

# Sustainable consumption in organic food buying behavior: the case of quinoa

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## Abstract

**Purpose** – Using an enhanced version of the theory of reasoned action (TRA), this study investigates the antecedents of organic quinoa-based food buying intention. In addition to attitude toward this behavioral intention, the proposed model examines the influence that ecological welfare, political values, and consumer-perceived corporate social responsibility (CSR) of the point of sale exert on consumer willingness to purchase organic quinoa-based food.

**Design/methodology/approach** – Structural equation modeling (SEM) was used to analyze the data collected through an intercept survey conducted at specialized organic stores on a convenience sample of 158 individuals in Italy.

**Findings** – Although ecological welfare and a retailer's CSR image positively influence consumer attitude toward buying organic quinoa-based food, political values negatively affect this attitude. Furthermore, consumer attitude is found to be a crucial predictor of behavioral intention.

**Research implications** – At the theoretical level, the results are useful for demonstrating that other variables, in addition to those used in the traditional TRA, can further explain consumers' organic food buying intention. Additionally, the findings might be useful for both quinoa producers and retailers in creating and executing their marketing and communication strategies.

**Originality/value** – In addition to contributing to the stream of literature that investigates possible variables that might increase the predictive power of the TRA, this study sheds some light on organic food purchasing consumer behavior.

**Keywords** Theory of reasoned action, Organic food buying intention, Attitude, Ecological welfare, Political values, CSR, Organic quinoa, SEM

**Paper type** Research paper

## Introduction

Organic farming is a viable alternative to conventional agriculture. Among its benefits is that it generates a lower environmental footprint; thus, it supports ecologically sustainable development in terms of food quality and safety, environment preservation, and animal welfare (Kilcher, 2007). Organic farming concerns a farming system that employs biological fertilizers and excludes or largely limits the use of synthetic manures, insecticides, and chemical substances. The main outcome of this type of farming is organic food, which normally contains fewer toxic additives and more nutrients than conventionally produced food (IFOAM EU Group, 2010)[1]. According to EEC 2092/91[2], food products can be labeled as organic only if they contain at least 95 percent chemical-free organic ingredients (First and Brozina, 2009).

In the last two decades, the demand for organic food has considerably increased, transforming a niche sector into a well-established market (Oroian *et al.*, 2017). Indeed,



organic food is currently pervading the grocery-retailers scene. Consistently, the number of organic food producers and specialized retailers is growing every day (Hughner *et al.*, 2007). The prominent reason for this phenomenon is recognized to be the changes in consumer perception of food. Food is no longer simply considered nourishment but has gained manifold facets due to consumers' renewed view of the various health- and environment-related impacts of people's eating habits and food production methods (Chen, 2009).

In parallel with the growth in the organic food industry's turnaround, research has started to focus on profiling the organic food consumer (Liang, 2016). A recent literature review (Rana and Paul, 2017) has classified the factors able to shape the attitudes of organic food consumers. One of the most important factors is health consciousness (i.e., thinking that the food has good nutritional characteristics and is, therefore, compliant with the person's expectation of well-being), together with perceived quality and taste (Megicks *et al.*, 2008). Given that organic food is produced without using (or limiting the use of) insecticides and chemicals, which are proved to be harmful in the long run for human health, consumers' intrinsic motivations, such as personal interest toward a healthier lifestyle, surely matter in their decision-making processes (First and Brozina, 2009). Another related relevant factor influencing consumers' motivation to purchase organic food is perceived safety (Van Loo *et al.*, 2013). Modern consumers are more prone to purchase products from producers ensuring certified production processes. Individuals' objective knowledge about the reasons because organic food is less detrimental for the body is then fundamental in their choice (Aertsens *et al.*, 2011). Consumers' extrinsic motivations – motivations derived from consumers' social contexts – have been observed as relevant, in addition to intrinsic ones (Zollo, 2020). As organic products are usually more expensive than conventionally produced food, fashion trends and show-off motives have been found to be relevant in influencing consumer purchasing behavior in Italy and the United States (Hemmerling *et al.*, 2013; Hüteel *et al.*, 2018). Yet, although certifications validating the fairness of production processes represent a factor that increases consumer willingness to buy and pay for organic foods (Deliana, 2012), high prices may also be perceived as a barrier to purchase for less affluent consumers (Grunert and Juhl, 1995).

Personal and political values are also relevant antecedents of consumers' attitude and intention to purchase organic food. In regard to personal values, the extant literature has emphasized how organic food purchasing derives from individual perceptions about its consequences in terms of animal welfare, environmental protection, and respect for human rights across the food value chain (Rana and Paul, 2017; Govindan, 2018). Reverberating on all stakeholders' trust, corporate social responsibility (CSR) practices by firms producing and selling organic food are considered important factors in shaping consumer behavior (Privato *et al.*, 2008). On the other hand, in regard to political values, consumers interested, for whatever reason, in organizational CSR practices tend to be more involved in the choices they make when shopping for organic food. This is fundamental, as consumers who feel involved tend to be less likely to confuse "real" organic food with other alternatives (Tarkiainen and Sundqvist, 2005).

Finally, it has also been outlined how younger consumer cohorts from developed countries (a.k.a. millennials) are more motivated to purchase organic food (Al Swidi *et al.*, 2014). Similarly, attitude toward purchasing organic food tends to be higher in women who have children living in the household (Aertsens *et al.*, 2009; Rialti *et al.*, 2017, 2018).

Given the relevance of attitude in shaping organic food product buying and buying intention (Liang, 2016), multiple studies aimed at investigating organic food consumer purchasing behavior have adopted theoretical models from the social cognition literature (Ajzen and Fishbein, 2005). Among them, both the well-known theory of reasoned action (TRA) (Ajzen and Fishbein, 1973) and the theory of planned behavior (TPB) (Ajzen, 1991) have been used. This notwithstanding, the existing research is limited in at least two aspects. On the one hand, most previous studies have focused more on the use of such theories to outline the profile of organic food consumers. Thus, their aim was more related to the sociological analysis of consumers purchasing organic food. Second, the previous research

has mostly focused on one motivating factor at a time; hereby, a *trait-d'union* in regard to the overall motivations influencing organic food consumers' attitude is still missing.

Based on these premises, this study investigates the antecedents of consumer buying intention toward organic food using an enhanced version of the TRA (Ajzen and Fishbein, 1973), providing the case of organic quinoa-based food as an example. In addition to attitude toward behavioral intention, the proposed model examines the influence that ecological welfare, political values, and consumer-perceived CSR of the point of sale exert on consumer willingness to purchase organic quinoa-based food. Hence, this study aims at detangling how several heterogeneous factors simultaneously influence consumers' decision to purchase organic food. The results show how environmental welfare and CSR image are relevant antecedents of consumers' attitude and intention to purchase organic food. Counterintuitively, political values are not pertinent as expected.

This manuscript is organized as follows: In the following section, some information about quinoa is provided, as the authors have deemed it relevant to better specify the importance of the selected product in the current environment. Then, in the third section, the adopted theoretical framework and the proposed model are described alongside the hypotheses; further, the research design is presented. The fourth and fifth sections describe the methodology and the results of the investigations, respectively. Finally, theoretical and managerial implications, the conclusion, limitations, and suggestions for future research are provided in the final sections.

### Organic quinoa

Quinoa (*Chenopodium quinoa* Wild) is an herbaceous plant that originates from the Andes in South America. It belongs to the family of the Chenopodiaceae, such as spinach and beetroot, and is labeled a pseudo-cereal as it is similar to cereals because of its prevailing starch content, but it does not belong to the botanical family of grasses (Bazile *et al.*, 2016). Quinoa is considered a highly nourishing food, and thanks to the quality of the proteins and the range of vitamins and minerals it contains, it has been selected by the Food and Agriculture Organization (FAO) as one of the crops destined to offer food security in the twenty-first century (Jacobsen, 2003). The United Nations General Assembly has declared 2013 as the "International Year of Quinoa," recognizing that the ancestral practices of the Andean people have succeeded in preserving quinoa in its natural state as a food for present and future generations, through cultivation methods that safeguard the environment and perpetuate the local rural culture (FAO and CIRAD, 2015).

Thanks to its versatility, quinoa can be used to produce a variety of foods: flour, noodles, cookies, flakes, milk, and so on, in addition to being consumed in its natural form in salads and soups (Jacobsen, 2003). Furthermore, as quinoa is gluten-free, all products made with it can be safely eaten by people affected by celiac disease. Both EU and US imports of quinoa have been rising in recent years, and this happened notwithstanding the price increase in raw materials, showing the increasing interest in this food both in the industry and in the end markets.

Considering what has been mentioned earlier, organic quinoa represents a paradigmatic example of a sustainable food whose consumption might be linked to additional attributes, such as environmental, health-related, social, and political, that go beyond its mere nutritional function (Long and Murray, 2013). Consumer buying behavior toward organic quinoa-based food seems, therefore, to be an appropriate and interesting area for studying consumption practices that embody a wide array of different motives for consumer attitudes, environmental concerns, social and political values, as well as production-process fairness perceptions.

### Theoretical framework

#### *Theory of reasoned action*

The TRA is one of the psychological theories that have been developed to predict, explain, and change human behaviors, commonly referred to as social cognition models (Ajzen and

Fishbein, 1973). Such models claim that a small number of affective and cognitive factors, that is, attitudes and beliefs, are the proximal causes of individual behavior (Rivis *et al.*, 2009). The TRA was elaborated to deliver a parsimonious understanding of motivational and informational influences on individuals' behavior (Conner and Armitage, 1998). It is a causal model, which identifies the determinants of behavioral intention – and eventually overt behavior – and portrays how they are combined (Conner *et al.*, 2007). The usefulness of the TRA stems not only from its predictive power but also from its capability to reveal the underlying causal processes that spur people to act in certain ways (Ajzen and Fishbein, 2005).

The core construct in the TRA is intention, defined as a person's motivation behind their mindful decision to make an effort to achieve a specific behavior. According to the model, the greatest portion of human actions can be predicted based on intention, given that such actions are under volitional control and people can decide at will to perform them (Ajzen and Fishbein, 1973). From a TRA perspective, behavioral intention is influenced by two independent factors: attitude toward the behavior, that is, “the degree to which a person has a favorable or unfavorable evaluation or appraisal of the behavior in question” (Ajzen, 1991, p. 188), and subjective norm, that is, “the perceived social pressure to perform or not to perform the behavior” (p. 188).

Attitudes are personal components, resulting from the person's appraisal of the costs and benefits derived from performing the behavior. This appraisal is defined to be a “behavioral belief” in the TRA. It has been claimed that people assess the consequences of alternative actions before taking them, and they are more likely to engage in actions they associate with desirable outcomes (Bang *et al.*, 2000). Subjective norm is, instead, a social component and results from the perceptions of important others' opinions about what a person should – or should not – do. Such perceptions are labeled “normative beliefs” in the theory and important others, such as family members, friends, and peers, are salient referents for the person, who are able to influence their decisions (Han *et al.*, 2010). The TRA states that individuals' behavioral intention is more likely to be affected by important referents' opinions when people are more willing to be influenced by these specific referents.

Although numerous meta-analyses (e.g. Madden *et al.*, 1992; Sheppard *et al.*, 1988) have corroborated the predictive capability of the TRA demonstrating its large effect size, a significant percentage of the variance in either behavioral intentions or overt behavior is still unexplained. It is, in fact, the author himself (Ajzen, 1991) who has cast doubts on the sufficiency of the model, claiming that there might be additional variables able to influence individuals' behavioral intention as well as overt behavior. Specifically, he recognizes that the intention to behave in a certain way might also be the result of additional beliefs. Moreover, particularly in some contexts, people could be influenced not only by social pressure but also by other variables.

This is why, in time, to increase the predictive power of the TRA, multiple additional constructs and modified versions of the model have been proposed in the literature (Conner and Armitage, 1998). In addition to the renowned TPB (Ajzen, 1991), which adds perceived behavioral control to the two fundamental TRA components, some examples of additional constructs considered are consumers' motivations (Fitzmaurice, 2005), anticipated regret (Nosi *et al.*, 2017a, b), norms and feelings (Kaiser, 2006), past behavior (Kidwell and Jewell, 2008), consumer–firm co-creation practices (Nosi *et al.*, 2017a), and altruism and self-interest (Corbett, 2005).

Currently, the TRA – in its seminal or modified version – is employed in multiple research fields, such as education, health, marketing, and communication, and has been used to investigate numerous behaviors, such as coupon usage (Bagozzi *et al.*, 1992), voting (Singh *et al.*, 1995), online grocery buying (Hansen *et al.*, 2004), and longevity annuity purchasing (Nosi *et al.*, 2014). The framework has been also extensively adopted

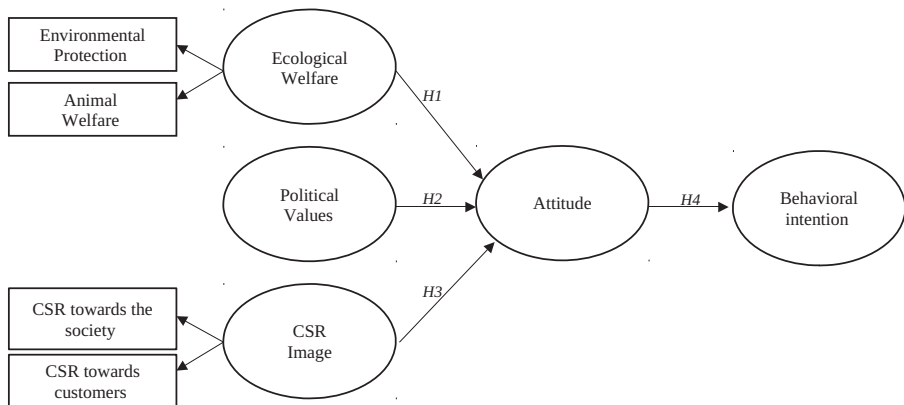
in the analysis of pro-environmental behaviors, for example, renewable energy use (Bang *et al.*, 2000), recycling (Davies *et al.*, 2002), staying at green hotels (Han *et al.*, 2010), electric-vehicles buying intention (Nosi *et al.*, 2017b), and organic food purchasing (Yazdanpanah and Forouzani, 2015).

*Conceptual model*

In the present study, we propose and empirically test a conceptual framework (see Figure 1) to assess the antecedents of consumers' sustainable attitude and buying intention.

Following the attempts to increase the predictive power of the TRA, in the present study, an enhanced version of the model is provided. Given that research has revealed that buying behavior is mainly under attitudinal, rather than normative, control (Agarwal and Malhotra, 2005), in this analysis, we focused on the attitudinal component of the model. Similarly to the investigation of renewable energy use by Bang *et al.* (2000), we analyze the influence of some antecedents (i.e. ecological welfare of the production process and consumer political values) on attitude and how these reverberate on purchasing organic quinoa-based food. Furthermore, the model includes the direct influence that the consumer-perceived CSR of the point of sale may exert on consumers' behavioral intention and their attitude toward buying organic quinoa-based food. Therefore, the proposed model embodies the attitudinal component of the TRA but adds some constructs that, in the authors' view, may integrate and increase explicative power.

Attitude has been identified as the most crucial variable in determining consumers' purchase of organic food, and the relation between attitude and behavioral intention has been found to be positive and significant (Liang, 2016). Ethical issues have also been claimed to be an important factor in driving consumers' food choices as it is believed that people guide their behavior based on their concern for the environment and for animal safety (Rana and Paul, 2017). Concerns about animal well-being and environmental safeguards have been shown to be antecedents of consumer attitude toward organic products (Khare, 2015). The greater the concern about such issues, the more likely it is that consumers will form a positive attitude toward organic foods and will eat them, given that most people consider organic food an ethical product (Crane, 2001). Previous research (Lindeman and Väänänen, 2000) has demonstrated that consumer perception about the fairness of food production processes –in terms of both animal welfare and environmental protection – and the way foods are packed



**Figure 1.**  
Hypothesized  
conceptual model

**Source:** Authors' own elaboration

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constitute an individual's overall perception that can be labeled "ecological welfare" (p. 56). Thus, the following hypothesis is proposed:

*H1.* Ecological welfare positively influences attitude toward buying organic quinoa-based food.

The literature (i.e. [Cherrier, 2007](#); [Doran, 2009](#); [Long and Murray, 2013](#)) has indicated the relevance of personal values in consumers' decision to purchase ethical food products, such as organically grown and locally produced, as well as fair-trade certified food. In particular, a positive relationship between individuals' social, environmental, and political values and willingness to pay for organic food has been found by [Loureiro and Hine \(2002\)](#). According to this stream of research, consumers' choice of one product (sustainable) over another (nonsustainable) is spurred by multiple factors, which also include their religious, spiritual, environmental, social, and political beliefs ([Harrison et al., 2005](#); [Micheletti and Stolle, 2008](#)). In relation to motives for choosing to purchase sustainable food, [Lindeman and Väänänen \(2000\)](#) identified three personal value-related factors able to influence consumer attitudes and eventually their purchasing behavior: ecological, religious, and political motives. Ecological motives reflect the consumer's concerns toward animal rights and, more generally, toward the environment. Religious motives represent the admissibility of a food according to someone's creed. Political values include the tolerability of the political system in a product's country of origin and consumer concerns about human rights. With relation to these motives, the authors proved that the higher the consumers' perception that a product's country of origin is adopting practices that do not conform to their political values, the less likely they are to buy food from that country. Hence, the following hypothesis is proposed:

*H2.* Political values positively influence attitude toward buying organic quinoa-based food.

Consumers claim that they expect firms to safeguard the environment and behave ethically and that they often base their buying decisions on these factors. This is why the issue of CSR has become a major area of business, which can provide a company success in the long run ([Mohr et al., 2001](#)).

Compared to CSR, the food sector faces specific challenges. The food industry has a relevant impact as it depends on natural, human, and physical resources. Hence, specific requirements must be fulfilled along the entire value chain, aimed at ensuring safe cultivation methods, animal welfare, and proper environmental, social, and labor conditions in production processes, as well as the quality, healthiness, and safety of products ([Košťutová and Jarossová, 2014](#)). Accordingly, consumers' perception of the CSR practices of all organizations involved in the food sector, retailers included, may affect their buying behavior. The CSR image that individuals have of a firm results from their appraisal of the firm's activities aimed at customers as well as toward the whole society ([Pérez and del Rodríguez Bosque, 2013](#); [Rialti et al., 2016](#)). A firm's CSR image is claimed to be an identity-based corporate image, which communicates the company's commitment to CSR and embodies stakeholders' – including consumers' – perception of the way the organization presents itself in terms of its socially responsible initiatives and actions ([Pomeroy and Johnson, 2009](#)). A firm's CSR image shows aspects of its corporate identity that are stable and frequently more distinctive than tangible elements, such as product offering preeminence, contributing to the formation of enduring positive attitudes toward the company and its products by the consumers ([Jamali et al., 2019](#)). Accordingly, the following hypothesis is proposed:

*H3.* CSR image positively influences consumer attitude toward buying organic quinoa-based food.

In the field of green marketing, a great deal of research has been devoted to finding a relationship between consumer attitude and purchasing behavior (i.e. Cerri *et al.*, 2019; Nguyen *et al.*, 2019; Trivedi *et al.*, 2018). As mentioned earlier, attitude has been recognized as one of the most important factors influencing consumer buying behavior in general and specifically toward green and ethical products (Mohiuddin *et al.*, 2018; Woo and Kim, 2019). Positive and significant relationships between attitude and intention to buy have been verified – also very recently – for different types of sustainable food, such as eco-friendly shellfish (Wang and Somogyi, 2019), organic vegetables (Mohd Suki, 2018), fair-trade coffee (Maaya *et al.*, 2018), and organically grown apples (Yamoah and Acquaye, 2019). Considering both traditional and more contemporary scientific studies that show the influence of attitude on consumer purchasing intention in the green market, our last hypothesis is the following:

*H4.* Attitude positively influences intention toward buying organic quinoa-based food.

## Research design

### *Sampling process and measures*

The data for this study were collected through a survey conducted between March and October 2018 in the center of Italy. Questionnaires were administered face-to-face by trained investigators adopting an intercept survey method (Bush and Hair, 1985). Respondents were approached at specialized organic stores. Participation in the study was voluntary, anonymous, and no compensation was provided. In total, 158 questionnaires were collected, considered valid for elaboration, and analyzed. The literature suggests that an adequate sample for structural equation modeling is 20 or 30 observations per latent variable (Nunnally, 1994); as our hypothesized model has five latent variables, the minimum required sample size has been reached. Initially, the questionnaire was pretested in a Tuscan university; a student panel composed of five respondents involved in sustainable consumption activities checked it for clarity of formulation, easiness to complete, and possible ambiguity (Zollo *et al.*, 2017a; Rialti *et al.*, 2019). After this pretest, no substantial changes were made to the final questionnaire.

The questionnaire used in the study consisted of six sections and 30 items, as reported in Table I.

The first section included items designed to assess the ecological welfare construct, which was captured as a second-order variable composed of two latent variables: animal welfare and environmental protection (Lindeman and Väänänen, 2000).

The second investigated political values, assessed through the four-item scale by Lindeman and Väänänen (2000).

The third included CSR image measures and was conceptualized as a second-order construct composed of two latent variables: CSR toward customers and CSR toward society (Pérez and del Rodríguez Bosque, 2013).

The fourth and fifth sections assessed customers' attitude and buying intention, captured through the six-item and four-item scales by Yazdanpanah and Forouzani (2015), respectively.

The final section of the survey consisted of questions on sociodemographic information and eating habits, as well as quinoa consumption behavior.

All construct items, corresponding to specific statements as shown in Table I, were assessed using a seven-point Likert scale, where 1 = strongly disagree and 7 = strongly agree, measuring the interviewees' level of agreement with the provided statements.

### *Preliminary analysis*

A summary of sample characteristics is presented in Table II.

Constructs and items	Source
<p><b>Ecological welfare</b> It is important that the organic quinoa-based food I eat. . .</p> <p><i>Animal welfare</i> Has been produced in a way that animals have not experienced pain (ANIM.V1), has been produced in a way that animals' rights have been respected (ANIM.V2)</p> <p><i>Environmental protection</i> Has been prepared in an environmentally friendly way (ENV.P1) Has been produced in a way that has not shaken the balance of nature (ENV.P2), is packaged in an environmentally friendly way (ENV.P3)</p> <p><b>Political values</b> It is important that the organic quinoa-based food I eat. . . comes from a country I approve of politically (POL.V1), comes from a country in which human rights are not violated (POL.V2), has the country of origin clearly marked (POL.V3) Has been prepared in a way that does not conflict with my political values (POL.V4)</p> <p><b>CSR image</b> I think that this point of sale. . .</p> <p><i>CSR toward customers</i> Establishes procedures to comply with customer complaints (C.CSR1), treats its customers honestly (C.CSR2) Has employees that offer complete information about corporate products/services to customers (C.CSR3) uses customer satisfaction as an indicator to improve the product/service marketing (C.CSR4), makes an effort to know customer needs (C.CSR5)</p> <p><i>CSR toward society</i> Helps solve social problems (S.CSR1) Uses part of its budget for donations and social projects to advance the situation of the most underprivileged groups of the society (S.CSR2) Contributes money to cultural and social events (e.g. music, sports) (S.CSR3), plays a role in the society beyond the generation of economic benefits (S.CSR4), is concerned with improving the general well-being of society (S.CSR5) Is concerned with respecting and protecting the natural environment (S.CSR6)</p> <p><b>Attitude</b> I think that buying organic quinoa-based food is interesting (ATT1). I think that buying organic quinoa-based food is a good idea (ATT2). I think that buying organic quinoa-based food is important (ATT3). I think that buying organic quinoa-based food is beneficial (ATT4). I think that buying organic quinoa-based food is wise (ATT5) I think that buying organic quinoa-based food is favorable (ATT6)</p> <p><b>Behavioral intention</b> I am willing to consume organic quinoa-based foods if they are available for purchase (INT1). I intend to consume organic quinoa-based foods if they are available for purchase (INT2). I plan to consume organic quinoa-based foods if they are available for purchase (INT3) I will try to consume organic quinoa-based foods if they are available for purchase (INT4)</p> <p><b>Source:</b> Authors' own elaboration</p>	<p>Adapted from Lindeman and Väänänen (2000)</p> <p>Adapted from Lindeman and Väänänen (2000)</p> <p>Adapted from Pérez and del Rodríguez Bosque (2013)</p> <p>Adapted from Yazdanpanah and Forouzani (2015)</p> <p>Adapted from Yazdanpanah and Forouzani (2015)</p>

**Table I.**  
Constructs and items



Over 77 percent of the respondents were female, and the majority were aged 18–39. Most of the survey participants held a high school degree (50.63 percent), had a monthly income in the range of EUR 1,001–2,300, and followed a Mediterranean diet (67.72 percent) or a vegetarian diet (18.99 percent). The price of quinoa products was perceived as medium-expensive and respondents' expenditure frequency was mostly weekly (49.37 percent), with purchase frequency being mainly monthly (35.44 percent) and quarterly (25.95 percent).

## Results

### *Means, standard deviations, and scale reliabilities*

In [Table III](#), the scales and items' descriptive statistics are shown, in addition to the reliability of the scales.

### *Correlation analysis*

[Table IV](#) shows the correlation analysis and the related Pearson's  $r$  values ([Laudano et al., 2018](#)).

As expected, the highest correlation was the one between consumer attitude and intention ( $r = 0.808, p < 0.01$ ). Similarly, the two types of CSR image (toward customers and toward society) were highly correlated ( $r = 0.806, p < 0.01$ ). Interestingly, consumer attitude was more highly correlated with CSR perception ( $r = 0.356, p < 0.01$ ) and environmental protection ( $r = 0.259, p < 0.01$ ).

### *Measurement model*

A confirmatory factor analysis for each of the main dimensions was conducted by using SPSS module AMOS v. 22 ([Arbuckle, 2013](#)). To estimate the parameters and test the three hypotheses described by the conceptual model (see [Figure 1](#)), the maximum likelihood function in AMOS was used ([Hair et al., 2006](#)). First, a measurement model was built containing the observed variables, also called "indicators." The unobserved variables, called "latent" variables ([Zollo et al., 2019](#)), were processed to assess the goodness-of-fit, validity, reliability, and correlations of the model ([Bentler, 1990](#)). The goodness-of-fit measures were examined to verify that the model exhibits acceptable parsimony ([Bentler, 1990](#)). First, absolute fit indexes were computed. The Chi-square test is an indicator of the overall goodness-of-fit. The Chi-square statistics of the model were significant ( $\chi^2 = 85.028; p < 0.01$ ), and the relative Chi-square suggested a good fit with a  $t$ -test value of  $\chi^2/df = 2.443$  (lower than 3, as required) ([Bentler, 1990](#)). The "goodness of fit index" (GFI) measures the fit between the hypothesized model and the covariance matrix of the observed variables, indicating model fit for values above 0.90 ([Hu and Bentler, 1999](#)). Therefore, the GFI of the model (0.945) suggested an acceptable level of fit. The "adjusted goodness of fit index" (AGFI) was also computed and its value was acceptable (0.912) based on the suggested threshold of 0.90. The last absolute fit index computed was the "root mean square error of approximation" (RMSEA), which measures the fit of the tested model to the population covariance matrix. The RMSEA of the model (0.058) suggested an acceptable fit, close to the required value of 0.06 ([Hu and Bentler, 1999](#)).

Another set of indices referred to as relative fit indexes examine the discrepancy between the Chi-square values of the hypothesized model and a "baseline" model used as a standard parameter ([Bentler, 1990](#)). The most commonly used indices are the "comparative fit index" (CFI), the "incremental fit index" (IFI), and the "normed fit index" (NFI) ([Bentler, 1990](#)). According to [Hu and Bentler \(1999\)](#), CFI, IFI, and NFI values above 0.90 are satisfactory. The model exhibited acceptable values in these fit indices (CFI = 0.968; IFI = 0.960; NFI = 0.955).

Furthermore, the measurement model showed that the path coefficients between the indicators and the latent variable were significant ([Zollo et al., 2018, 2019](#)).

Control variable	Frequency	Valid %	Sustainable consumption	
<i>Gender</i>				
Male	35	22.15%	<b>985</b>	
Female	123	77.85%		
<i>Age</i>				
18–29	23	14.56%		
30–39	37	23.42%		
40–49	36	22.78%		
50–59	41	25.95%		
>60	21	13.29%		
<i>Education</i>				
Primary	2	1.27%		
High school	80	50.63%		
Bachelor	22	13.92%		
Master	42	26.58%		
PhD	11	6.96%		
Other	1	0.63%		
<i>Diet typology</i>				
Mediterranean	107	67.72%		
Vegetarian	30	18.99%		
Vegan	11	6.96%		
Other (i.e. gluten-free, fruit-only)	10	6.33%		
<i>Monthly income</i>				
<600€	17	10.76%		
601–1,000€	39	24.68%		
1,001–2,300€	83	52.53%		
>2,301€	19	12.03%		
<i>Perception of quinoa-based food price</i>				
Cheap	9	5.70%		
Medium	89	56.33%		
Expensive	60	37.97%		
<i>In-store expenditure frequency</i>				
Weekly	78	49.37%		
Monthly	36	22.78%		
Quarterly	19	12.03%		
Yearly	8	5.06%		
Other	17	10.76%		
<i>Purchase frequency of quinoa-based food</i>				
Weekly	15	9.49%		
Monthly	56	35.44%		
Quarterly	41	25.95%		
Yearly	29	18.35%		
Other	17	10.76%		

Source: Authors' own elaboration

**Table II.**  
Sample characteristics

To control for common method bias (CMB), the procedures suggested by Podsakoff *et al.* (2003) were followed. Harman's one-factor test showed that the variance explained by the single factor was less than 50 percent, namely 38.55 percent; and the  $\chi^2$  difference test with one degree of freedom resulted in  $\Delta\chi^2 \geq 3.84$ . Hence, CMB is unlikely to be a significant issue in the present study (Laudano *et al.*, 2018; Zollo *et al.*, 2017a, b).

BFJ 122,3	Scale	Mean	SD	$\alpha$
<b>986</b>	<b><i>Ecological welfare</i></b>			
	<i>Animal welfare</i>			
	ANIM.V1	6.45	1.062	
	ANIM.V2	6.48	1.033	
	<i>Environmental protection</i>	6.54		0.71
	ENV.P1	6.52	0.942	
	ENV.P2	6.65	0.706	
	ENV.P3	6.47	0.942	
	<b><i>Political values</i></b>	<b>6.17</b>		<b>0.70</b>
	POL.V1	5.66	1.662	
	POL.V2	6.53	1.051	
	POL.V3	6.63	0.87	
	POL.V4	5.87	1.575	
	<b><i>CSR image</i></b>			
	<i>CSR toward customers</i>	5.59		
	C.CSR1	5.09	1.545	
	C.CSR2	5.81	1.355	
	C.CSR3	5.83	1.312	
	C.CSR4	5.51	1.466	
	C.CSR5	5.70	1.255	
	<i>CSR toward the society</i>	5.08		0.91
	S.CSR1	4.66	1.729	
	S.CSR2	4.77	1.708	
	S.CSR3	4.42	1.569	
	S.CSR4	5.37	1.586	
	S.CSR5	5.49	1.479	
	S.CSR6	5.79	1.405	
	<b><i>Attitude toward buying intention</i></b>	<b>5.20</b>		<b>0.91</b>
	ATT1	5.56	1.394	
	ATT2	5.34	1.404	
	ATT3	5.10	1.472	
	ATT4	5.27	1.461	
ATT5	5.27	1.473		
ATT6	4.68	1.473		
<b><i>Buying intention</i></b>	<b>5.43</b>		<b>0.95</b>	
INT1	5.61	1.440		
INT2	5.39	1.496		
INT3	5.45	1.529		
INT4	5.27	1.460		

**Table III.**  
Descriptive statistics  
and reliability analysis

Source: Authors' own elaboration

### *Hypotheses testing*

A structural model was built to assess both the values of standardized item loadings and the hypothesized path coefficients between the constructs (Hu and Bentler, 1999). Specifically, AMOS was used to estimate the structural model shown in Figure 2 (Zollo et al., 2017b). The values of both the relative fit indices ( $\chi^2/df = 2.554$ ; GFI = 0.948; AGFI = 0.902; RMSEA = 0.059) and the absolute fit indices (CFI = 0.946; IFI = 0.937; NFI = 0.948) are acceptable (Jamali et al., 2019; Laudano et al., 2018).

An examination of the path coefficients indicates that ecological welfare (+0.32;  $p < 0.01$ ) and CSR image (+0.37;  $p < 0.01$ ) significantly and positively influence consumer attitude,

Variables	1	2	3	4	5	6	7
1) ANIM.W	1						
2) ENV.P	0.587**	1					
3) POL.V	0.485**	0.610**	1				
4) C.CSR	0.145	0.182*	0.184*	1			
5) S.CSR	0.054	0.150	0.149	0.806**	1		
6) ATT	0.195*	0.259**	0.116	0.356**	0.374**	1	
7) INT	0.097	0.221**	0.103	0.239**	0.274**	0.808**	1

\* $p < 0.05$ ; \*\* $p < 0.01$

**Notes:** ANIM.W: animal welfare; ENV.P: environmental protection; POL.V: political values; C.CSR: CSR toward customers; S.CSR: CSR toward society; ATT: attitude; INT: intention

**Source:** Authors' own elaboration

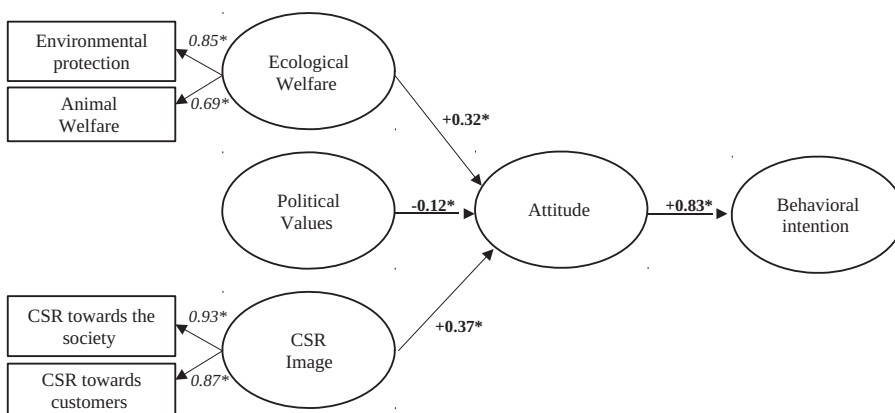
**Table IV.**  
Correlation matrix

thus supporting [H1](#) and [H3](#). However, political values ( $-0.12$ ;  $p < 0.01$ ) showed a negative influence on attitude, thus not supporting [H2](#). Finally, attitude had the strongest statistical influence on consumer behavioral intention ( $+0.83$ ;  $p < 0.01$ ), providing support for [H4](#).

### Discussion, theoretical and managerial implications

This study aimed to investigate the antecedents of organic quinoa-based food buying intention using an enhanced version of the TRA ([Ajzen and Fishbein, 1973](#)). In addition to attitude toward behavioral intention, the proposed model included the influence that ecological welfare, political values, and consumers' perceived CSR of the retailer exert on consumer willingness to purchase organic quinoa-based food.

Not both the investigated consumer ethical concerns, namely ecological welfare and political values, are positively related to attitude toward purchasing organic food. Only the variables in the first analyzed construct, namely its two components – environment protection and animal welfare – positively influence attitude toward buying organic quinoa-based food. Contradicting the results of [Lindeman and Väänänen \(2000\)](#), the present study reveals that consumers' perception of the political practices in the organic



\* $p < 0.01$ ; values in *latin* indicate factor loadings ( $\lambda$ ); values in **bold** indicate standardized regression weights.

**Source:** Authors' own elaboration

**Figure 2.**  
Results of the structural model

food's country of origin does influence attitude but in a negative way. In other words, the fairness of production practices related to human and social welfare, which are included in the broader category of political values, are not deemed relevant in consumers' purchase of organic products. This is in line with [Low and Davenport \(2007\)](#), who claimed that when consumers make an ethical consumption choice, such as purchasing organic food, they are confronted with three types of ethical concerns: animal, environmental, and human/social welfare. However, as regards making a buying decision, conflicts may arise among the three ethical spheres, resulting in problematic trade-offs that spur people to be selective when making ethical choices ([Zollo et al., 2017c](#)). Although conceivable, pursuing all three ethical concerns in the purchase of a single product is hardly achievable. Furthermore, in the case of organic food consumers, in agreement with the present study, the two ethical criteria that seem to prevail are no animal cruelty and environmental welfare ([Low and Davenport, 2007](#)). The fact that the sign of coefficient of the influence exerted by political values on attitude is negative, meaning, paradoxically, that consumers would prefer to buy food from countries where human rights are violated, might be partially explained by considering the respondents' misinterpretation of what political values represented. During the interviews, investigators realized that in the mind-set of the majority of people, the concept of political values tended to coincide with that of political ideology instead of with values of equality and justice. This could be possibly due to the culture-related characteristics of the Italian people ([Schwartz et al., 2010](#)). Studies conducted elsewhere might provide different results, more in agreement with the notion of political values intended by [Lindeman and Väänänen \(2000\)](#).

On the other hand, CSR image does have a significant and positive influence on attitude toward purchasing organic quinoa-based food. Additionally, the magnitude of the CSR impact on attitude is greater than that exerted by ethical concerns, meaning that consumers are considerably affected by the image they have of the retailer as a socially responsible actor. According to previous research ([Košútová and Jarossová, 2014](#); [Mohr et al., 2001](#)), this finding confirms that CSR represents a powerful means in the hands of organizations for staying competitive. Implementing CSR practices and communicating them to consumers effectively may favor the formation of positive attitudes toward buying quinoa-based food and result in increased sales. Moreover, CSR activities toward society exert a greater influence on attitude than those toward customers. This result confirms that CSR image is a multidimensional construct worth investigating, considering its different domains ([Pérez and del Rodríguez Bosque, 2013](#)). Furthermore, at the managerial level, retailers should focus most of their efforts in CSR activities toward the society as a whole instead of only investing in customer care ([Franceschelli et al., 2019](#); [Cillo et al., 2019](#)). Consistently with a company's need to align its identity – the way the company wants to be perceived by the stakeholders – with its image – the way stakeholders actually perceive the company –, we suggest that marketing managers communicate their CSR activities to external stakeholders, especially customers ([Brown et al., 2006](#)). Specifically, our results suggest that a company's CSR image is the strongest antecedent of customers' purchase attitude, thus implying that CSR toward customers and CSR toward society are strategic levers that managers should consider when communicating with the company's external environment.

Finally, attitude significantly and positively influences consumer intention to buy organic quinoa-based food. The extent of this influence is so high that it can be concluded that attitude almost completely explains behavioral intention. This result confirms previous research aimed at predicting human behavior based on social cognition models, which investigate the relationship between attitude and behavioral intention (e.g. [Ajzen and Fishbein, 2005](#)). With specific reference to organic food purchasing, this study supports the notion that attitude is the most crucial variable in determining consumers' buying behavior

(Liang, 2016). With attitude being the major predictor of purchasing behavioral intention, to increase sales, the efforts of both quinoa producers and retailers should aim to enable the formation of positive consumer attitudes. According to this study, this could be done by effectively leveraging attitude antecedents, that is, reassuring consumers about the fairness throughout quinoa production, respecting animal welfare and environmental protection, as well as adopting CSR policies and publicizing them appropriately in the market (Franceschelli *et al.*, 2018).

Therefore, the present study extends the pertinent literature by discovering that factors such as CSR concerns and ecological welfare contribute to the shaping of consumers' attitude. In contrast, it finds that political values do not matter. Hereby, this study preliminarily has explored the importance of these three factors simultaneously, showing how, in the presence of all three together, the importance attributed to political values decreases. Thus, the study sheds some light on the decision-making processes of organic food consumers.

### Limitations and suggestions for future research

The first limitation of this research is that the survey design is based on a convenience sampling method. Therefore, the obtained results cannot be generalized to the entire Italian population. Although future research on organic food buying behavior would definitely benefit from investigations of probability samples, it cannot be ignored that the use of nonprobability samples is quite common in marketing research and in behavioral and social science studies.

Furthermore, like multiple studies adopting the TRA as a theoretical reference framework, this study also investigated the intention to buy organic quinoa-based food, and not overt purchase behavior. Although there is compelling evidence about the validity of using intention to predict real action (Ajzen, 1991), no test of the relation between intention and concrete purchasing behavior was conducted in this analysis. Future studies could profitably investigate the relationship between intention and overt behavior and verify the existence of a possible intention–behavior gap.

Additionally, no measure was included in the present study to prevent the so-called “response bias.” Given the sensitivity of the investigated matter, especially in relation to environmental concern and buying behavior, future studies should take precautions in minimizing the phenomenon of socially acceptable answers that could distort results.

Finally, the study was conducted in Italy. Country-related social and cultural factors unquestionably influenced the findings. Future studies enlarging the geographical scope of the analysis could achieve different outcomes that may be worthy of attention for their theoretical and managerial implications.

### Notes

1. International Federation of Organic Food Movements: <https://www.ifoam-eu.org/>.
2. European Council Regulation.

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