these difficulties are from time to time.

-----  
INSERT FIGURE II ABOUT HERE  
-----

Regarding the control variables, the estimates reveals that the likelihood of buying more organic food is higher among females than among males, it decreases with age, it is higher in large towns, it increases gradually with the education level and it increases for people with higher levels of life satisfaction, being the rest of the control variable effects non-significant. All these relationships allow us to partially explain our dependent variable, buying more organic food ( $R^2$  Tjur = 0.123).

-----

INSERT TABLE II ABOUT HERE

-----

## **DISCUSSION**

This study advances from previous research analyzing consumer's decisions to consume organic food by considering the goal-directed behavior and cost-benefit approaches. Although health and environmental concerns have been studied as crucial antecedents of organic food consumption in previous research, their possible interaction as an explanatory psychological mechanism based on different goal relevance remained unexplored. To solve this research gap, the current study describes and analyzes the interaction between health and environmental consumer goals as complementary factors differing in nature and features. In addition, including the cost-benefit paradigm from a decision theory approach, this research includes economic problems as an important barrier of organic food consumption. Regarding the research process, we developed a novel and holistic research framework that aims to advance from previous research and that test its hypotheses with a wide representative sample of citizens from the European Union.

### ***Discussion of key findings***

Based on previous research on the motivators of organic food consumption (Katt and Meixner, 2020; Rana and Paul, 2017) and taking goal-directed behavior as a theoretical basis (Bagozzi and Dholakia, 1999; Baumgartner and Pieters, 2008), our model proposes that consumers decide to consume organic food pursuing the goals of being healthier and more environmentally friendly. We confirm these relationships showing that health and environmental concerns are the main drivers to increase organic food consumption. These results are in line with findings in previous literature (e.g., Yadav, 2016, Goetzke and Spiller, 2014). We reaffirm the idea that



Pre-print version of: Valero-Gil, J., Escario, J.J., Belanche, D., Casaló, L. V., 2023. *Understanding organic food consumption in the European Union: the interaction between health and environmental consumer's goals. British Food Journal.*

Access to final publication:

<https://www.emerald.com/insight/content/doi/10.1108/BFJ-10-2022-0907/full/html>

people concerned about their health increase the consumption of organic food based on their superior nutritional characteristics (e.g., Kuchler *et al.*, 2000; Kareklas *et al.*, 2014; Asif *et al.*, 2018). Nevertheless, environmental concern also has an essential role as a direct determinant of organic food consumption due to the raised environmental impacts of food consumption and the current emergency to obtain more sustainable methods for its supply to support the expected population growth (e.g., Smith and Paladino, 2010; Yadav, 2016; Ahmed *et al.*, 2021).

Second, as an important contribution to the research field, and for a better comprehension of organic food consumption, we confirm the interaction between health and environmental goals. As expected from the theoretical rationale, we reveal that health and environmental concerns differ in nature and are grounded on different personal motivations such as the health-related goal (more feasible, concrete and important at the individual level) moderates the influence of the environmental goal (more abstract goal, less observable and less important at the individual level). The results of our study demonstrate that as health concern increases, the environmental concern effect as a driver of organic food consumption is weakened. That is, as showed in Figure II, environmental concerns have a positive impact on organic food consumption, but this influence is less relevant for consumers with higher health concerns. These results align with previous authors suggesting that health benefits are more related to egoistic motivations (Kareklas *et al.*, 2014) and that organic food consumption is better explained by egoistic than altruistic motivations (Yadav, 2016). This conclusion is important for explaining organic food purchase behavior due to it shows that although both concerns are compatible, the health-oriented goal (i.e., when health concern is high) prevails over the environmental goal in the decision to consume organic good.

Pre-print version of: Valero-Gil, J., Escario, J.J., Belanche, D., Casaló, L. V., 2023. *Understanding organic food consumption in the European Union: the interaction between health and environmental consumer's goals. British Food Journal.*

Access to final publication:

<https://www.emerald.com/insight/content/doi/10.1108/BFJ-10-2022-0907/full/html>

Complementarily, conforming the cost-benefit paradigm under the premises of decision theory (Savage, 1954), we assume that customers consider both the pros and cons of organic food consumption before deciding to buy these products. We find that individual economic problems are an important barrier hindering organic food consumption. This result has been corroborated widely by the previous literature, which has been regular highlighting the extra cost of organic food and the necessity to have enough disposable money to allow this consumption (e.g., Roitner-Schobesberger *et al.*, 2008; Chen *et al.*, 2014; Kranjac *et al.*, 2017). As a novelty, we show how this limitation is only significant in severe economic situations, suggesting that the price has reduced its negative effect on organic food consumption. We can explain and ensure this result given that the organic vs. traditional food price gap is being reduced over time (McNair, 2021) and the role of a new type of consumers dedicating more money to sustainable products (Aschemann-Witzel and Zielke, 2017; Carrión Bósquez *et al.*, 2023).

Finally, we have tested several socio-demographic characteristics affecting organic food consumption. Based on our results, we confirm the ideas of previous authors suggesting that organic food is more consumed by: 1) women (e.g., Bravo *et al.*, 2013; Kranjac *et al.*, 2017); 2) younger consumers (e.g., Zvěřinová *et al.*, 2011; Singh and Verma, 2017; Kranjac *et al.*, 2017); 3) consumers with higher education level; 4) people living in larger cities (e.g., Zvěřinová *et al.*, 2011; Kranjac *et al.*, 2017); 5) people with a higher life satisfaction (Seconda *et al.*, 2017; Hempel and Roosen, 2022) and, as expected, 6) those citizens with a left-wing political orientation (e.g. Neumayer, 2004; Lena and London, 1993).

### ***Theoretical implications***

From a theoretical perspective and based on our findings, this study contributes to the literature on organic food consumption in different ways. First, this research corroborates health and

Pre-print version of: Valero-Gil, J., Escario, J.J., Belanche, D., Casaló, L. V., 2023. *Understanding organic food consumption in the European Union: the interaction between health and environmental consumer's goals. British Food Journal.*

Access to final publication:

<https://www.emerald.com/insight/content/doi/10.1108/BFJ-10-2022-0907/full/html>

environmental concerns as the main drivers of organic food consumption in agreement with previous literature. Based on data analysis from a wide representative sample, our findings confirm that, analogously to other consumers worldwide, European consumers who aim to be healthier and more environment friendly are prone to consume organic food.

Second, the proposed model overcomes several limitations from previous studies based on simple parsimonious models such as TRA and TPB (Aertsens *et al.*, 2009; Rana and Paul, 2017; Ahmed *et al.*, 2021; Carrión Bósquez *et al.*, 2023) that have been criticized for being positivistic and deterministic (Bagozzi, 2007; Wu *et al.*, 2019). Different from previous research proposing additive effects between independent motivators (Aertsens *et al.*, 2009; Katt and Meixner, 2020), we further explain organic food consumption by deepening on individual's goals, analyzing the interaction between these key determinants. More precisely, focusing on goal-directed behavior (Bagozzi and Dholakia, 1999; Baumgartner and Pieters, 2008), we discovered that consumer's health and environmental goals differ in their individual importance, feasibility, abstractness and outcome demonstrability. This distinction between both goals have been implicitly suggested in previous literature on consumer goal features (Baumgartner and Pieters, 2008) and organic food motivators (Yadav, 2016), but not formally proposed nor empirically tested. This new finding offers opportunities to advance in the theoretical exploration of why there is a reduction in the influence of environmental concern as health concern increases and whether this interaction effect between complementary goals could be extended to other consumer behaviors.

Finally, we verified that the cost-benefit approach under the assumptions of decision theory (Savage, 1954) is an adequate theoretical framework to explain behaviors related to organic food consumption. Our results confirm the role of the main costs and benefits associated with

Pre-print version of: Valero-Gil, J., Escario, J.J., Belanche, D., Casaló, L. V., 2023. *Understanding organic food consumption in the European Union: the interaction between health and environmental consumer's goals. British Food Journal.*

Access to final publication:

<https://www.emerald.com/insight/content/doi/10.1108/BFJ-10-2022-0907/full/html>

this type of product, and corroborate that both, the pros and cons of organic food consumption have to be considered simultaneously.

### ***Practical implications***

The results of this study are helpful to the sustainable development of the organic food industry and relevant for its practitioners. We found that both health and environmental consumer goals contribute to the increase of organic food consumption. The impact of recent international health and environmental incidents such as the COVID-19 pandemic or the acceleration of climate change has severely contributed to the growth of these psychological concerns in current society. Since neither of these factors are harmful for the expansion of organic food, managers should stress the benefits that consuming these products have for both the health and the environment. Nevertheless, we detect an interaction effect between these two critical antecedents of organic food consumption. This evidence encourages producers and sellers to formulate corresponding specialized strategies to strengthen consumption by focusing on different consumer goals profiles. In other words, since the role of environmental concerns is less relevant when consumers have higher health concerns, it would be beneficial to segment the target individuals between those interested in organic food's health and environmental goals. In particular, giving the pragmatic orientation of health-related goals, managers should stress the benefits of consuming organic food when targeting citizens with higher health concerns (e.g., in hospitals, gyms). In turn, organic food producers and sellers should focus on the environmental benefits of these products when approaching consumers with a lower health concern (e.g., in fast food restaurants). This kind of segmentation practices would facilitate the design of commercial campaigns depending on possible interests that maximize their effect and the growth of the organic food market.

Pre-print version of: Valero-Gil, J., Escario, J.J., Belanche, D., Casaló, L. V., 2023. *Understanding organic food consumption in the European Union: the interaction between health and environmental consumer's goals. British Food Journal.*

Access to final publication:

<https://www.emerald.com/insight/content/doi/10.1108/BFJ-10-2022-0907/full/html>

From a complementary approach based on the formulation of a holistic model considering a cost-benefit analysis, we found that economic problems are an important barrier to organic food consumption. This result should serve all the organic food supply chain to work in the optimization of their prices, reducing the gap with traditional food. Additionally, the promotion of organic products should highlight, in a specialized way, that the superior price respect to traditional food is owing to the higher qualities in terms of health and environmental impact (i.e., value for money). Both mechanisms can contribute in a significant way to the increase of organic food market share and the system's sustainability.

Finally, even though our practical implications have been focused on the organic food market's main stakeholders, public policymakers focusing on propagating sustainable consumption initiatives could also use this evidence for these aims. In particular, they can develop advocacy strategies to improve the sustainable consumption attitude of consumers to promote sustainable food consumption based on our proven holistic model of organic food consumption. Considering our analysis on sociodemographic control variables, these strategies should be targeted to a wide-spectrum of citizens in their aim to expand organic food and their benefits to the whole society.

### ***Limitations and further research***

Some limitations of this study open new directions for further research avenues. First, although the survey from the Eurobarometer used in this study represents a representative sample of European Union countries, it relies on cross-sectional data to test relationships between our independent variables and organic food consumption. Consequently, the association tests cannot establish causal inference, and additional research should go a step further by collecting longitudinal data or conducting experimental research. In addition, the primary purpose of the

Pre-print version of: Valero-Gil, J., Escario, J.J., Belanche, D., Casaló, L. V., 2023. *Understanding organic food consumption in the European Union: the interaction between health and environmental consumer's goals. British Food Journal.*

Access to final publication:

<https://www.emerald.com/insight/content/doi/10.1108/BFJ-10-2022-0907/full/html>

Eurobarometer is not identical to the research goals of this study, and we did not participate in the questionnaire development to consider other variables than those provided. Thus, additional research is desirable to propose additional and more appropriate measurement scales confirming our conclusions.

From other perspective, even though we used a representative sample of European citizens, it could be interesting to evaluate the research model using representative samples in other continents (i.e., Africa, America, Asia and Oceania) in order to generalize our results. Similarly, future studies may also analyze whether the interaction effect between health and environmental goals could be confirmed globally (e.g., in Anglo-Saxon, Middle East or Jewish communities).

## **Acknowledgments**

The article's acknowledgments were intentionally deleted to guarantee author's anonymity.

## **REFERENCES**

- Aertsens, J., Verbeke, W., Mondelaers, K., Van Huylenbroeck, G. (2009), "Personal determinants of organic food consumption: a review", *British Food Journal*, Vol. 111 No. 10, 1140-1167. doi: 10.1108/00070700910992961
- 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, 796-822. doi: 10.1080/09640568.2020.1785404
- Ajzen, I. (1991), "The theory of planned behavior", *Organizational Behavior and Human Decision Processes*, Vol. 50 No. 2, 179-211.
- Akbar, A., Ali, S., Ahmad, M. A., Akbar, M. and Danish, M. (2019), "Understanding the antecedents of organic food consumption in Pakistan: moderating role of food neophobia", *International Journal of Environmental Research and Public Health*, Vol. 16 No. 20, 4043, <https://doi.org/10.3390/ijerph16204043>.
- 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", *Journal of Consumer Affairs*, Vol. 51 No. 1, 211-251. <https://doi.org/10.1111/joca.12092>

Pre-print version of: Valero-Gil, J., Escario, J.J., Belanche, D., Casaló, L. V., 2023. *Understanding organic food consumption in the European Union: the interaction between health and environmental consumer's goals. British Food Journal.*

Access to final publication:

<https://www.emerald.com/insight/content/doi/10.1108/BFJ-10-2022-0907/full/html>

- Asif, M., Xuhui, W., Nasiri, A. and Ayyub, S. (2018), “Determinant factors influencing organic food purchase intention and the moderating role of awareness: a comparative analysis”, *Food Quality and Preference*, Vol. 63, 144-150. doi:10.1016/J.FOODQUAL.2017.08.006
- Bagozzi, R.P. (2006), “Consumer action: automaticity, purposiveness, and self-regulation”, Malhotra, N. K. (Ed.), *Review of Marketing Research*, Vol. 2, Armonk, NY: Sharpe, 3-42.
- Bagozzi, R. P. (2007), “The legacy of the technology acceptance model and proposal for a paradigm shift”, *Journal of the Association for Information Systems*, Vol. 8 No. 4, 244–254.
- Bagozzi, R. P. and Dholakia, U. (1999), “Goal setting and goal striving in consumer behavior”, *Journal of Marketing*, Vol. 63 No. 4, 19-32. doi:10.1177/00222429990634s104
- Bandura, A. (1989), “Human agency in social cognitive theory”. *American Psychologist*, Vol. 44 No. 9, 1175–1184. <https://doi.org/10.1037/0003-066X.44.9.1175>
- Baumgartner, H. and Pieters, R. (2008), “Goal-directed consumer behavior: motivation, volition, and affect”, Haugtvedt, C. P., Herr, P. M. and Kardes, F. R. (Ed.s.), *Handbook of Consumer Psychology* (pp. 367–392), New York: Lawrence Erlbaum Associates.
- Belanche, D., Casaló, L. V., Flavián, M. and Loureiro, S. M. C. (2023), “Benefit versus risk: a behavioral model for using robo-advisors”, *The Service Industries Journal*, Vol. 1 No. 28, forthcoming.
- Bravo, C. P., Cordts, A., Schulze, B. and Spiller, A. (2013), “Assessing determinants of organic food consumption using data from the German National Nutrition Survey II”, *Food quality and Preference*, Vol. 28 No. 1, 60-70. doi: 10.1016/j.foodqual.2012.08.010
- Cao, D., Zheng, Y., Liu, C., Yao, X. and Chen, S. (2022), “Consumption values, anxiety and organic food purchasing behaviour considering the moderating role of sustainable consumption attitude”, *British Food Journal*, Vol. 124 No. 11, 3540-3562. doi: 10.1108/BFJ-06-2021-0647
- Carrión Bósquez, N.G., Arias-Bolzmann, L.G. and Martínez Quiroz, A.K. (2023), “The influence of price and availability on university millennials’ organic food product purchase intention”, *British Food Journal*, Vol. 125 No. 2, 536-550. <https://doi.org/10.1108/BFJ-12-2021-1340>
- Chen, J. and Lobo, A. (2012), “Organic food products in China: determinants of consumers’ purchase intentions”, *The international review of retail, Distribution and Consumer Research*, Vol. 22 No. 3, 293-314. <https://doi.org/10.1080/09593969.2012.682596>
- Chen, J., Lobo, A. and Rajendran, N. (2014), “Drivers of organic food purchase intentions in mainland China—evaluating potential customers’ attitudes, demographics and segmentation”, *International Journal of Consumer Studies*, Vol. 38 No. 4, 346-356. <https://doi.org/10.1111/ijcs.12095>
- Crinnion, W. J. (2010), “Organic foods contain higher levels of certain nutrients, lower levels of pesticides, and may provide health benefits for the consumer”, *Alternative Medicine Review*, Vol. 15 No. 1, 4-12. PMID: 20359265

Pre-print version of: Valero-Gil, J., Escario, J.J., Belanche, D., Casaló, L. V., 2023. *Understanding organic food consumption in the European Union: the interaction between health and environmental consumer's goals. British Food Journal.*

Access to final publication:

<https://www.emerald.com/insight/content/doi/10.1108/BFJ-10-2022-0907/full/html>

- De-Magistris, T. and Gracia, A. (2016), "Consumers' willingness-to-pay for sustainable food products: the case of organically and locally grown almonds in Spain", *Journal of Cleaner Production*, Vol. 11 No. April, pp. 897-104. doi: 10.1016/j.jclepro.2016.01.050
- Dholakia, U. M. and Bagozzi, R. P. (2002), "Mustering motivation to enact decisions: How decision process characteristics influence goal realization", *Journal of Behavioral Decision Making*, Vol. 15 No. 3, 167-188. doi: 10.1002/bdm.408
- Dunlap, R. E. and Jones, R. E. (2002), "Environmental concern: conceptual and measurement issues", *Handbook of Environmental Sociology*, Vol. 3 No. 6, 482-524.
- Eberle, L., Milan, G. S., Borchardt, M., Pereira, G. M. and Graciola, A. P. (2022), "Determinants and moderators of organic food purchase intention", *Food Quality and Preference*, Vol. 100, 104609.
- Escario, J.J., Rodriguez-Sanchez, C., Valero-Gil, J. and Casaló, L. V. (2022), "COVID-19 related policies: the role of environmental concern in understanding citizens' preferences", *Environmental Research*, Vol. 211 No. March. doi: 10.1016/j.envres.2022.113082
- European Commission and European Parliament, Brussels (2021). *Eurobarometer 95.1* (2021). GESIS Data Archive, Cologne. ZA7781 Data file Version 1.0.0, <https://doi.org/10.4232/1.13791>.
- EUROSTAT (2022). "National accounts", available at: [https://ec.europa.eu/eurostat/databrowser/view/nama\\_10\\_a10/default/table?lang=en](https://ec.europa.eu/eurostat/databrowser/view/nama_10_a10/default/table?lang=en) (accessed 15 August 2022).
- Fishbein, M. and Ajzen, I. (1975), *Belief, attitude, intention and behaviour: an introduction to theory and research*, Reading, MA: Addison-Wesley.
- Goetzke, B. I. and Spiller, A. (2014), "Health-improving lifestyles of organic and functional food consumers". *British Food Journal*, Vol 116, No. 3, 510-526. doi: <http://dx.doi.org/10.1108/BFJ-03-2012-0073>
- Gollwitzer, P. M., Fujita, K. and Oettingen, G. (2004), "Planning and the implementation of goals", Baumeister, R.F. and Vohs, K. D. (Ed.s), *Handbook of self-regulation: research, theory, and applications*, Guilford, New York, pp. 211-228.
- Grankvist, G. and Biel, A. (2001), "The importance of beliefs and purchase criteria in the choice of eco-labeled food products", *Journal of Environmental Psychology*, Vol. 21 No. 4, 405-410. doi: <https://doi.org/10.1006/jevp.2001.0234>
- Guilabert, M. and Wood, J. A. (2012), "USDA certification of food as organic: an investigation of consumer beliefs about the health benefits of organic food", *Journal of Food Products Marketing*, Vol. 18 No. 5, 353-368. <https://doi.org/10.1080/10454446.2012.685028>
- Hartman, H. (1997), *The evolving organic marketplace*, Bellevue: Hartman and New Hope.
- Hempel, C. and Roosen, J. (2022), "The role of life satisfaction and locus of control in changing purchase intentions for organic and local food during the pandemic", *Food Quality and Preference*, Vol. 96, 104430. <https://doi.org/10.1016/j.foodqual.2021.104430>
- Kareklas, I., Carlson, J. R. and Muehling, D. D. (2014), "'I eat organic for my benefit and yours': egoistic and altruistic considerations for purchasing organic food and their



Pre-print version of: Valero-Gil, J., Escario, J.J., Belanche, D., Casaló, L. V., 2023. *Understanding organic food consumption in the European Union: the interaction between health and environmental consumer's goals. British Food Journal.*

Access to final publication:

<https://www.emerald.com/insight/content/doi/10.1108/BFJ-10-2022-0907/full/html>

- implications for advertising strategists”, *Journal of Advertising*, Vol. 43 No. 1, 18-32. doi: 10.1080/00913367.2013.799450
- Katt, F. and Meixner, O. (2020), “Is it all about the price? An analysis of the purchase intention for organic food in a discount setting by means of structural equation modeling”, *Foods*, Vol. 9 No. 4, p. 458. <https://doi.org/10.3390/foods9040458>
- Kesse-Guyot, E., Lairon, D., Allès, B., Seconda, L., Rebouillat, P., Brunin, J., ... and Baudry, J. (2022), “Key findings of the French BioNutriNet project on organic food-based diets: description, determinants, and relationships to health and the environment”. *Advances in Nutrition*, Vol. 13 No. 1, 208-224. doi: 10.1093/advances/nmab105
- Kleijnen, M., De Ruyter, K. and Wetzels, M. (2007), “An assessment of value creation in mobile service delivery and the moderating role of time consciousness”, *Journal of Retailing*, Vol. 83 No. 1, 33-46. doi: 10.1016/j.jretai.2006.10.004
- Kranjac, M., Vapa-Tankosic, J. and Knežević, M. (2017), “Profile of organic food consumers”, *Economics of agriculture*, Vol. 64 No. 2, 497-514. doi: <https://doi.org/10.5937/ekoPolj1702497K>
- Kriwy, P. and Mecking, R. A. (2012), “Health and environmental consciousness, costs of behaviour and the purchase of organic food”, *International Journal of Consumer Studies*, Vol. 36 No. 1, 30-37. doi: 10.1111/j.1470-6431.2011.01004.x
- Kuchler, F., Ralston, K. and Tomerlin, J. R. (2000), “Do health benefits explain the price premiums for organic foods?”, *American Journal of Alternative Agriculture*, Vol. 15 No. 1, 9-18. doi: <https://www.jstor.org/stable/44503129>
- Lea, E. and Worsley, T. (2005), “Australians’ organic food beliefs, demographics and values”, *British Food Journal*, Vol. 107 No. 11, 855-869. doi: 10.1108/00070700510629797
- Lee, H. J. (2016), “Individual and situational determinants of US consumers’ buying behavior of organic foods”, *Journal of International Food & Agribusiness Marketing*, Vol 28 No. 2, 117-131. <https://doi.org/10.1080/08974438.2015.1035471>
- Lena, H. F. and London, B. (1993), “The political and economic determinants of health outcomes: a cross-national analysis”, *International Journal of Health Services*, Vol. 23 No. 3, 585-602. doi: 10.2190/EQUY-ACG8-X59F-AE99
- Leyva-Hernández, S. N., Toledo-López, A. and Hernández-Lara, A. B. (2021), “Purchase intention for organic food products in Mexico: the mediation of consumer desire” *Foods*, Vol. 10 No. 2, 245. doi: <https://doi.org/10.3390/foods10020245>
- Lichtenstein, D. R., Ridgway, N. M., Netemeyer, R. G. (1993), “Price perceptions and consumer shopping behaviour: a field study”, *Journal of Marketing Research*, Vol. 30 No. 2, 234-245.
- Marian, L., Chrysochou, P., Krystallis, A. and Thøgersen, J. (2014), “The role of price as a product attribute in the organic food context: an exploration based on actual purchase data”, *Food Quality and Preference*, 37, 52-60. <https://doi.org/10.1016/j.foodqual.2014.05.001>
- McNair, K. (2021), “Organic food is more expensive, but conventional prices are catching up”, *MagnifyMoney*, available at: <https://www.magnifymoney.com/news/organic-vs-conventional-food-study/> (accessed on 20 August 2022).

Pre-print version of: Valero-Gil, J., Escario, J.J., Belanche, D., Casaló, L. V., 2023. *Understanding organic food consumption in the European Union: the interaction between health and environmental consumer's goals. British Food Journal.*

Access to final publication:

<https://www.emerald.com/insight/content/doi/10.1108/BFJ-10-2022-0907/full/html>

- Mohamed, M. A., Chymis, A. and Shelaby, A. A. (2012), "Determinants of organic food consumption in Egypt", *International Journal of Economics and Business Modeling*, Vol. 3 No. 3, 183-191.
- Naidoo, V. and Ramatsetse, M. H. (2016), "Assessment of the consumer purchase intentions of organic food at the Hazel food market in Pretoria, South Africa", *Environmental Economics*, Vol. 7 No. 3, 81-88. doi: 10.21511/ee.07(3).2016.10
- Neumayer, E. (2004), "The environment, left-wing political orientation and ecological economics", *Ecological Economics*, Vol. 51 No. 3-4, 167-175. <https://doi.org/10.1016/j.ecolecon.2004.06.006>
- Padel, S. and Foster, C. (2005), "Exploring the gap between attitudes and behaviour: understanding why consumers buy or do not buy organic food", *British Food Journal*, Vol. 107 No. 8, 606-625. doi: 10.1108/00070700510611002
- Park, L. E., Troisi, J. D. and Maner, J. K. (2011), "Egoistic versus altruistic concerns in communal relationships", *Journal of Social and Personal Relationships*, Vol. 28 No. 3, 315-335. <https://doi.org/10.1177/0265407510382178>
- Prentice, C., Chen, J. and Wang, X. (2019), "The influence of product and personal attributes on organic food marketing", *Journal of Retailing and Consumer Services*, Vol. 46, No. January, 70-78. doi: 10.1016/j.jretconser.2017.10.020
- 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 No. September, 157-165. <https://doi.org/10.1016/j.jretconser.2017.06.004>
- Ritchie, H. and Roser, M. (2020), "Environmental impacts of food production", available at: '<https://ourworldindata.org/environmental-impacts-of-food>' (accessed 20 August 2022).
- Roitner-Schobesberger, B., Darnhofer, I., Somsook, S. and Vogl, C. R. (2008), "Consumer perceptions of organic foods in Bangkok, Thailand", *Food Policy*, Vol. 33 No. 2, 112-121. <http://dx.doi.org/10.1016/j.foodpol.2007.09.004>
- Sangkumchaliang, P. and Huang, W. C. (2012), "Consumers' perceptions and attitudes of organic food products in Northern Thailand", *International Food and Agribusiness Management Review*, Vol 15 No. 1, 87-102.
- Savage, L. J. (1954). *The Foundations of Statistics*, Wiley, New York.
- Seconda, L., Péneau, S., Bénard, M., Allès, B., Hercberg, S., Galan, P., ... and Kesse-Guyot, E. (2017), "Is organic food consumption associated with life satisfaction? A cross-sectional analysis from the NutriNet-Santé study", *Preventive Medicine Reports*, Vol. 8, 190-196. doi: 10.1016/j.pmedr.2017.10.014
- Singh, A. and Verma, P. (2017), "Factors influencing Indian consumers' actual buying behaviour towards organic food products", *Journal of Cleaner Production*, Vol. 167 No. November, 473-483. <https://doi.org/10.1016/j.jclepro.2017.08.106>
- Smith, S. and Paladino, A. (2010), "Eating clean and green? Investigating consumer motivations towards the purchase of organic food", *Australasian Marketing Journal (AMJ)*, Vol. 18 No. 2, 93-104. <https://doi.org/10.1016/j.ausmj.2010.01.001>

Pre-print version of: Valero-Gil, J., Escario, J.J., Belanche, D., Casaló, L. V., 2023. *Understanding organic food consumption in the European Union: the interaction between health and environmental consumer's goals. British Food Journal.*

Access to final publication:

<https://www.emerald.com/insight/content/doi/10.1108/BFJ-10-2022-0907/full/html>

- Soler, F., Gil, J. M. and Sanchez, M. (2002), "Consumers' acceptability of organic food in Spain: results from an experimental auction market", *British Food Journal*, Vol. 104 No. 8, 670-687. <https://doi.org/10.1108/00070700210425921>
- United Nations (2022), "World population prospects 2022: summary of results", Department of Economic and Social Affairs, Population Division. UN DESA/POP/2022/TR/NO. 3.
- Wu, G. J., Bagozzi, R. P., Anaza, N. A. and Yang, Z. (2019), "A goal-directed interactionist perspective of counterfeit consumption: the role of perceived detection probability", *European Journal of Marketing*, Vol. 53 No. 7, 1311-1332. doi: 10.1108/EJM-07-2017-0455
- Yadav, R. (2016), "Altruistic or egoistic: which value promotes organic food consumption among young consumers? A study in the context of a developing nation", *Journal of Retailing and Consumer Services*, Vol. 33, No. November, 92-97. <https://doi.org/10.1016/j.jretconser.2016.08.008>
- Zepeda, L. and Li, J. (2007), "Characteristics of organic food shoppers", *Journal of Agricultural and Applied Economics*, Vol. 39 No. 1, 17-28. <https://doi.org/10.1017/S1074070800022720>
- Zvěřinová, I., Urban, J. and Ščasný, M. (2011), "Why do Czech consumers purchase organic food? 3<sup>rd</sup> Scientific Conference New findings in organic farming research and their possible use for Central and Eastern Europe. Prague, Czech Republic, November 14-15, 2011.

Access to final publication:

<https://www.emerald.com/insight/content/doi/10.1108/BFJ-10-2022-0907/full/html>

**Table I. Descriptive analysis**

<i>Variable</i>	<i>n</i>	<i>Mean</i>	<i>SD</i>	<i>Min</i>	<i>Max</i>
Organic Food	26669	0.305	0.460	0	1
Health Concern	26479	0.435	0.496	0	1
Environmental Concern	26607	1.829	0.964	0	4
No Bill Problems	26511	0.706	0.456	0	1
Few Bill Problems	26511	0.227	0.419	0	1
Quite Bill Problems	26511	0.067	0.250	0	1
Female	26669	0.524	0.499	0	1
Age	26663	49.939	17.040	15	97
Primary	26629	0.036	0.185	0	1
Lower Secondary	26629	0.138	0.345	0	1
Upper Secondary	26629	0.322	0.467	0	1
Undergraduate	26629	0.311	0.463	0	1
Graduate	26629	0.193	0.395	0	1
Rural	26667	0.313	0.464	0	1
Midle Town	26667	0.363	0.481	0	1
Large Town	26667	0.325	0.468	0	1
Life Satisfaction	26613	1.955	0.697	0	3
Left-Right	25053	5.346	2.098	1	10

Access to final publication:

<https://www.emerald.com/insight/content/doi/10.1108/BFJ-10-2022-0907/full/html>

**Table II. Logistic regression estimates**

<i>Predictors</i>	<b>Buy more Organic Food</b>					
	<i>Log-Odds</i>	<i>CI</i>	<i>p</i>	<i>OR</i>	<i>CI</i>	<i>p</i>
Intercept	-1.597	-1.920 – -1.279	<0.001	0.202	0.147 – 0.278	<0.001
Health Concern (H1)	0.158	0.022 – 0.294	0.022	1.171	1.022 – 1.341	0.022
Environmental Concern (H2)	0.354	0.314 – 0.395	<0.001	1.425	1.369 – 1.484	<0.001
HC : EC (H3)	-0.108	-0.170 – -0.045	0.001	0.898	0.843 – 0.956	0.001
Few Bill Problems (H4)	0.018	-0.060 – 0.096	0.654	1.018	0.942 – 1.100	0.654
Quite Bill Problems (H4)	-0.205	-0.347 – -0.065	0.004	0.815	0.707 – 0.937	0.004
Female	0.469	0.410 – 0.528	<0.001	1.598	1.507 – 1.695	<0.001
Age	-0.002	-0.004 – -0.000	0.013	0.998	0.996 – 1.000	0.013
Lower Secondary	0.324	0.099 – 0.556	0.005	1.383	1.104 – 1.743	0.005
Upper Secondary	0.595	0.379 – 0.818	<0.001	1.813	1.461 – 2.266	<0.001
Undergraduate	0.883	0.669 – 1.106	<0.001	2.419	1.952 – 3.022	<0.001
Graduate	1.084	0.865 – 1.310	<0.001	2.956	2.374 – 3.707	<0.001
Rural	0.008	-0.065 – 0.080	0.838	1.008	0.937 – 1.083	0.838
Large Town	0.086	0.015 – 0.157	0.017	1.090	1.015 – 1.170	0.017
Life Satisfaction	0.191	0.143 – 0.239	<0.001	1.211	1.154 – 1.271	<0.001
Left-Right	-0.076	-0.091 – -0.062	<0.001	0.926	0.913 – 0.940	<0.001
Observations	24723					
R <sup>2</sup> Tjur	0.123					

Access to final publication:

<https://www.emerald.com/insight/content/doi/10.1108/BFJ-10-2022-0907/full/html>

Figure I. Research model

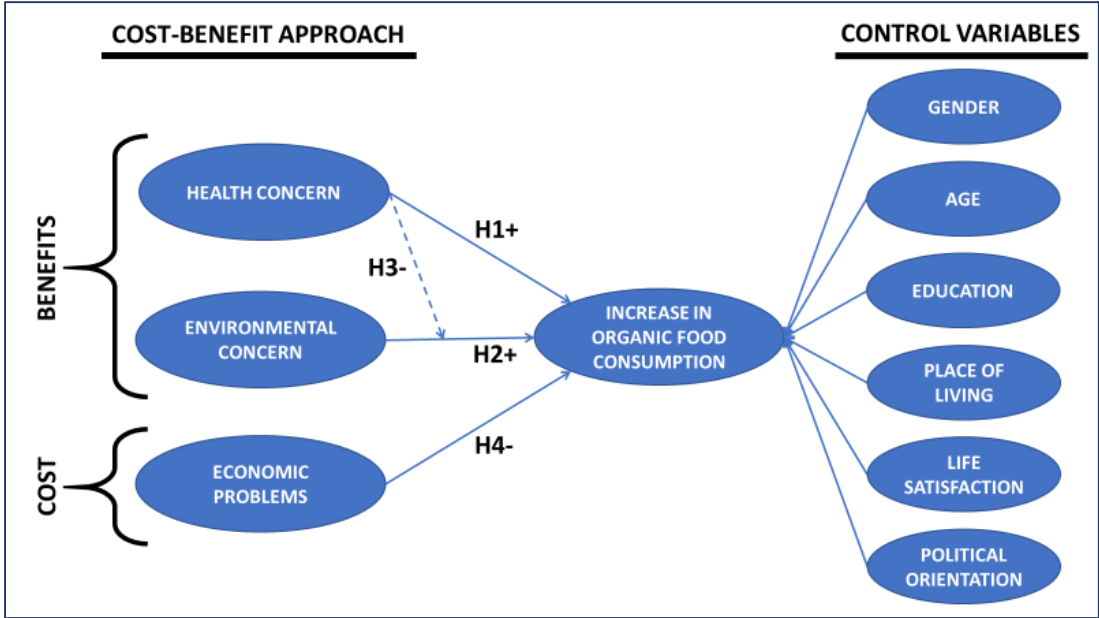


Figure II. Interaction effect

