

Pathways to Consumer Wellbeing through Organic Food Consumption

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This research examines how basic psychological need satisfaction (Consumer Autonomy Satisfaction, Consumer Competence Satisfaction, and Consumer Relatedness Satisfaction) influences consumer well-being in the organic food sector, focusing on Lithuania. Based on data from 400 organic consumers analyzed using PLS-SEM, this study found that Consumer Autonomy Satisfaction has a significant positive effect on both self-congruity and organic food authenticity. The experience of Consumer Competence Satisfaction strengthens self-congruity but not organic food authenticity, while the experience of Consumer Relatedness Satisfaction boosts authenticity only when traceability knowledge is present. Organic food authenticity has the strongest direct effect on both hedonic and eudaimonic well-being, challenging its hygiene factor role. Self-congruity mediates all three need satisfaction experiences into well-being. By linking the effects of need satisfaction experiences on consumer well-being, the study contributes to the development of Self-Determination Theory. It repositions perceived authenticity as a primary driver of well-being and redefines traceability as a psychological enabler of social connection. The results provide reflective knowledge for marketers and policymakers aiming to implement changes in organic food markets to encourage innovation.

Keywords: Organic Food, Basic Psychological Need Satisfaction, Hedonic Wellbeing, Eudaimonic Wellbeing, Consumer Wellbeing, Self-Determination Theory, Self-Congruity, Organic Food Authenticity, Traceability Knowledge, Lithuania.

Introduction

The development of the global organic food market has indeed been considerable. However, this has played a much more crucial role in the rapid outcomes of the COVID-19 pandemic, triggering consumer demand for healthy/clean food products (Chetioui *et al.*, 2023). The pandemic, as a health crisis, has, to some extent, influenced global consumer consumption behavior regarding the health and immunity benefits of organic food, shaping consumers' behavior and attitudes towards organic food (Huo *et al.*, 2025). This growing interest in organic food is intrinsically linked to consumer wellbeing, as organic consumption is associated not only with physical health benefits but also with psychological satisfaction derived from making ethical, environmentally conscious choices (Ganglmair-Wooliscroft & Wooliscroft, 2019; Isock *et al.*, 2023). The research also indicates that a consumer who practices sustainable consumption patterns, e.g., purchasing organic food, is characterized by increased hedonic wellbeing (pleasure and satisfaction) and eudaimonic wellbeing (meaning and purpose) (Ryan & Deci, 2001; Saini *et al.*, 2025). As a result, the European organic retail market has been growing steadily, reaching a market value of \$50.4 billion in 2023 (Witzke, 2025). In this growing market, the consumption of organic food serves as a notable case study

in sustainable consumption practices. The main drivers of healthy food consumption have now shifted from personal health to other concerns related to the environment and ethical values (Felicetti *et al.*, 2025; Saraiva *et al.*, 2021). For examining the psychological drivers of this behavior, Lithuania can be a fascinating example. As a growing market within an EU framework, this shows how such consumer behavior patterns could be investigated in a post-transition economy, featuring specific issues for expanding organic consumption beyond the Western European model (Pileliene & Tamuliene, 2021).

From a comprehensive statistical analysis, organic farming practices, market outcomes, and stakeholder consultations indicate that the area of organic farmland in Lithuania rose by 48 % from 2014 to 2022, reaching 8.59 % of total agricultural land at that time (Lithuanian Ministry of Agriculture, 2023). However, according to the EEA report (2025b), this progress has slowed, as the share of land under organic farming decreased to 8.25 % in 2023, before a modest recovery to 8.6 % in 2024 (EEA, 2025b). As a result, Lithuania's current share is notably below the estimated EU-27 average of 11.0 % (EEA, 2025a). The trend indicates the difficulty of translating production growth into market growth and provides a critical context for investigating the psychological barriers to regular organic consumption.

The increased production capacity represents one of the major developments in the agricultural sector of the Baltic countries. Still, several factors may explain why the increased capacity has not led to the frequent consumption of organic produce in Lithuania. Research has shown that the Lithuanian population is particularly sensitive to the price aspect of organic produce (Pileliene & Tamuliene, 2021). Additionally, another reason limiting access to these products across regions is the complexity of their logistics and distribution channels. Most importantly, in rural areas, the availability and accessibility of stores selling organic food products have not yet been fully established (Kumar *et al.*, 2025). On the other hand, and perhaps most importantly, there is concern about how authentic the product actually is, which raises doubts about the organic claim (Gorton *et al.*, 2021).

From a psychological perspective, removing barriers and enhancing consumer well-being requires awareness of motivational processes. According to Self-Determination Theory, the satisfaction of basic psychological needs (autonomy, competence, and relatedness) has been identified as the basic motive for sustainable positive behaviors and well-being (Ryan & Deci, 2000). It is necessary to distinguish between basic psychological needs and their satisfaction. According to Self-Determination Theory, autonomy, competence, and relatedness are understood as basic human psychological needs, innate, universal dispositions that all humans possess (Ryan & Deci, 2000). While the needs themselves remain constant, their level of satisfaction varies from one person to another and from situation to situation. In other words, changes in the level of need satisfaction directly affect well-being (Neubauer *et al.*, 2020; Ryan & Deci, 2000).

In the present study, these needs are not treated as directly observable needs themselves, but are operationalized through perceived need satisfaction experiences in the context of organic food consumption. Thus, 'autonomy satisfaction,' 'competence satisfaction,' and 'relatedness satisfaction' refer to the extent to which consumers experience feelings of volitional choice, effectiveness, and social connectedness when making organic food consumption decisions. This distinction is important because SDT-based empirical research commonly examines the satisfaction of basic psychological needs as the observable manifestation of motivational processes in specific life domains or contexts (Ahmad *et al.*, 2013; Chen *et al.*, 2015; Sheldon *et al.*, 2001). In relation to organic food, consumer well-being itself is a multi-dimensional phenomenon, involving hedonic (pleasure and satisfaction) and eudaimonic (meaning and value alignment) experiences (Issock *et al.*, 2023; Ryan & Deci, 2001). Although previous studies have concentrated more on economic and attitudinal barriers to organic consumption (Gorton *et al.*, 2021; Pileliene & Tamuliene, 2021), the current paradigm in Lithuania is rigorously confined within the economic framework and consumer buying intentions (Zidan *et al.*, 2025). As a result, the psychological mechanisms that convert organic food preferences into holistic consumer wellbeing have been insufficiently studied. In particular, there is no unified framework that describes the relationship between the fulfilment of basic psychological need satisfaction (autonomy, competence, relatedness) and both hedonic and eudaimonic well-being via identity-based and product-integrity pathways. Moreover, the possible

contribution of traceability knowledge as a psychological facilitator of this process has been overlooked, and traceability is traditionally considered a supply-chain issue rather than a consumer knowledge construct (Duong *et al.*, 2024).

To bridge this gap, more psychological research is needed to develop the existing concepts further. For example, the concept of traceability is typically viewed as a supply-chain or technology challenge (Duong *et al.*, 2024), rather than as consumer knowledge that can influence their trust and satisfaction. By exploring these psychological aspects of the local Lithuanian context, the research paper seeks to gain a better insight into the extent to which the purchase of organic food can contribute to consumer wellbeing beyond just transactional indicators.

The literature reviewed identifies various interrelated gaps, which are linked and include, among others, the psychological mechanisms between basic need satisfaction, fulfillment, and specific aspects of consumer wellbeing, the synergizing roles of self-congruency and authenticity, and the moderating role of traceability knowledge.

To address these gaps, this study poses the following research questions: (1) To what extent do the basic psychological need satisfaction (autonomy, competence, and relatedness) influence consumers' sense of self-congruity and their perceptions of organic food authenticity? (2) How do self-congruity and organic food authenticity mediate the relationship between basic psychological need satisfaction experiences and consumer wellbeing? (3) How does traceability knowledge moderate the relationship between basic psychological need satisfaction experiences and organic food authenticity? and (4) What is the relative contribution of self-congruity and organic food authenticity in enhancing consumer wellbeing?

To the best of our knowledge, this study is one of the few attempts to present an integrated conceptual framework that combines need-satisfaction theory, self-congruity, and authenticity to describe consumers' well-being when consuming organic food products. The integrated conceptual framework for this study will offer valuable insights to retailers, policymakers, sustainable marketers, certification bodies, and academicians regarding the psychological need satisfaction that can transform the consumption of organic products from a mere purchase into something more, creating true consumer wellbeing and supporting sustainable environmental outcomes.

In addition to the psychological contribution of the study, it provides insights into how the drivers of consumer wellbeing can inform innovation-based changes in food markets. The psychological processes underlying the link between organic consumption and wellbeing can be understood to support business model innovation in retail, regulatory system design for certification bodies, and market restructuring strategies that can help economies like Lithuania close the gap with Western European organic markets.

Literature Review and Theoretical Development

Literature Review

Consumer Wellbeing in the Organic Food Context

The consumption of organic food serves as a notable case study in sustainable consumption practices where

consumer outcomes extend beyond the transactional. In this area, consumer well-being is linked to something beyond an individual-level outcome, linking personal satisfaction to perceived contribution to a larger environmental and ethical good (Saini *et al.*, 2025). This is in line with the accepted psychological models that have differentiated hedonic wellbeing (positive affect, pleasure, satisfaction) and eudaimonic wellbeing (a sense of meaning, authenticity, and purpose in life) (Ryan & Deci, 2001). According to research on ethical consumption, decisions based on individual values can contribute to both dimensions (Acosta Aguinaga & Barcellos de Paula, 2025; Ganglmair-Wooliscroft & Wooliscroft, 2019). Ultimately, this form of consumption may develop a positive feedback loop between personal and environmental well-being (Kasser, 2017; Steg & Vlek, 2009).

Self-Determination Theory (SDT) in Organic Consumption

To understand the motivational drivers underlying such well-being outcomes, Self-Determination Theory provides a foundational framework. Self-Determination Theory (SDT) is a macro-theory of human motivation that provides the background for the "why" of this process: sustained behavior and well-being are energized by the satisfaction of three primary psychological needs: autonomy, competence, and relatedness (Ryan & Deci, 2000). In organic consumption, autonomy is manifested in volitional choice consistent with personal values; competence, in a sense of feeling effective at sorting out confusing product claims and certifications; and relatedness, in terms of affiliation with like-minded communities or ethical producers (Schulze & Janssen, 2024). SDT was successfully used to describe intrinsic motivation and participation in sustainable consumption patterns (Gilal *et al.*, 2020; Gilal *et al.*, 2019); however, its specific mechanisms leading to well-being outcomes in organic food markets remain to be elaborated.

Self-Congruity Theory

Whereas SDT refers to the fundamental needs that drive behavior, Self-Congruity Theory provides an identity-based process linking the basic needs to consumer outcomes. Self-Congruity Theory offers a mid-range, identity-based mechanism to explain how need satisfaction translates into well-being. Originally proposed by Sirgy (1982), it states that satisfaction arises from a match between the self-concept and the image of a product or behavior. When organic consumption aligns with a consumer's "green" or "responsible" self-identity, it enhances self-consistency and positive self-evaluation (Luan, 2016). Empirical work confirms self-congruity as a strong driver of attitudes and intentions in ethical consumption (Kolanska-Stronka & Singh, 2024). However, a significant gap persists, as this research stream has primarily focused on purchase intention (Zidan *et al.*, 2025), with limited investigation into its direct consequences for consumer hedonic and eudaimonic well-being.

Authenticity Perception

In addition to the identity-based approach to self-congruity, the idea of authenticity reflects the integrity and trust that consumers seek in a product. The notion of perceived authenticity in consumption, especially as developed by

Beverland and Farrelly (2010), is a product-based complement of the way. Authenticity is one of the essential indicators of trust, reducing consumers' anxiety and increasing their satisfaction. It may be both multi-faceted (objective authenticity (verifiable facts about origin and process) and subjective authenticity (personal, symbolic resonance) (Sidali *et al.*, 2021). The perception about the genuineness and trustworthiness of an organic product is often built upon competence (evaluating claims) and relatedness (shared community standards) (Beverland & Farrelly, 2010). Although authenticity is positively associated with favorable consumer outcomes, it remains unclear how this concept can serve as a mediator between psychological needs and the dimensions of well-being. In this study, the term "organic food authenticity" refers to this multi-dimensional conceptualization, encompassing consumer perceptions of both objective and subjective authenticity as discussed above.

Traceability Knowledge

A different but similar construct that can affect authenticity perceptions is traceability knowledge, which provides consumers with verifiable details about a product's origin and path. Traceability knowledge is a concept that pertains to a consumer's awareness of a product's origin, pathway, and validation (Lin *et al.*, 2023). Although it may traditionally be viewed as a supply-chain management or technological concern (Duong *et al.*, 2024), it is psychologically conceptualized as a crucial type of consumer knowledge. This information can empower consumers, increase trust and reduce perceived risk (Nguyen & Nguyen, 2025). Its possible contribution as a contextual moderator, enhancing the association between basic psychological need satisfaction (in particular relatedness and competence) and perceptions of authenticity, is a new and understudied direction with wellbeing implications.

Research Gaps

The foregoing review reveals a rich but fragmented research landscape. While each stream offers valuable insights, several conceptual voids remain unaddressed. First, despite Self-Determination Theory distinguishing between autonomy, competence, and relatedness as the primary psychological needs (Ryan & Deci, 2000), the scientific evidence has not examined the simultaneous impact of these needs on identity-based (self-congruity) and product-based (authenticity) processes in the context of organic food. Second, while self-congruity and authenticity have been studied separately as drivers of consumer attitudes, their relative contributions to multi-dimensional wellbeing (hedonic and eudaimonic) remain unexplored, with most studies focusing narrowly on purchase intention (Zidan *et al.*, 2025). Third, knowledge of traceability has been narrowed to its operational use in supply chains (Duong *et al.*, 2024), without considering its potential as a psychological factor that may enhance the relationship between social connection and perceived authenticity. These conceptual gaps need to be filled with an integrated model that analyzes the pathways by which need satisfaction leads to consumer well-being.

Theoretical Framework

In this study, Self-Determination Theory, Self-Congruity Theory, and Authenticity Perception are integrated into a unified framework. The framework assumes that the relevant motivational drivers are not the basic psychological needs as abstract human requirements, but consumers' perceived satisfaction experiences of autonomy, competence, and relatedness in the context of organic food consumption. Based on SDT, satisfaction of these needs can serve as an observable indicator of motivational processes, reflecting the extent to which individuals experience volitional choice, effectiveness, and social connectedness in particular situations. Accordingly, the present model proposes that autonomy satisfaction, competence satisfaction, and relatedness satisfaction influence consumer well-being through two psychological mechanisms: (1) an identity-based mechanism, in which need satisfaction increases self-congruity (Sirgy, 1982), and (2) a product-integrity mechanism, in which satisfaction increases perceptions of organic food authenticity (Beverland & Farrelly, 2010). These two pathways are proposed to, in turn, enhance both hedonic (pleasure-based) and eudaimonic (meaning-based) dimensions of consumer wellbeing. Furthermore, this study positions traceability knowledge as a contextual moderator that can amplify the relationships between psychological need satisfaction and authenticity perceptions. The proposed conceptual model (Figure 1) illustrates these hypothesized relationships.

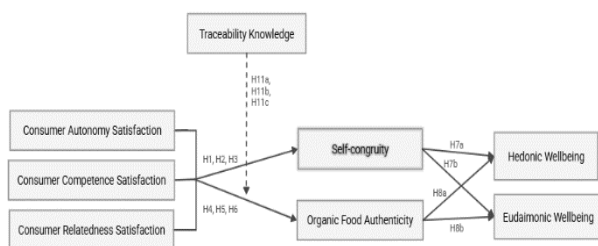


Figure 1. Conceptual Model of Consumer Wellbeing in Organic Food Consumption

Hypothesis Development

Direct Effects of Basic Psychological Need Satisfaction Experiences on Self-Congruity

One of the most critical precursors to behavior is self-image, congruent behavior itself, that is, behavior which is in alignment with the person's conception of themselves. When a consumer selects a product, the sense of choice that they experience is autonomy in consumer behavior (Ryan & Deci, 2000). A customer feels they have a choice over whether to make a purchase when they can freely choose between different brands (Prince & Wahid, 2023). When consumers choose organic food based on their own values, without external pressure, they are most likely to perceive this action as an honest expression of who they are, thereby enhancing self-congruity (Fernandes & Saraiva, 2022; White *et al.*, 2019). In the following hypotheses, 'Autonomy', 'Competence', and 'Relatedness' refer to need satisfaction experiences as operationalized in this study.

Based on the given reasoning in this section, the following hypothesis is proposed:

H1. Consumer Autonomy Satisfaction positively influences Self-Congruity.

Competence involves the feeling of efficacy and mastery (Ryan & Deci, 2000). Consumers who feel informed and capable of navigating complex organic claims are more likely to see their choice as intelligent and consistent with a competent self-image, leading to higher self-congruity (Kolańska-Stronka & Singh, 2024; Liu *et al.*, 2023). This alignment between their actions and their self-view strengthens self-congruity. Based on this reasoning, the following hypothesis is proposed:

H2. Consumer Competence Satisfaction positively influences Self-Congruity.

Relatedness refers to the basic need to feel connected and to belong to significant social groups (Ryan & Deci, 2000). The choice of organic foods can be a socially symbolic choice that will associate a person with other like-minded individuals who care about their health and the environment, and, hence, the self-congruity will also increase when the consumption aligns with a valuable social group (Carfora *et al.*, 2019; Zidan *et al.*, 2025). In a society, when consumption aligns with a cherished social identity, it enhances the consumer's self-congruity. Based on this reasoning, the following hypothesis is proposed:

H3. Consumer Relatedness Satisfaction positively influences Self-Congruity.

Direct Effects of Basic Psychological Need Satisfaction Experiences on Organic Food Authenticity

Consumer motivation is primarily guided by autonomy, a fundamental psychological need characterized by volition and self-endorsement of actions (Ryan & Deci, 2000). When consumers feel a sense of control (autonomy) over their organic preferences, they are intrinsically motivated to pursue products that align with their self-concept and values, thereby increasing their sense of authenticity (Fernandes & Saraiva, 2022). In the context of organic foods, this volitional, value-driven pursuit leads consumers to value and seek products they perceive as authentic, honest, and uncontaminated, which are the main qualities of authenticity (Schulze & Janssen, 2024). The correspondence between autonomous motivation and the pursuit of authentic products therefore enhances a product's perceived authenticity. Based on this reasoning, the following hypothesis is proposed:

H4. Consumer Autonomy Satisfaction positively influences Organic Food Authenticity.

The competence, which is the desire to feel effective and capable in relationships with the environment (Ryan & Deci, 2000), is essential to navigate intricate market offerings. Competence in organic markets is characterized by consumer knowledge and the ability to understand certifications, trace supply chains, and claims (Kolańska-Stronka & Singh, 2024). Such critical evaluation and validation of product information reduces uncertainty and

builds an evidence base that generates trust (Lyu *et al.*, 2025). Thus, consumers who feel competent are more likely to form a strong, justified belief in the genuineness and integrity of organic products, leading them to feel they are more authentic. Based on this reasoning, the following hypothesis is proposed:

H5. Consumer Competence Satisfaction positively influences Organic Food Authenticity.

The social meaning of consumption is brought into consumption by relatedness, the basic necessity to feel connected to and appreciated by significant individuals or groups (Ryan & Deci, 2000). Consumption of organic foods can be used as a marker of membership to communities that attach importance to health, environmental conservation, and ethical production (Beverland, 2006; Zidan *et al.*, 2025). When consumption is shared or validated within a valued social group, it reinforces the individual's identification with the group's ideals (Papaoikonomou *et al.*, 2016). This social identification makes the consumption act more consistent with the social self-concept, thereby increasing self-congruity. Based on this reasoning, the following hypothesis is proposed:

H6. Consumer Relatedness Satisfaction positively influences Organic Food Authenticity.

Direct Effects on Consumer Wellbeing Dimensions

Self-congruity, which is a process in which consumption acts in harmony with self-concept, is inherently an intrinsic reward. It produces instant positive affect, including joy, satisfaction, and less cognitive dissonance, which are essential elements of hedonic well-being (Kim & Kim, 2025; Sirgy, 1982). These positive affective states are directly increased when buying organic food is perceived as aligning with one's identity (Dittmar, 2007). Based on this reasoning, the following hypothesis is proposed:

H7a. Self-Congruity positively influences Hedonic Wellbeing.

In addition to short-term gratification, self-congruent behavior satisfies the eudaimonic desires for purpose and authenticity (Aji, 2025). When individuals behave in manners that seem true to them, this offers a sense of purpose, adds meaning to a coherent life story, and supports aspects of self that are highly valued (Ismael & Ploeger, 2020; Sirgy, 2018). The meaning-based dimension of well-being is supported by organic consumption that appeals to a consumer's environmental or ethical self. Based on this reasoning, the following hypothesis is proposed:

H7b. Self-Congruity positively influences Eudaimonic Wellbeing.

Authenticity acts as a powerful heuristic for quality and safety, reducing purchase uncertainty and risk (Featherman *et al.*, 2006; Kim & Song, 2020). The confirmation that an organic product is genuine and trustworthy delivers sensory and emotional gratification, such as feelings of delight, comfort, and contentment, which are central to hedonic wellbeing (Beverland & Farrelly, 2010). Based on this reasoning, the following hypothesis is proposed:

H8a. Organic Food Authenticity positively influences Hedonic Wellbeing.

Authenticity relates consumption to higher values of purity, tradition, and ethical integrity (Beverland & Farrelly, 2010; Nunes *et al.*, 2021). When the consumer believes a product is genuine, they can feel engaged in a genuine or authentic form of consumption, which helps develop a sense of personal integrity, moral fulfillment, and a commitment to a cause greater than themselves (Arslan, 2025; Sutton, 2020). This makes the experience more than just a form of pleasure, but a form of fulfillment that boosts eudaimonic wellbeing. Based on this reasoning, the following hypothesis is proposed:

H8b. Organic Food Authenticity positively influences Eudaimonic Wellbeing.

Mediating Role of Self-Congruity and Organic Food Authenticity

It is hypothesized that self-congruity mediates both dimensions of consumer well-being and each of the fundamental psychological needs. The rationale behind this route is that the self-expressive nature of consumption is enhanced by need satisfaction. Specifically, by making consumers feel autonomous (or have volitional choice), competent (through informed choice), and associated with others (through social connection) as an outcome of organic purchases, such experience increases the congruence between the act of consumption and their self-concept (Sirgy, 1982, 2018). This self-congruity, in turn, promotes self-consistency and identity affirmation, and minimizes psychological discomfort, which are central elements of hedonic and eudaimonic well-being (Huta, 2020; Ryan & Deci, 2000, 2001). Self-congruity is therefore not merely a passive effect of need-satisfaction; it is an active process that provides psychological rewards, with its motivational states becoming identity-congruent experiences, increasing both the pleasure-based and the meaning-based dimensions of well-being. The following hypotheses specify these mediational relationships:

H9a. Self-congruity mediates the relationship between Consumer Autonomy Satisfaction and Hedonic Well-being.

H9b. Self-congruity mediates the relationship between Consumer Autonomy Satisfaction and Eudaimonic Wellbeing.

H9c. Self-congruity mediates the relationship between Consumer Competence Satisfaction and Hedonic Well-being.

H9d. Self-congruity mediates the relationship between Consumer Competence Satisfaction and Eudaimonic Wellbeing.

H9e. Self-congruity mediates the relationship between Consumer Relatedness Satisfaction and Hedonic Well-being.

H9f. Self-congruity mediates the relationship between Consumer Relatedness Satisfaction and Eudaimonic Wellbeing.

Simultaneously, it is hypothesized that organic food authenticity serves as a mediator between psychological

needs and hedonic and eudaimonic well-being. This pathway works by verifying product integrity; the need satisfaction increases perceptions of authenticity by making organic choices feel motivated (autonomy), accurately rated (competence), and socially endorsed (relatedness) (Beverland, 2006). When consumers believe in a product's authenticity, they feel a sense of trustworthiness and ethical assurance, which fulfils expectations and reduces doubt. This fulfillment is linked to experiential wellbeing (pleasure, satisfaction) and meaningful consumption (purpose, integrity) (Beverland & Farrelly, 2010; Sutton, 2020). Thus, authenticity creates a perception filter that increases need-based motivation to reach a validated form, leading to meaningful consumption that induces both dimensions of well-being. Accordingly, the following mediation hypotheses are proposed:

H10a. Organic Food Authenticity mediates the relationship between Consumer Autonomy Satisfaction and Hedonic Wellbeing.

H10b. Organic Food Authenticity mediates the relationship between Consumer Autonomy Satisfaction and Eudaimonic Wellbeing.

H10c. Organic Food Authenticity mediates the relationship between Consumer Competence Satisfaction and Hedonic Wellbeing.

H10d. Organic Food Authenticity mediates the relationship between Consumer Competence Satisfaction and Eudaimonic Wellbeing.

H10e. Organic Food Authenticity mediates the relationship between Consumer Relatedness Satisfaction and Hedonic Wellbeing.

H10f. Organic Food Authenticity mediates the relationship between Consumer Relatedness Satisfaction and Eudaimonic Wellbeing.

The Moderating Role of Traceability Knowledge

This study posits that traceability knowledge serves as a key moderator, particularly in the relationship between psychological needs and perceptions of organic food authenticity. Though often studied as a supply-chain mechanism (Duong *et al.*, 2024), its role as a psychological enabler is underexplored. Traceability knowledge, as the objective information needed to authenticate organic properties, serves as the competent consumer, thereby directly supporting the correlation between competence and perceived authenticity (Fu *et al.*, 2023; X. Wu *et al.*, 2021). This information makes them more knowledgeable and, therefore, enables them to make informed decisions (autonomous consumers). In the context of relatedness needs, information about supply chain transparency can increase feelings of relatedness to producers and the ethical community, thereby supporting the notion and perceived functionality of organic authenticity (Montecchi *et al.*, 2019; Vazquez Melendez *et al.*, 2024). Thus, knowledge of traceability is anticipated to strengthen the positive effect of basic psychological need satisfaction on the authenticity of organic food. By enhancing these pathways to perceived authenticity, traceability knowledge is ultimately expected to have an indirect, positive influence on both hedonic and eudaimonic well-being. Based on this, the following hypothesis is formulated:

H11a. Traceability knowledge positively moderates the relationship between Consumer Autonomy Satisfaction and Organic Food Authenticity, such that the relationship becomes stronger at higher levels of traceability knowledge.

H11b. Traceability knowledge positively moderates the relationship between Consumer Competence Satisfaction and Organic Food Authenticity, such that the relationship becomes stronger at higher levels of traceability knowledge.

H11c. Traceability knowledge positively moderates the relationship between Consumer Relatedness Satisfaction and Organic Food Authenticity, such that the relationship becomes stronger at higher levels of traceability knowledge.

Methodology

Research Design

In this research, a quantitative, cross-sectional, and explanatory design is employed. The cross-sectional design collected information at a single point in time among a specific population of consumers of organic products in Lithuania. This enabled the analysis of relationships among the latent constructs in the proposed model. The nature of this design is explanatory because it attempts to move from description to hypothesizing causal and moderating relationships. The proposed study will help clarify the connections between psychological variables and their impact on consumer behavior and well-being regarding organic consumption. The quantitative paradigm facilitated the evaluation of constructs and the use of complex multivariate statistical analyses, including Structural Equation Modeling (SEM), which effectively identifies outcomes in models that incorporate mediation and moderation effects (Sabol *et al.*, 2023). This proposed conceptual framework is presented in Figure 1 below.

Data Collection and Survey Instrument

This research used a -based methodology to efficiently gather sufficient standardized data on a large number of variables within a set timeframe (Hair, Risher, *et al.*, 2019), which is essential for achieving the statistical power required for SEM analysis (Kline, 2023). A survey of consumers of organic food in Lithuania was conducted using a previously tested questionnaire. This questionnaire was completed online by consumers who had bought organic products within the last three months. The survey was conducted among consumer groups through an online professional survey interface, which contains approximately 20,000 active survey members in Lithuania who are willing to participate in web surveys. Additionally, the agency providing the data uses the computer-assisted web interview (CAWI) approach to gather information, employing prescreening to ensure respondents' attention. Each targeted respondent was required to complete the online questionnaire via a special web link sent to them via email.

A stratified quota sampling strategy was used to ensure the sample represented the Lithuanian population of organic consumers. The stratified quota sampling strategy was

adopted to ensure the sample reflected the demographic characteristics of the intended population (organic consumers in Lithuania). Stratification by gender and age was used to make the sample representative of the target population (see Section 3.3 for detailed sample characteristics). A survey means was used to collect a total of 400 complete and valid questionnaires, which were sent to the target population, comprising panel members who met the organic consumption screening criterion. This method offers greater comparability and a more representative outcome than traditional random sampling methods (Hair, Black *et al.*, 2019; Putnam & Yonish, 1999). The original questionnaire was drafted in the English language before the study was conducted. Using a clear translation approach to maintain the concept's integrity and selecting the most suitable language context for the Lithuanian setting, the questionnaire was translated into Lithuanian by two independent professional translators. The two versions were compared, and the resultant questionnaire was developed.

A structured questionnaire with three major sections has been employed. To eliminate the risk of irrelevance and recency bias, the survey began with a screening question

asking whether respondents had purchased organic food in the past 3 months. A set of questions on the purchase occasion of organic food followed this. The majority of the questionnaires used a set of constructs measured with a scale derived from existing literature. In particular, the Consumer Wellbeing 14-item scale was based on the original version of Pontin *et al.* (2013) and Ismael and Ploeger (2020), assessing two dimensions: Hedonic Well-Being (4 items) and Eudaimonic Well-Being (10 items). The Consumer Autonomy Satisfaction scale was modified to 4 items and taken after Prince and Wahid (2023). The 3-item scale used to measure Competency Satisfaction was also an adaptation of the same scale, Prince and Wahid (2023). The Consumer Relatedness Satisfaction scale (3 items) was also based on Prince and Wahid (2023). Traceability Knowledge was measured using a 3-item scale adapted from Lin *et al.* (2023) and Magalhaes *et al.* (2021). Organic Food Authenticity was divided into two dimensions: Objective Authenticity (measured using a 3-item scale) and Subjective Authenticity (measured using a 4-item scale), both adapted from Sidali *et al.* (2021). Self-Congruity was measured using a 3-item scale adapted from Gravelines *et al.* (2022).

Table 1

Construct Measurement Sources

Construct	Items	Sources
Consumer Autonomy Satisfaction	4	Prince and Wahid (2023)
Consumer Competence Satisfaction	3	Prince and Wahid (2023)
Consumer Relatedness Satisfaction	3	Prince and Wahid (2023)
Organic Food Authenticity	7	Sidali <i>et al.</i> (2021)
Self-Congruity	3	Gravelines <i>et al.</i> (2022)
Traceability Knowledge	3	Lin <i>et al.</i> (2023); Magalhaes <i>et al.</i> (2021)
Hedonic Well-Being	4	Pontin <i>et al.</i> (2013); Ismael and Ploeger (2020)
Eudaimonic Well-Being	10	Pontin <i>et al.</i> (2013); Ismael and Ploeger (2020)

All the items were measured using a 5-point Likert scale (1 = Strongly Disagree to 5 = Strongly Agree). The source of specific items is presented in Table 1. Finally, the last part of the instrument gathered information for the demographic profile, specifically age, gender, level of education, geographic area of residence, and household income, for sample description and potential use as control variables. The questionnaire underwent a pilot test prior to full deployment to assess its clarity, comprehensibility, and the time required to complete its items. Feedback from the pilot led to minor refinements in phrasing.

Target Population, Sampling and Sample Characteristics

The survey sample consisted of consumers of organic products in Lithuania who had bought organic products three months prior to data collection. The criteria for selecting the survey sample were such that only people with a certain level of experience were chosen, and it was on this basis that certain variables under investigation were evaluated.

The study used a probability-based online survey with multi-stage stratified sampling. Soft age (generational) quotas were applied (18-27, 28-43, 44-59, 60-78 years) to ensure representativeness of the sample result based on the demographic characteristics of the target population. The sample was calculated as per the Structural Equation Modeling requirements. It is usually suggested that a

minimum ratio of 10 observations to estimated parameters is used (Hair, Risher *et al.*, 2019). Given the intricacy of the theoretical model in the current research, with several latent constructs and potential pathways, a robust sample was needed. Hence, a target sample of N = 400 valid responses was selected.

Once the data had been gathered and filtered, a final sample of 400 valid data points was obtained. The data obtained was completely valid, as all 400 data sets were used in the analysis and the target data were achieved. The sample size meets the SEM threshold, providing high confidence in the analysis, and subgroup analyses can be conducted. The population demographics of the sampled population are shown in Table 2. As illustrated, the sampled population consisted mostly of females (53.5 %), with similar proportions of ages ranging from 18 to 27 (24.5 %), 28 to 43 (25.25 %), 44 to 59 (25.25 %), and 60 to 78 (25.25 %). The predominant demographic factor was that most respondents resided in major cities (65.25 %), and the majority had a college/bachelor's degree (40.5 %) or a master's degree or higher (35.5 %). The distribution of household incomes was within the defined categories, with most respondents falling into the €1,201 to €1,700 (23.25 %) and the €701 to €1,200 (22 %) categories. The demographic is reflective of an active, urban, and educated consumer base of organic products.

Table 2

Demographic Profile of Respondents

Demographics		Frequency	Percentage (%)
Gender	Male	186	46.5
	Female	240	53.5
Age	18–27 years	98	24.5
	28–43 years	101	25.25
	44–59 years	101	25.25
	60–78 years	100	25
City	Major city (e.g., Vilnius, Kaunas, Klaipeda)	261	65.25
	Town or small city	111	27.75
	Rural area / Village	28	7
Income	Under €700	34	8.5
	€701 - €1,200	88	22
	€1,201 - €1,700	93	23.25
	€1,701 - €2,200	46	11.5
	Over €2,200	45	11.25
	Prefer not to say	94	23.5
Education	Secondary school or lower	31	7.75
	Vocational school	65	16.25
	College / Bachelor's degree	162	40.5
	Master's degree or higher	142	35.5

Findings**Data Analysis**

Data analysis for this research followed a two-step approach, ensuring the robustness of the analysis instruments and the validation of the proposed structural relations in the data. This is consistent with guidelines followed by structured methodologies for data analysis.

Firstly, descriptive statistics analyses were conducted. SPSS software was employed for the analyses. The respondent's demographic characteristics are presented in Table 2.

Afterwards, SmartPLS version 4.0 was used to evaluate the proposed structural model and hypothesized relationships among the constructs of Consumer Autonomy Satisfaction, Consumer Competence Satisfaction, Consumer Relatedness Satisfaction, self-congruity, organic food authenticity, traceability knowledge, and hedonic and eudaimonic well-being. In the present work, the standard analysis was performed using variance-based partial least squares structural equation modeling (PLS-SEM) to achieve effective processing and interpretation of the obtained data (Sarstedt *et al.*, 2020). It is an appropriate method for estimating structural models with multiple variables, is not affected by sample size, requires little information about the distributions, and is mostly employed in theory development or for prediction studies (Hair, Risher *et al.*, 2019).

Measurement Model Assessment

The reliability, convergent, and discriminant validity of the measurement model were assessed using confirmatory factor analysis (CFA) within Partial Least Squares Structural Equation Modeling (PLS-SEM). The survey instrument consisted of 37 questions. Following an

assessment, 11 items with low loadings were eliminated to achieve a parsimonious and psychometrically adequate measurement model (Hair *et al.*, 2019). The items were dropped whenever their factor loadings were below the 0.50 criterion or when they exhibited high cross-loadings, indicating potential discriminant validity issues. Retained items of each construct exhibit high composite reliability (>0.70) and average variance extracted (>0.50), which is presented in Table 3. It is noteworthy that only a single construct is measured by two items in the final model, Consumer Autonomy Satisfaction. According to the methodological rules (Hair *et al.*, 2019), two-item constructs can be accepted when they have a high composite reliability (0.807), high factor loadings (0.721 and 0.916), and an AVE more than 0.50 (0.68). The final model includes all other constructs that are measured using three or more items to achieve adequate domain coverage. The final model of measurement consisted of 26 items. According to Table 3, all retained constructs exhibited good reliability, with composite reliability (CR) exceeding the recommended value of 0.70 (Hair *et al.*, 2019). Convergent validity was established with average variance extracted (AVE) values greater than 0.50 for each construct (Fornell & Larcker, 1981). All constructs met the composite reliability and AVE standards, which ensure the overall robustness of the measurement model. Detailed loadings for the final items are provided in Appendix A, and the full initial item pool is presented in Appendix B.

Discriminant validity was assessed using the Fornell-Larcker criterion and the Heterotrait-Monotrait (HTMT) ratio. As shown in Table 4, the square root of the AVE for each construct (diagonal values) was greater than its correlations with other constructs (off-diagonal values), confirming discriminant validity (Fornell & Larcker, 1981).

Table 3

Measurement Model Assessment Results

Construct	Composite Reliability	AVE
Consumer Autonomy Satisfaction	0.807	0.68
Consumer Competence Satisfaction	0.769	0.529
Consumer Relatedness Satisfaction	0.864	0.68
Self- Congruity	0.887	0.724
Organic Food Authenticity	0.914	0.78
Traceability Knowledge	0.854	0.661
Hedonic Wellbeing	0.913	0.778
Eudaimonic Well-Being	0.877	0.544

The analysis shows that the correlation between hedonic and eudaimonic well-being (0.765) was high, which is consistent with prior well-being literature acknowledging their related yet distinct nature (Ryan & Deci, 2001).

Additionally, all HTMT ratios were below the conservative threshold of 0.85 (Table 5) (Henseler *et al.*, 2016), providing further support for discriminant validity.

Table 4

Discriminant Validity (Fornell-Larcker)

	Consumer Autonomy Satisfaction	Consumer Competence Satisfaction	Consumer Relatedness Satisfaction	Eudaimonic well-being	Hedonic well-being	Organic Food Authenticity	Self-Congruity	Traceability Knowledge
Consumer Autonomy Satisfaction	0.824							
Consumer Competence Satisfaction	0.349	0.727						
Consumer Relatedness Satisfaction	0.29	0.203	0.825					
Eudaimonic well-being	0.309	0.313	0.308	0.774				
Hedonic well-being	0.305	0.261	0.335	0.765	0.882			
Organic Food Authenticity	0.345	0.284	0.32	0.653	0.629	0.883		
Self-Congruity	0.364	0.321	0.33	0.403	0.398	0.316	0.851	
Traceability Knowledge	0.495	0.488	0.342	0.391	0.345	0.396	0.459	0.812

Table 5

Discriminant Validity (HTMT Ratio)

	Consumer Autonomy Satisfaction	Consumer Competence Satisfaction	Consumer Relatedness Satisfaction	Eudaimonic well-being	Hedonic well-being	Organic Food Authenticity	Self-Congruity	Traceability Knowledge
Consumer Autonomy Satisfaction								
Consumer Competence Satisfaction	0.608							
Consumer Relatedness Satisfaction	0.432	0.259						
Eudaimonic well-being	0.419	0.449	0.362					
Hedonic well-being	0.411	0.392	0.389	0.765				
Organic Food Authenticity	0.489	0.403	0.37	0.721	0.724			
Self-Congruity	0.512	0.469	0.397	0.49	0.478	0.382		
Traceability Knowledge	0.729	0.697	0.404	0.477	0.423	0.496	0.589	

Common Method Bias

The same instrument was used to gather data on predictor and dependent variables of the same respondent, which could be a cause of common method bias (Podsakoff *et al.*, 2003). In order to measure this, a one-factor test of Harman was taken with the help of SPSS 16.0. An unrotated exploratory factor analysis indicated that one factor accounted 39 % of the total variance, which is lower than the suggested 50 %. These findings indicate that common method bias is not a major concern in this study.

Structural Model Assessment**Direct Effects Testing**

A bootstrapping procedure with 5000 subsamples was used to estimate the structural model on whether the hypothesized direct paths are significant (Hair, Black *et al.*, 2019; Sarstedt *et al.*, 2019). The results of all hypothesized direct effects are provided in Table 6. The results demonstrated that Consumer Autonomy Satisfaction, Consumer Competence Satisfaction, and Consumer Relatedness Satisfaction showed a strong positive impact on self-congruity (H1, H2, H3 supported). For Organic Food

Authenticity, Consumer Autonomy Satisfaction ($\beta = 0.222$, $p < 0.01$) and Consumer Relatedness Satisfaction ($\beta = 0.119$, $p = 0.050$) were significant positive indicators (H4, H6 supported), while the effect of Consumer Competence Satisfaction was not significant (H5 not supported). Both mediators demonstrated strong, significant effects on the well-being outcomes. Self-congruity positively influenced

both hedonic ($\beta = 0.222$, $p < 0.001$) and eudaimonic well-being ($\beta = 0.219$, $p < 0.001$) (H7a, H7b supported). Importantly, organic food authenticity had the strongest direct effects in the model on both hedonic wellbeing ($\beta = 0.557$, $p < 0.001$) and eudaimonic wellbeing ($\beta = 0.583$, $p < 0.001$) (H8a, H8b supported).

Table 6

Structural Model Results (Direct Effects)

Hypothetical Relationships	Path Coefficient (β)	Standard Deviation	T value	P value	Supported?
H1: CAS $\rightarrow$ SC	0.231	0.073	3.149	0.001	Yes
H2: CCS $\rightarrow$ SC	0.196	0.073	2.670	0.004	Yes
H3: CRS $\rightarrow$ SC	0.223	0.065	3.452	0.000	Yes
H4: CAS $\rightarrow$ OFA	0.222	0.077	2.882	0.002	Yes
H5: CCS $\rightarrow$ OFA	0.101	0.073	1.372	0.085	No
H6: CRS $\rightarrow$ OFA	0.119	0.072	1.649	0.050	Yes
H7a: SC $\rightarrow$ HWB	0.222	0.064	3.469	0.000	Yes
H7b: SC $\rightarrow$ EWB	0.219	0.059	3.743	0.000	Yes
H8a: OFA $\rightarrow$ HWB	0.557	0.065	8.503	0.000	Yes
H8b: OFA $\rightarrow$ EWB	0.583	0.059	9.900	0.000	Yes

Note(s): CAS = Consumer Autonomy Satisfaction, CCS = Consumer Competence Satisfaction, CRS = Consumer Relatedness Satisfaction, SC = Self-Congruity, OFA = Organic Food Authenticity, TK = Traceability Knowledge, HWB = Hedonic Wellbeing, EWB = Eudaimonic Wellbeing.

Model Explanatory and Predictive Power

The model's explanatory power was evaluated using the coefficient of determination (R^2), which indicates the percentage of variance in an endogenous construct explained by its exogenous predictors. The R^2 values showed that the set of antecedents explained 22.0 % of the variance in Self-Congruity, 26.6 % in Organic Food Authenticity, 43.8 % in Hedonic Wellbeing, and 46.8 % in Eudaimonic Wellbeing. As per the conventional guidelines in behavioral research, an R^2 value as low as 0.20 is considered indicative of a significant predictive capacity in consumer behavior contexts (Hong *et al.*, 2023). Therefore,

the R^2 values for the well-being constructs (0.438, 0.468) can be considered substantial, while those for the mediators (self-congruity and authenticity) are moderate, suggesting other unmeasured factors may influence these perceptual constructs. To evaluate the predictive relevance of the model, the Stone-Geisser (Q^2) test was employed via a blindfolding procedure, which assesses the cross-validated redundancy. As reported in Table 7, all Q^2 values were above zero, confirming the model's predictive relevance for the endogenous constructs (Cha, 1994; Hair, Black *et al.*, 2019). The Q^2 values for Hedonic Wellbeing (0.177) and Eudaimonic Wellbeing (0.171) further support the model's ability to predict these key outcome variables.

Table 7

Model Explanatory and Predictive Power (R^2 and Q^2)

Construct	R^2	Q^2
Eudaimonic Well-being	0.468	0.171
Hedonic Well-being	0.438	0.177
Organic Food Authenticity	0.266	0.21
Self-Congruity	0.220	0.186

Mediation Analysis Results

To assess the indirect effects of basic psychological need satisfaction on hedonic and eudaimonic well-being through self-congruity and authenticity of organic foods, a mediation analysis was conducted. Table 8 represents the results.

The results of the analysis revealed a similar pattern for self-congruity. It significantly mediated the relationships between Consumer Autonomy Satisfaction, Consumer Competence Satisfaction, Consumer Relatedness Satisfaction and both types of wellbeing (hedonic and eudaimonic) (H9a to H9f supported). This shows that the fulfillment of these need satisfaction experiences enhances well-being mainly by making organic consumption feel congruent with one's identity. A different pattern has emerged for organic food authenticity. It only served as a significant mediator for the pathways originating from

Consumer Autonomy Satisfaction to both hedonic and eudaimonic well-being (H10a-b supported). The indirect effects through authenticity for Consumer Competence Satisfaction and Consumer Relatedness Satisfaction were not statistically significant (H10c to H10f not supported). This suggests that the perception of a product's authenticity primarily translates autonomous, value-driven choices into well-being, but does not play the same mediating role for competence and Consumer Relatedness Satisfaction.

Moderation Analysis Results

A moderation analysis was conducted to examine whether traceability knowledge strengthens the relationships between basic psychological need satisfaction and the perception of organic food authenticity. The results of the interaction effects are presented in Table 9.

The analysis showed that there was a significant positive moderating effect of traceability knowledge between Consumer Relatedness Satisfaction and authenticity ($\beta = 0.163$, $t = 2.777$, $p = 0.003$), which supports H11c. This suggests that the information as to the traceability of a product plays a big role among consumers with a stronger sense of social connectedness in increasing their belief in the authenticity of the product.

However, the interaction effects for Consumer Autonomy Satisfaction (H11a) and Consumer Competence Satisfaction (H11b) were not statistically significant. This suggests that traceability knowledge does not strengthen the relation between autonomous choice and consumer expertise to perceived authenticity. Therefore, the moderating role of traceability is specific to the social connection (relatedness) pathway.

Table 8

Mediation Result Analysis (Indirect Effects)

Hypothetical Relationships	Path Coefficient (β)	Standard Deviation	T value	P value	Confidence Interval	Supported?
H9a: CAS $\rightarrow$ SC $\rightarrow$ HWB	0.051	0.025	2.049	0.02	[0.018-0.102]	Yes
H9b: CAS $\rightarrow$ SC $\rightarrow$ EWB	0.051	0.022	2.338	0.01	[0.021-0.092]	Yes
H9c: CCS $\rightarrow$ SC $\rightarrow$ HWB	0.044	0.02	2.141	0.016	[0.015-0.081]	Yes
H9d: CCS $\rightarrow$ SC $\rightarrow$ EWB	0.043	0.023	1.867	0.031	[0.023-0.095]	Yes
H9e: CRS $\rightarrow$ SC $\rightarrow$ HWB	0.05	0.022	2.255	0.012	[0.023-0.095]	Yes
H9f: CRS $\rightarrow$ SC $\rightarrow$ EWB	0.049	0.02	2.479	0.007	[0.023-0.089]	Yes
H10a: CAS $\rightarrow$ OFA $\rightarrow$ HWB	0.123	0.046	2.692	0.004	[0.052-0.202]	Yes
H10b: CAS $\rightarrow$ OFA $\rightarrow$ EWB	0.129	0.046	2.82	0.002	[0.057-0.208]	Yes
H10c: CCS $\rightarrow$ OFA $\rightarrow$ HWB	0.056	0.041	1.369	0.086	[0.015-0.081]	No
H10d: CCS $\rightarrow$ OFA $\rightarrow$ EWB	0.059	0.044	1.338	0.09	[0.011-0.132]	No
H10e: CRS $\rightarrow$ OFA $\rightarrow$ HWB	0.066	0.041	1.603	0.054	[0.005-0.14]	No
H10f: CRS $\rightarrow$ OFA $\rightarrow$ EWB	0.069	0.042	1.63	0.052	[0.003-0.142]	No

Note(s): CAS = Consumer Autonomy Satisfaction, CCS = Consumer Competence Satisfaction, CRS = Consumer Relatedness Satisfaction, SC = Self-Congruity, OFA = Organic Food Authenticity, TK = Traceability Knowledge, HWB = Hedonic Wellbeing, EWB = Eudaimonic Wellbeing

Table 9

Moderation Result Analysis (Indirect Effects)

Hypothetical Relationships	Path Coefficient (β)	Standard Deviation	T value	P value	Supported?
H11a: CAS $\times$ TK $\rightarrow$ OFA	0.075	0.055	1.368	0.086	No
H11b: CCS $\times$ TK $\rightarrow$ OFA	0.021	0.054	0.397	0.346	No
H11c: CRS $\times$ TK $\rightarrow$ OFA	0.163	0.059	2.777	0.003	Yes

Note(s): CAS = Consumer Autonomy Satisfaction, CCS = Consumer Competence Satisfaction, CRS = Consumer Relatedness Satisfaction, SC = Self-Congruity, OFA = Organic Food Authenticity, TK = Traceability Knowledge, HWB = Hedonic Wellbeing, EWB = Eudaimonic Wellbeing

Supplementary of Model Assessment

To supplement the main analysis, this study conducted additional assessments for the PLS-SEM findings following recent methodological recommendations (Sarstedt *et al.*, 2019; Vaithilingam *et al.*, 2024). To determine the statistical significance of the path coefficients, indirect effects, and interaction terms, a bootstrapping procedure with 5,000 subsamples was first used. Second, the predictive relevance was also tested using the Stone-Geisser Q2 test via blindfolding, in which all Q2 values were found to be greater than zero, indicating the model's predictive ability (see Table 7). Third, both the Fornell-Larcker criterion and the Heterotrait-Monotrait (HTMT) ratio were used to establish discriminant validity, and all HTMT ratios were below the conservative value of 0.85 (Henseler *et al.*, 2016). All these procedures contribute to the strength and interpretative soundness of the structural model.

Discussion

The results show that the perceived satisfaction experiences of autonomy, competence, and relatedness are transformed into consumer well-being through distinct psychological processes in the organic food context. To start with competence, the findings indicate that it significantly affects self-congruity (H2: $\beta = 0.196$, $p = 0.004$), in line with the literature on consumer behavior, which focuses on knowledge empowerment. Consumers who feel competent have the mental capacity to critically evaluate complex product claims and certification labels, enabling them to make precise decisions consistent with their self-concept (Liu *et al.*, 2023; Schulze & Janssen, 2024). This is indicative of the general tendency for consumer knowledge in sustainable markets to augment identity-consistent decision-making (Kolanska-Stronka & Singh, 2024). Nevertheless, Consumer Competence Satisfaction did not have a direct positive impact on organic food authenticity (conceptualized in this study as a multidimensional construct encompassing both objective and subjective elements) (H5: $\beta = 0.101$, $p = 0.085$). This implies that knowledgeable consumers believe that their organic decisions are consistent with their competent self-image, but knowledge alone does not reinforce product

genuineness beliefs in the Lithuanian market, this result is the opposite of studies carried in more developed organic markets, where knowledge and authenticity beliefs are usually correlated (Gorton *et al.*, 2021; Issock *et al.*, 2023). The significant mediation by the self-congruity (H9c and H9d: $\beta = 0.044$ and 0.043 , $p < 0.05$) shows that Consumer Competence Satisfaction improves well-being mainly through identity verification procedures and not through perceptions of authenticity or direct channels. This helps to confirm the theoretical assumption that informed consumers gain psychological value by performing an informed consumer identity in practicing organic purchases (Carfora *et al.*, 2019), which is consistent with identity-based theories of consumption that consider self-congruity a central process that connects knowledge to positive outcomes (Gravelines *et al.*, 2022; Sirgy, 2018).

Contrary to expectations about economic constraints in Lithuanian markets, Consumer Autonomy Satisfaction emerged as a significant driver across multiple pathways. Consumer Autonomy Satisfaction positively influenced both self-congruity (H1: $\beta = 0.231$, $p = 0.001$) and organic food authenticity (H4: $\beta = 0.222$, $p = 0.002$). This result supports the role of Consumer Autonomy Satisfaction as a core psychological need proposed by Self-Determination Theory (Ryan & Deci, 2000). It indicates that, even though the Lithuanian market is sensitive to price, the feeling of volitional choice remains a powerful psychological force among consumers. Although prior studies emphasize the limitation of premium pricing on the purchase of organic products (Pilelienė & Tamuliene, 2021; Wang *et al.*, 2020), our findings suggest that even when consumers make an organic selection, they perceive it as a sincere self-congruent choice, which aligns with recent studies of value-based selection in green consumption (Schulze & Janssen, 2024). The mediation analysis also explains the role of autonomy. The mediating role of self-congruity in the consequences of Consumer Autonomy Satisfaction on both hedonic (H9a: $\beta = 0.051$, $p = 0.02$) and eudaimonic wellbeing (H9b: $\beta = 0.051$, $p = 0.01$) was significant, demonstrating that autonomous decisions have a beneficial influence on wellbeing by strengthening identity consistency which is a fundamental mechanism in identity-based models of consumption (Sirgy, 1982). More significantly, this relationship was also mediated by organic food authenticity (H10a and H10b: $\beta = 0.123$ and 0.129 , $p < 0.01$), indicating that Consumer Autonomy Satisfaction affects the relationship in two different ways: identity alignment and trust in product genuineness. This is in contrast to competence, which exclusively operates via self-congruency, underscoring the exclusive ability of Consumer Autonomy Satisfaction to boost both self-concept and perception of product trust at the same time. These results are consistent with the studies that place autonomy as especially relevant in the context of ethical consumption when the personal principles are the ones that determine how the individual makes a choice (Fernandes & Saraiva, 2022).

The Consumer Relatedness Satisfaction shows a subtle trend indicative of the market situation in Lithuania. Consumer Relatedness Satisfaction, in turn, substantially increased self-congruity (H3: $\beta = 0.223$, $p < 0.001$), indicating that social connection reinforces identity alignment in organic consumption, consistent with social

identity approaches to ethical consumption (Papaoikonomou *et al.*, 2016). Nonetheless, its direct influence on organic food authenticity was relatively low (H6: $\beta = 0.119$, $p = 0.050$), implying that social belonging is not the sole guarantee of product genuineness in such a market. The partial support is consistent with findings that organic consumption in post-socialist economies, such as Lithuania, is usually motivated at the individual level by health and safety concerns, but not by collective ethical identities (Pileliene & Tamuliene, 2021; Trenouth & Sovova, 2025). The mediation analysis reveals that Consumer Relatedness Satisfaction enhances well-being primarily through self-congruity (H9e and H9f: $\beta = 0.049$ – 0.050 , $p < 0.05$) rather than authenticity pathways (H10e-f: $\beta = 0.066$ – 0.069 , $p > 0.05$). This indicates that when there is a weaker organic consumption community, social ties can contribute to wellbeing by validating identity rather than by acknowledging product trust.

The moderating effect of Traceability Knowledge offers the essential understanding of how digital information can trigger social processes in markets such as Lithuania's. The positive interaction between traceability knowledge and Consumer Relatedness Satisfaction on authenticity perceptions (H11c: $\beta = 0.163$, $p = 0.003$) shows the extent of positive interaction between social connection (traceability knowledge) and tangible trust (product origin information). This aligns with current studies on digital traceability systems that fill the gaps in physical consumption societies by facilitating virtual social networks, transparency, and moral validation (Lai *et al.*, 2025; Montecchi *et al.*, 2019). When consumers have access to stories about producers, production, and supply chain journeys, their perception of connection is more efficiently translated into beliefs about product authenticity, thereby building "digital relatedness" (Lewis, 2018). Notably, traceability knowledge did not moderate the autonomy-authenticity (H11a: $\beta = 0.075$, $p = 0.086$) and competence-authenticity relationships (H11b: $\beta = 0.021$, $p = 0.346$). This particularity implies that the traceability is rather a socially and ethically validating instrument than a decision-supporting tool or control-enhancing instrument. Practically, although traceability information is empowering all the consumers, it is especially efficient in the case of consumers who already have social motivation, as it helps close the gap between trusting a product and belonging to the community, which is also a significant factor in the markets such as Lithuania, where organic consumption communities are still evolving.

The direct effects of self-congruity on both hedonic (H7a: $\beta = 0.222$, $p < 0.001$) and eudaimonic well-being (H7b: $\beta = 0.219$, $p < 0.001$) reinforce the established proposition that consumption aligned with one's self-concept enhances subjective well-being (Kolanska-Stronka & Singh, 2024; Sirgy, 1982). This implies that consumers experience well-being as they are able to make purchases that allow them to practice highly sought attributes of both environmental and health in sustainable markets, like identity-expressive consumption (Carfora *et al.*, 2019; Gravelines *et al.*, 2022). Notably, self-congruity had a universal mediating effect, which significantly transformed all three need satisfaction experiences in psychology (Consumer Autonomy Satisfaction, Consumer Competence Satisfaction, and Consumer Relatedness Satisfaction) into both wellbeing dimensions (H9a-f supported). This

integrated mediation pattern indicates that self-congruity is the central identity-verification process through which basic need satisfaction experiences enhance consumer well-being. Even though authenticity had direct effects on well-being dimensions that were more robust ($\beta = 0.557$ and 0.583 vs. 0.219 and 0.222), the mediational role of self-congruity is broader, indicating that identity alignment may be a more fundamental psychological process that is mediated by various motivational pathways. This differentiation adds to recent attempts at distinguishing between product-oriented and identity-oriented wellbeing processes of sustainable consumption (Issock *et al.*, 2023; Kim & Kim, 2025).

Most notably, the organic food authenticity had the most significant direct effects throughout the whole model, which significantly predicted both hedonic (H8a: $\beta = 0.557$, $p < 0.001$) and eudaimonic wellbeing (H8b: $\beta = 0.583$, $p < 0.001$). Such significant coefficients that are over twice those of self-congruity indicate that perceived product genuineness is not an inactive expectation but a strong active source of consumer wellbeing within the Lithuanian organic market. This contradicts the view of hygiene factor (Pratt *et al.*, 2020) and instead places authenticity as a major experience motivator that provides pleasure and meaning (Beverland & Farrelly, 2010; Nunes *et al.*, 2021). The results of the mediation analysis indicate a more selective variation. The authenticity mediation analysis played a significant role only in the autonomy-wellbeing pathways (H10a and H10b: $\beta = 0.123$ and 0.129 , $p < 0.01$), but not in the competence and relatedness ones (H10c to H10f: $p > 0.05$). This specificity suggests that authenticity primarily transforms value-based, voluntary choices into wellbeing, rather than expertise or social connection. In backgrounds like Lithuania where organic certification is established but not taken for granted, authenticity perceptions seem to function as a reward for autonomous decision-making, this finding extends recent work on authenticity as a value-verification mechanism in ethical consumption (Arslan, 2025; Sutton, 2020). Unlike studies that indicated that certified authenticity is becoming more commodified (W. Wu *et al.*, 2021), our findings indicate that in markets where trust is still in the development stage, authenticity continues to be a source of high levels of consumer satisfaction and meaning. It can indicate the specific significance of the cue of trust within the situations, where the organic assertions remain a source of doubt among consumers, and perceived authenticity does not merely qualify as a constraint, but as a substantial wellbeing booster.

Conclusion, Limitations and Future Research

Theoretical Contribution

The current study also adds several critical theoretical contributions to existing literature in the fields of sustainable consumer behavior and organic food consumerism. Firstly, this paper extends the applicability of Self-Determination Theory by identifying the contextual salience of need satisfaction experiences within markets such as Lithuania's. Although SDT considers autonomy, competence, and relatedness to be contingently equal in importance (Ryan & Deci, 2000), this study finds that Consumer Autonomy Satisfaction has a uniquely strong impact on both identity formation and trust constructs, which are sensitive to price,

Consumer Competence Satisfaction has a unique impact that strengthens identity formation but not product trust, while Consumer Relatedness Satisfaction requires traceability to influence authenticity perception. This theoretical prioritization addresses the need for a more contextual understanding of SDT within the consumer studies literature (Gilal *et al.*, 2019; Schulze & Janssen, 2024) and demonstrates the role of the market development stage in shaping how need satisfaction translates into well-being.

Secondly, this research establishes how self-congruity functions differently from authenticity through its psychological mechanisms. Self-congruity functioned as a common factor that connected all psychological requirements to wellbeing while establishing its role as a core identity-verification process (Carfora *et al.*, 2019; Sirgy, 2018), authenticity created the leading direct effect on well-being, which contradicted its status as merely a hygiene factor (Pratt *et al.*, 2020). Rather, for markets such as Lithuania, authenticity plays an essential role as an experience-centric motivational factor, fostering hedonic and eudaimonic aspects in consumers (Beverland & Farrelly, 2010; Nunes *et al.*, 2021), concurrently and consecutively, thereby transforming autonomous decision-making into states of well-being in sustainable consumption.

Third, it presents a psychological reinterpretation of traceability. Instead of confining traceability to supply chain or technological perspectives (Duong *et al.*, 2024), this proposed concept views traceability knowledge through the lens of a psychological mediator that unlocks latent social-ethnic connections. More precisely, traceability allows the translation of relatedness into authenticity perceptions and satisfies needs for belongingness via digitally-mediated bonds with producers and ethical communities, especially valuable in those markets characterized by weak physical consumption networks (Kang & Namkung, 2019; Montecchi *et al.*, 2021), fills an important and heretofore lacking conceptual space related to the psychological, and not purely functional, effects of traceability for consumers.

Practical Implications

The findings of this research offer actionable insights for stakeholders seeking to increase consumer well-being and develop organic food markets in Lithuania and similar economies.

For retail and marketing practices, there are three implications for strategy. First, given the high level of direct influence that authenticity has on well-being ($\beta = 0.557$ - 0.583), communication needs to stress product authenticity and trust in certifications. This implies moving forward from health or environmental messages to trust signals (Beverland & Farrelly, 2010). Second, while competency building has value for self-congruity ($\beta = 0.196$), communication needs to stress identity empowerment, particularly the 'informed consumer,' rather than product authenticity. The use of technologies such as QR codes can simplify the verification of certification credibility (Arslan, 2025; Liu *et al.*, 2023). Third, communications addressing autonomy must include volitional behavior and personal value beliefs, since autonomy played a strong role in self-congruity and trustworthiness despite price sensitivities. These strategies represent business model innovations that shift organic

retailing from price-based competition to value-based differentiation, a critical transformation for markets where price sensitivity has historically limited growth.

To the policy makers and the certification agencies, it is advisable to adopt a dual approach. To facilitate autonomy pathways, specific economic incentives that are offered to stimulate organic staples, including subsidies or vouchers, might help to make ethical choices more affordable, especially to people with low income (Wang *et al.*, 2020). At the same time, social pathways can be triggered through investments in narrative-based traceability infrastructure. It entails the shift of basic information of origin to engaging narratives of local farmers, sustainable processes, and supply-chain origins (Lai *et al.*, 2025; Montecchi *et al.*, 2019). This storytelling would turn traceability into a technical capability and a method of creating digital relatedness and a sense of trust. This two-pronged methodology, economic incentives and narrative traceability, is a regulatory system innovation that transforms certification into the realm of market development instead of compliance. In such contexts, these kinds of innovations can speed up the process of reorganizing food markets into more value-added and trust-based interactions.

To sustainability activists and educators, it may be especially effective to position organic consumption as a personal health choice and ecological health measure. This may be more effective by making more emphasis on the competence-self-congruity pathway, in which one gets to make identity-consistent decisions that can improve well-being, rather than sacrifice-based or only ethical appeals, particularly in individualistically-oriented markets. In this way, this approach connects organic consumption to contemporary wellbeing aspirations while serving environmental objectives. This reframing is favorable to market restructuring in that organic consumption is not positioned as a premium niche market but rather a mainstream wellbeing choice, to bridge the consumption divide between emerging and developed organic markets.

Limitations and Future Directions

Despite the importance of this study, there are a number of limitations identified that point to fruitful areas of further

inquiry. Firstly, the cross-sectional nature of the research hinders the generation of strong causality. Longitudinal studies can be employed to monitor shifts in psychological needs, perceptions, and well-being with regard to specific pathways. Secondly, being a country-specific research, the Lithuanian case prevents a broader generalization. Future studies must employ the suggested model within other similar context, and a comparison with a developed organic market in the west could provide insights.

Thirdly, this study operationalized autonomy, competence, and relatedness by measuring perceived need satisfaction experiences, instead of measuring the basic psychological needs themselves. This aligns with the common empirical applications of SDT in which the basic needs are regarded as universal psychological needs, and the degree of their satisfaction or frustration is assessed in particular contexts. However, the interpretation of the results of this measurement approach should be treated as evidence of the importance of perceived need-satisfaction in the consumption of organic food, and not as evidence of the differences in basic needs between consumers. Future studies could test the two types of need satisfaction and need frustration at the same time, or investigate the impact of different consumption contexts on satisfying or thwarting autonomy, competence, and relatedness.

Fourth, based on the psychological reconceptualization of traceability in this study, there are possibilities of researching on other factors in the supply chain on the basis of consumer psychology. For example, blockchain verification processes, “farm to table” narratives of transparency, or knowledge of the processes of certification can act as moderators and mediators in the need–authenticity–wellbeing sequence. Thus, this study also establishes interdisciplinary connections between supply chain management and psychology.

Fifth, although this research took into consideration perceptual well-being outcomes, future research might investigate whether the psychological benefits identified here translate to consistent behavioral outcomes, for example, long-term organic purchasing or sustained advocacy behaviors. Lastly, a mixed-methodology study could offer a richer information flow about the subjective nature of wellbeing experienced through consumption.

Declaration of Generative AI and AI-Assisted Technologies in the Writing Process

During the preparation of this manuscript, the authors used ChatGPT (OpenAI) to assist with language editing, improving clarity, and refining academic style. After using this tool, the authors reviewed, edited, and revised the content as needed and take full responsibility for the content of the publication.

Appendix A

Construct	Item Code	Loading	Survey Item	Source
Consumer Autonomy Satisfaction	CA1	0.721	If I had a choice, I would buy organic food.	Prince and Wahid (2023)
	CA3	0.916	I feel free to express myself, my opinions, and my concerns about buying organic food.	
Consumer Competence Satisfaction	CC1	0.693	When engaging in organic food-purchasing behavior, I feel like a competent person.	Prince and Wahid (2023)
	CC2	0.818	When engaging in organic food-purchasing behavior, I feel very capable.	
	CC3	0.661	When engaging in organic food-purchasing behavior, I feel very effective.	

Construct	Item Code	Loading	Survey Item	Source
Consumer Relatedness Satisfaction	TR1	0.873	Purchasing organic food makes me feel a sense of love and care for my health and well-being.	Prince and Wahid (2023)
	TR2	0.819	Buying organic food gives me a feeling of closeness to nature and confidence in health safety.	
	TR3	0.661	Consuming organic food helps me maintain warm, supportive relationships with family or friends who value healthy lifestyles.	
Self- Congruity	SC1	0.858	I feel that I am a part of the organic food consumer community.	Gravelines et al. (2022)
	SC2	0.899	People who buy organic food products are a lot like me.	
	SC3	0.792	Buying organic food products reflects who I am.	
Organic Food Authenticity	OFA1	0.829	Organic food producers are very oriented toward respect for tradition.	Sidali et al. (2021)
	OFA2	0.926	I am sure that all the ingredients of this product come from organic sources.	
	OFA3	0.891	Organic food makes me feel close to the producer.	
Traceability Knowledge	TK1	0.78	I am familiar with an organic product package with a label or QR code for traceability information.	Lin et al. (2023) and Magalhaes et al. (2021)
	TK2	0.899	I have bought organic food with traceability information (label/QR code).	
	TK3	0.792	I carefully observe the traceability information when it is identified on the label of organic food.	
Hedonic Wellbeing	HWB1	0.867	In most ways, my life is close to my ideal.	Pontin et al. (2013) and Ismael and Ploeger (2020)
	HWB2	0.898	The conditions of my life are excellent.	
	HWB3	0.881	So far, I have gotten the important things I want in life.	
Edaimonic Well-Being	EWB1	0.826	I lead a purposeful and meaningful life.	Pontin et al. (2013) and Ismael and Ploeger (2020)
	EWB2	0.726	My social relationships are supportive and rewarding.	
	EWB3	0.725	I am engaged and interested in my daily activities.	
	EWB4	0.745	I actively contribute to the happiness and well-being of others.	
	EWB5	0.737	I am competent in doing the activities that are important to me.	
	EWB6	0.658	I feel best when I'm doing something worth investing a great deal of effort in.	

Appendix B

Adopted	Sources
Consumer Autonomy Satisfaction	
1. If I had a choice, I would buy organic food. 2. I feel free to make my own organic food-buying decisions. 3. I feel free to express myself, my opinions, and my concerns about buying organic food. 4. I think organic foods have greater control in the market.	Prince and Wahid (2023)
Consumer Competence Satisfaction	
1. When engaging in organic food-purchasing behavior, I feel like a competent person. 2. When engaging in organic food-purchasing behavior, I feel very capable. 3. When engaging in organic food-purchasing behavior, I feel very effective.	Prince and Wahid (2023)
Consumer Relatedness Satisfaction	
1. Purchasing organic food makes me feel a sense of love and care for my health and well-being. 2. Buying organic food gives me a feeling of closeness to nature and confidence in health safety. 3. Consuming organic food helps me maintain warm, supportive relationships with family or friends who value healthy lifestyles.	Prince and Wahid (2023)
Organic Food Authenticity	
1. I can trust the label of organic food. 2. Organic food producers are very oriented toward respect for tradition. 3. I am sure that all the ingredients of this product come from organic sources. 4. Organic food makes me feel close to the producer. 5. Organic food allows producers to charge fair prices. 6. Organic food is the embodiment of moral purity. 7. Organic food allows the producers to express themselves and be creative.	Sidali et al. (2021)

Adopted	Sources
Self-Congruity	
1. I feel that I am a part of the organic food consumer community. 2. People who buy organic food products are a lot like me. 3. Buying organic food products reflects who I am.	Gravelines et al. (2022)
Information Traceability	
1. I am familiar with an organic product package with a label or QR code for traceability information. 2. I have bought organic food with traceability information (label/QR code). 3. I carefully observe the traceability information when it is identified on the label of organic food.	Lin et al. (2023) and Magalhaes et al. (2021)
Consumer Wellbeing	
Hedonic Well-Being (HWB) 1. In most ways, my life is close to my ideal. 2. The conditions of my life are excellent. 3. So far, I have gotten the important things I want in life. 4. If I could live my time over, I would change almost nothing.	Pontin et al. (2013) and Ismael and Ploeger (2020)
Eudaimonic Well-Being (EWB) 1. I lead a purposeful and meaningful life. 2. My social relationships are supportive and rewarding. 3. I am engaged and interested in my daily activities. 4. I actively contribute to the happiness and well-being of others. 5. I am competent in doing the activities that are important to me. 6. I feel best when I'm doing something worth investing a great deal of effort in. 7. I am a good person and live a good life. 8. It is important to me that I feel fulfilled by the activities that I engage in. 9. My life is centred around a set of core beliefs that give meaning to my life. 10. I am optimistic about my future.	

References

- Acosta Aguinaga, A., & Barcellos de Paula, L. (2025). Health consciousness, hedonic and eudaimonic motivations in green purchase intention among Generation Z. *Cogent Business & Management*, 12(1), 2528160. <https://doi.org/10.1080/23311975.2025.2528160>
- Ahmad, I., Vansteenkiste, M., & Soenens, B. (2013). The relations of Arab Jordanian adolescents' perceived maternal parenting to teacher-rated adjustment and problems: the intervening role of perceived need satisfaction. *Developmental psychology*, 49(1), 177. <https://doi.org/10.1037/a0027837>
- Aji, L. M. (2025). *Psychological well-being: The complexities of mental and emotional health*. Cambridge Scholars Publishing.
- Arslan, Y. (2025). Unpacking Organic Food Purchase Intentions in an S-O-R Framework: The Multidimensional Moderating Roles of Consumer Knowledge and Trust. *Food Science & Nutrition*, 13(6), e70447. <https://doi.org/10.1002/fsn3.70447>
- Beverland, M. (2006). The 'real thing': Branding authenticity in the luxury wine trade. *Journal of business research*, 59(2), 251–258. <https://doi.org/10.1016/j.jbusres.2005.04.007>
- Beverland, M. B., & Farrelly, F. J. (2010). The quest for authenticity in consumption: Consumers' purposive choice of authentic cues to shape experienced outcomes. *Journal of consumer research*, 36(5), 838–856. <https://doi.org/10.1086/615047>
- Carfora, V., Cavallo, C., Caso, D., Del Giudice, T., De Devitiis, B., Viscecchia, R., Nardone, G., & Cicia, G. (2019). Explaining consumer purchase behavior for organic milk: Including trust and green self-identity within the theory of planned behavior. *Food Quality and Preference*, 76, 1–9. <https://doi.org/10.1016/j.foodqual.2019.03.006>
- Cha, J. (1994). Partial least squares. *Adv. Methods Mark. Res.*, 407, 52–78.
- Chen, B., Vansteenkiste, M., Beyers, W., Boone, L., Deci, E. L., Van der Kaap-Deeder, J., Duriez, B., Lens, W., Matos, L., & Mouratidis, A. (2015). Basic psychological need satisfaction, need frustration, and need strength across four cultures. *Motivation and emotion*, 39(2), 216–236. <https://doi.org/10.1007/s11031-014-9450-1>
- Chetoui, Y., Butt, I., Lebdaoui, H., Neville, M. G., & El Bouzidi, L. (2023). Exploring consumers' attitude and intent to purchase organic food in an emerging market context: a pre-/post COVID-19 pandemic analysis. *British Food Journal*, 125(11), 3979–4001. <https://doi.org/10.1108/BFJ-12-2022-1070>
- Dittmar, H. (2007). *Consumer culture, identity and well-being: The search for the 'good life' and the 'body perfect'*. Psychology press. <https://doi.org/10.4324/9780203496305>
- Duong, C. D., Dao, T. T., Vu, T. N., Ngo, T. V. N., & Nguyen, M. H. (2024). Blockchain-enabled food traceability system and consumers' organic food consumption: A moderated mediation model of blockchain knowledge and trust in the organic food chain. *Sustainable Futures*, 8, 100316. <https://doi.org/10.1016/j.sfr.2024.100316>

- EEA, E. E. A. (2025a). *8th Environment Action Programme: Agricultural area under organic farming in Europe* <https://www.eea.europa.eu/en/analysis/publications/monitoring-report-on-progress-towards-the-8th-eap-objectives-2025>
- EEA, E. E. A. (2025b). *Area under organic farming*. European Union (EU). <https://www.eea.europa.eu/en/europe-environment-2025/countries/lithuania/area-under-organic-farming>
- Featherman, M. S., Valacich, J. S., & Wells, J. D. (2006). Is that authentic or artificial? Understanding consumer perceptions of risk in e-service encounters. *Information Systems Journal*, 16(2), 107–134. <https://doi.org/10.1111/j.1365-2575.2006.00211.x>
- Felicetti, A. M., Linzalone, R., Filippelli, S., & Bigliardi, B. (2025). Connecting the dots in green food purchasing behavior literature: A system thinking approach for systematic literature reviews. *Business Ethics, the Environment & Responsibility*, 34(4), 1831–1859. <https://doi.org/10.1111/beer.12738>
- Fernandes, E., & Saraiva, A. (2022). Alternative consumer practices for a sustainable identity: the perspective of organic food consumption. *Journal of Marketing Management*, 38(3/4), 279–308. <https://doi.org/10.1080/0267257X.2021.1954057>
- Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of marketing research*, 18(1), 39–50. <https://doi.org/10.1177/002224378101800104>
- Fu, S., Ma, R., He, G., Chen, Z., & Liu, H. (2023). A study on the influence of product environmental information transparency on online consumers' purchasing behavior of green agricultural products. *Frontiers in Psychology*, 14, 1168214. <https://doi.org/10.3389/fpsyg.2023.1168214>
- Ganglmair-Wooliscroft, A., & Wooliscroft, B. (2019). Well-being and everyday ethical consumption. *Journal of Happiness Studies*, 20(1), 141–163. <https://doi.org/10.1007/s10902-017-9944-0>
- Gilal, F. G., Chandani, K., Gilal, R. G., Gilal, N. G., Gilal, W. G., & Channa, N. A. (2020). Towards a new model for green consumer behaviour: A self-determination theory perspective. *Sustainable Development*, 28(4), 711–722. <https://doi.org/10.1002/sd.2021>
- Gilal, F. G., Zhang, J., Paul, J., & Gilal, N. G. (2019). The role of self-determination theory in marketing science: An integrative review and agenda for research. *European Management Journal*, 37(1), 29–44. <https://doi.org/10.1016/j.emj.2018.10.004>
- Gorton, M., Tocco, B., Yeh, C.-H., & Hartmann, M. (2021). What determines consumers' use of eco-labels? Taking a close look at label trust. *Ecological Economics*, 189, 107173. <https://doi.org/10.1016/j.ecolecon.2021.107173>
- Gravelines, Z., Banyte, J., Dovaliene, A., & Gadeikiene, A. (2022). The role of green self-identity and self-congruity in sustainable food consumption behaviour. *Organizations and Markets in Emerging Economies*, 13(2), 336–356. <https://doi.org/10.15388/omee.2022.13.83>
- Hair, J. F., Black, W. C., Babin, B. J., Anderson, R. E., & Tatham, R. L. (2019). *Multivariate data analysis*. In: Cengage learning Hampshire.
- Hair, J. F., Risher, J. J., Sarstedt, M., & Ringle, C. M. (2019). When to use and how to report the results of PLS-SEM. *European business review*, 31(1), 2–24. <https://doi.org/10.1108/EBR-11-2018-0203>
- Henseler, J., Hubona, G., & Ray, P. A. (2016). Using PLS path modeling in new technology research: updated guidelines. *Industrial management & data systems*, 116(1), 2–20. <https://doi.org/10.1108/IMDS-09-2015-0382>
- Hong, M., Wai, H.-T., Wang, Z., & Yang, Z. (2023). A two-timescale stochastic algorithm framework for bilevel optimization: Complexity analysis and application to actor-critic. *SIAM Journal on Optimization*, 33(1), 147–180. <https://doi.org/10.1137/20M1387341>
- Huo, H., Yao, J., Li, Q., Wu, R., Wang, C., & Yu, D. (2025). Economic vs. ecological benefit for organic food: the role of perceived values in online consumer reviews. *Frontiers in Sustainable Food Systems*, 9, 1469869. <https://doi.org/10.3389/fsufs.2025.1469869>
- Huta, V. (2020). How distinct are eudaimonia and hedonia? It depends on how they are measured. *Journal of Well-Being Assessment*, 4(3), 511–537. <https://doi.org/10.1007/s41543-021-00046-4>
- Ismael, D., & Ploeger, A. (2020). The potential influence of organic food consumption and intention-behavior gap on consumers' subjective wellbeing. *Foods*, 9(5), 650. <https://doi.org/10.3390/foods9050650>
- Issock, P. B. I., Mpinganjira, M., & Roberts-Lombard, M. (2023). Beyond sustainable consumption practices: Linking organic food consumption to hedonic and eudaimonic well-being. *Appetite*, 188, 106633. <https://doi.org/10.1016/j.appet.2023.106633>
- Kang, J.-W., & Namkung, Y. (2019). The information quality and source credibility matter in customers' evaluation toward food O2O commerce. *International Journal of Hospitality Management*, 78, 189–198. <https://doi.org/10.1016/j.ijhm.2018.10.011>
- Kasser, T. (2017). Living both well and sustainably: A review of the literature, with some reflections on future research, interventions and policy. *Philosophical Transactions of the Royal Society A: Mathematical, Physical and Engineering Sciences*, 375(2095), 20160369. <https://doi.org/10.1098/rsta.2016.0369>

- Kim, B., & Kim, D. (2025). Understanding the Drivers of Sustainable Consumption in China: Role of Green Self-Identity, Subjective Norm, and Demographics. *Sage Open*, 15(4), <https://doi.org/10.1177/21582440251390627>
- Kim, J.-H., & Song, H. (2020). The influence of perceived credibility on purchase intention via competence and authenticity. *International Journal of Hospitality Management*, 90, <https://doi.org/10.1016/j.ijhm.2020.102617>
- Kline, R. B. (2023). *Principles and practice of structural equation modeling*. Guilford publications.
- Kolańska-Stronka, M., & Singh, B. (2024). Five decades of self-congruity in consumer behaviour research: a systematic review and future research agenda. *International Journal of Consumer Studies*, 48(1), e12983. <https://doi.org/10.1111/ijcs.12983>
- Kumar, V., Sindhvani, R., Zhang, J. Z., & Gaur, J. (2025). Optimizing short food supply chains through understanding consumer preferences for organic foods via e-commerce platforms and last-mile logistics. *British Food Journal*, 127(5), 1788–1809. <https://doi.org/10.1108/BFJ-05-2024-0507>
- Lai, M. B., Vergamini, D., & Brunori, G. (2025). Food Supply Chain: A Framework for the Governance of Digital Traceability. *Foods*, 14(12), 2032. <https://doi.org/10.3390/foods14122032>
- Lewis, T. (2018). Digital food: from paddock to platform. *Communication Research and Practice*, 4(3), 212–228. <https://doi.org/10.1080/22041451.2018.1476795>
- Lin, J., Huang, Y., & Li, M. (2023). Enhancing Green purchase intentions: the effects of product transformation salience and consumer traceability knowledge. *Sustainability*, 15(16), 12612. <https://doi.org/10.3390/su151612612>
- Lithuanian Ministry of Agriculture, L. (2023). *The impact of Lithuania's Rural Development Programme on organic farming*. https://eu-cap-network.ec.europa.eu/publications/impact-lithuanias-rural-development-programme-organic-farming_en#section--resources
- Liu, G., Li, X., & Meng, Q. (2023). How to shop online: The construct and measurement of consumer competency in online shopping. *Cyberpsychology: Journal of Psychosocial Research on Cyberspace*, 17(2). <https://doi.org/10.5817/CP2023-2-6>
- Luan, C.-C. (2016). *Feelings of doing good for myself or others: Discussing effects of self-conscious emotions on sustainable consumption*. Purdue University.
- Lyu, M., Wang, S., & Zhang, J. (2025). Unpacking the effects of brand authenticity on consumer trust and loyalty in nutrition: a psychological perspective. *Frontiers in Nutrition*, 12, 1731800. <https://doi.org/10.3389/fnut.2025.1731800>
- Magalhaes, D. R., Campo, M. d. M., & Maza, M. T. (2021). Knowledge, utility, and preferences for beef label traceability information: A cross-cultural market analysis comparing Spain and Brazil. *Foods*, 10(2), 232. <https://doi.org/10.3390/foods10020232>
- Montecchi, M., Plangger, K., & Etter, M. (2019). It's real, trust me! Establishing supply chain provenance using blockchain. *Business Horizons*, 62(3), 283–293. <https://doi.org/10.1016/j.bushor.2019.01.008>
- Montecchi, M., Plangger, K., & West, D. C. (2021). Supply chain transparency: A bibliometric review and research agenda. *International Journal of Production Economics*, 238, 108152. <https://doi.org/10.1016/j.ijpe.2021.108152>
- Neubauer, A. B., Lerche, V., Koehler, F., & Voss, A. (2020). What do you (think you) need? Perceived vs. experienced effects of need fulfillment on well-being. *Journal of Research in Personality*, 86, 103938. <https://doi.org/10.1016/j.jrp.2020.103938>
- Nguyen, M. H., & Nguyen, D. H. (2025). How do transparency and traceability enhance purchasing behaviors via consumer trust? Insights for food supply chains. *Journal of Consumer Marketing*. <https://doi.org/10.1108/JCM-07-2024-7005>
- Nunes, J. C., Ordanini, A., & Giambastiani, G. (2021). The concept of authenticity: What it means to consumers. *Journal of Marketing*, 85(4), 1–20. <https://doi.org/10.1177/0022242921997081>
- Papaoikonomou, E., Cascon-Pereira, R., & Ryan, G. (2016). Constructing and communicating an ethical consumer identity: A Social Identity Approach. *Journal of Consumer Culture*, 16(1), 209–231. <https://doi.org/10.1177/1469540514521080>
- Pileliene, L., & Tamuliene, V. (2021). Consumer attitudes and behavior towards organic products: Evidence from the Lithuanian market.
- Podsakoff, P. M., MacKenzie, S. B., Lee, J.-Y., & Podsakoff, N. P. (2003). Common method biases in behavioral research: a critical review of the literature and recommended remedies. *Journal of applied psychology*, 88(5), 879. <https://doi.org/10.1037/0021-9010.88.5.879>
- Pontin, E., Schwannauer, M., Tai, S., & Kinderman, P. (2013). A UK validation of a general measure of subjective well-being: the modified BBC subjective well-being scale (BBC-SWB). *Health and Quality of Life Outcomes*, 11(1), 150. <https://doi.org/10.1186/1477-7525-11-150>
- Pratt, S., Suntikul, W., & Agyeiwaah, E. (2020). Determining the attributes of gastronomic tourism experience: Applying impact-range performance and asymmetry analyses. *International Journal of Tourism Research*, 22(5), 564–581. <https://doi.org/10.1002/jtr.2356>
- Prince, S. A., & Wahid, I. S. (2023). Halal-organic meat: a successful business and humanitarian model. *Humanities and Social Sciences Communications*, 10(1), 1–16. <https://doi.org/10.1057/s41599-023-02097-9>

- Putnam, R., & Yonish, S. (1999). How important are random samples? Some surprising new evidence. annual meeting of the American Association for Public Opinion Research, St. Pete's Beach, FL,
- Ryan, R. M., & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American psychologist*, 55(1), 68. <https://doi.org/10.1037/0003-066X.55.1.68>
- Ryan, R. M., & Deci, E. L. (2001). On happiness and human potentials: A review of research on hedonic and eudaimonic well-being. *Annual review of psychology*, 52(1), 141–166. <https://doi.org/10.1146/annurev.psych.52.1.141>
- Sabol, M., Hair, J., Cepeda, G., Roldan, J. L., & Chong, A. Y. L. (2023). PLS-SEM in information systems: seizing the opportunity and marching ahead full speed to adopt methodological updates. *Industrial Management & Data Systems*, 123(12), 2997–3017. <https://doi.org/10.1108/IMDS-07-2023-0429>
- Saini, G., Jena, L. K., Gupta, S., & Mahale, G. (2025). Understanding green behaviours through the lens of self-determination theory. *Measuring Business Excellence*, 29(1), 76–96. <https://doi.org/10.1108/MBE-07-2024-0110>
- Saraiva, A., Fernandes, E., & Von Schwedler, M. (2021). The pro-environmental consumer discourse: A political perspective on organic food consumption. *International Journal of Consumer Studies*, 45(2), 188–204. <https://doi.org/10.1111/ijcs.12611>
- Sarstedt, M., Hair Jr, J. F., Cheah, J.-H., Becker, J.-M., & Ringle, C. M. (2019). How to specify, estimate, and validate higher-order constructs in PLS-SEM. *Australasian marketing journal*, 27(3), 197–211. <https://doi.org/10.1016/j.ausmj.2019.05.003>
- Sarstedt, M., Ringle, C. M., Cheah, J.-H., Ting, H., Moisescu, O. I., & Radomir, L. (2020). Structural model robustness checks in PLS-SEM. *Tourism Economics*, 26(4), 531–554. <https://doi.org/10.1177/1354816618823921>
- Schulze, M., & Janssen, M. (2024). Self-determined or non-self-determined? Exploring consumer motivation for sustainable food choices. *Sustainable Production and Consumption*, 45, 57–66. <https://doi.org/10.1016/j.spc.2023.12.028>
- Sheldon, K. M., Elliot, A. J., Kim, Y., & Kasser, T. (2001). What is satisfying about satisfying events? Testing 10 candidate psychological needs. *Journal of personality and social psychology*, 80(2), 325. <https://doi.org/10.1037/0022-3514.80.2.325>
- Sidali, K. L., Capitello, R., & Manurung, A. J. T. (2021). Development and validation of the perceived authenticity scale for cheese specialties with protected designation of origin. *Foods*, 10(2), 248. <https://doi.org/10.3390/foods10020248>
- Sirgy, M. J. (1982). Self-concept in consumer behavior: A critical review. *Journal of consumer research*, 9(3), 287–300. <https://doi.org/10.1086/208924>
- Sirgy, M. J. (2018). Self-congruity theory in consumer behavior: A little history. *Journal of Global Scholars of Marketing Science*, 28(2), 197–207. <https://doi.org/10.1080/21639159.2018.1436981>
- Steg, L., & Vlek, C. (2009). Encouraging pro-environmental behaviour: An integrative review and research agenda. *Journal of environmental psychology*, 29(3), 309–317. <https://doi.org/10.1016/j.jenvp.2008.10.004>
- Sutton, A. (2020). Living the good life: A meta-analysis of authenticity, well-being and engagement. *Personality and Individual Differences*, 153, 109645. <https://doi.org/10.1016/j.paid.2019.109645>
- Trenouth, L., & Sovová, L. (2025). (Alternative) food consumption practices in Central and Eastern Europe: an integrative critical literature review. *Agriculture and Human Values*, 1–14. <https://doi.org/10.1007/s10460-025-10717-0>
- Vaithilingam, S., Ong, C. S., Moisescu, O. I., & Nair, M. S. (2024). Robustness checks in PLS-SEM: A review of recent practices and recommendations for future applications in business research. *Journal of Business Research*, 173, 114465. <https://doi.org/10.1016/j.jbusres.2023.114465>
- Vazquez Melendez, E. I., Bergey, P., & Smith, B. (2024). Blockchain technology for supply chain provenance: increasing supply chain efficiency and consumer trust. *Supply chain management: An international journal*, 29(4), 706–730. <https://doi.org/10.1108/SCM-08-2023-0383>
- Wang, J., Pham, T. L., & Dang, V. T. (2020). Environmental consciousness and organic food purchase intention: a moderated mediation model of perceived food quality and price sensitivity. *International journal of environmental research and public health*, 17(3), 850. <https://doi.org/10.3390/ijerph17030850>
- White, K., Habib, R., & Hardisty, D. J. (2019). How to SHIFT consumer behaviors to be more sustainable: A literature review and guiding framework. *Journal of marketing*, 83(3), 22–49. <https://doi.org/10.1177/0022242919825649>
- Witzke, K. V. (2025). *EU Organics Market Begins to Recover*. https://apps.fas.usda.gov/newgainapi/api/Report/DownloadReportByFileName?fileName=EU%20Organics%20Market%20Begins%20to%20Recover%20Berlin%20European%20Union_GM2025-0003.pdf
- Wu, W., Zhang, A., van Klinken, R. D., Schrobback, P., & Muller, J. M. (2021). Consumer trust in food and the food system: a critical review. *Foods*, 10(10), 2490. <https://doi.org/10.3390/foods10102490>
- Wu, X., Xiong, J., Yan, J., & Wang, Y. (2021). Perceived quality of traceability information and its effect on purchase intention towards organic food. *Journal of Marketing Management*, 37(13-14), 1267–1286. <https://doi.org/10.1080/0267257X.2021.1910328>
- Zidan, S., Hilary, S., & Platat, C. (2025). Cross-cultural variations in motives and barriers for organic food consumption: a narrative review. *Frontiers in Sustainable Food Systems*, 9, 1493325. <https://doi.org/10.3389/fsufs.2025.1493325>

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