

Research Paper Project Note

Exploring consumer behavior, attitudes, and willingness to pay for agroecological products in Tunisian urban areas

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1. Introduction and Context

Agroecology is widely recognized as a holistic and transdisciplinary approach that seeks to transform food systems by integrating ecological principles with sociocultural, economic, and political dimensions¹. Central to its principles are *Economic Diversification* and *Fairness*, which advocate for the creation of shorter, more localized, and equitable market channels that respond to consumer values and ensure fair returns for producers². It is within this multi-dimensional framework that the global market for agroecological products - integrating ecological principles into agriculture to create resilient, sustainable food systems - is growing, driven by social concerns over pesticide residues and other environmental footprints of conventional agriculture. Consumers increasingly perceive these products as healthier and more environmentally friendly alternatives. However, market penetration of agroecological products remains limited due to high prices, insufficient certification mechanisms, and low consumer awareness³.

Despite these constraints, the principles of agroecology are gaining specific traction in various contexts. In Tunisia, agroecology is highlighted as a priority in official speeches, thus reflecting a growing interest, driven by increasing environmental challenges such as water scarcity, soil degradation, and climate change impacts. This interest is also reflected in a rising number of civil society initiatives, farmer-led experiments, and its gradual incorporation into national strategic dialogues, positioning agroecology at the heart of debates on the future of Tunisian agriculture⁴.

In spite of this national interest, the agroecological transition in Tunisia faces significant market-related barriers, which local farmers have identified as a key constraint for their transition. These difficulties stem partly from the currently prevailing food system in the country, which is characterized by markets dominated by companies spatialized in conventional commodities. Furthermore, while farmers recognize the overall challenge of marketing issues, social factors such as low consumer awareness and a subsequent lack of demand for agroecological products also impede the successful penetration of agroecological goods. Addressing these market access challenges and consumer-side factors is crucial for the transition to be economically viable for producers.⁵

Additionally, consumers frequently encounter a fundamental confusion regarding the nuances between distinct food production models, namely 'conventional,' 'organic,' and the less understood 'agroecological' ones. A critical clarification is necessary to precisely frame the scope and intent of this study: Conventional Agriculture represents the dominant model, typically and heavily relying on synthetic fertilizers, chemical pesticides, and large-scale monoculture, often resulting in high yields but significant environmental and public health trade-offs. Organic Agriculture is a regulated, certification-based system that primarily focuses on avoiding the use of synthetic inputs (pesticides and fertilizers). While it offers environmental and health benefits, it often remains specialized and can still rely on complex, long-distance supply chains. The Agroecological Approach, however, moves beyond input substitution; it is a comprehensive approach that explicitly integrates ecological principles with dimensions of social equity, economic fairness, and local food security, emphasizing biodiversity, resource efficiency, and community resilience in the entire production and distribution process. This study deliberately addresses this ambiguity by focusing specifically on consumer perceptions of products marketed under the holistic 'agroecological' banner, rigorously distinguishing it from the more established, certification-based 'organic' label, and the dominant 'conventional' model, in an effort to understand demand for truly systemic food system change.

While there is recognized importance and high-level institutional interest, few empirical studies rigorously assess the domestic demand, consumer perceptions, and actual market potential for these specific "agroecological products" in Tunisia. This gap represents a critical lack of knowledge, particularly concerning the necessary market feasibility and consumer acceptance required to scale up the agroecological transition effectively. Therefore, this study was explicitly undertaken to thoroughly examine the psychological, economic, and behavioral factors influencing the preferences of Tunisian urban consumers, and their specific Willingness to Pay a Higher Price (WPOF) for agroecological goods.

The primary objectives of this research are two-fold: Firstly, it seeks to comprehensively map the socio-demographic profile, consumption habits, and preliminary perceptions of the urban Tunisian consumer who engages with or expresses interest in agroecological products, thereby defining the target market. Second, and more specifically, the research aims to rigorously analyze the complex structural relationships among key latent variables, such as consumer attitudes (AOF), the Green Psychological Benefits (GPB) derived from the ethical purchase, their

¹ HLPE (2019) Agroecological and other innovative approaches for sustainable agriculture and food systems that enhance food security and nutrition. A report by the High Level Panel of Experts on Food Security and Nutrition of the Committee on World Food Security [online]. Rome: HLPE c/o FAO, 163 p. Retrieved from [at 10 Sept 2020].

² Loconto, A. and Jimenez, A. and Vandecastelaere, E. and Tartanac, F., J. Sanz-Cañada, P. Rytönen, G. Bellettieri, 20183365317, English, Journal article, Spain, 2340-4655 1578-7168, (No.25), Zaragoza, Ager. Revista de Estudios sobre Despoblación y Desarrollo Rurales, (13-42), Centro de Estudios Sobre la Despoblación y Desarrollo de Áreas Rurales, Agroecology, local food systems and their markets., (2018).

³ Blare, T., Roman, S., del Pozo Loayza, C., Borja, R. M., Oyarzun, P. J., & Zabalaga, M. A. (2023). The role of demand in the agroecological transition: an analysis of recent literature. *Current Opinion in Environmental Sustainability*, 65, 101378.

⁴ Ouerghemmi, H., Fija, A., Shiri, Z., Carpentier, I., Oumer, A., Gharbi, I., ... & Dhehibi, B. (2025). Examining agricultural policy bias through the Kaleidoscope Model: a study of two strategic priorities in Tunisia. *Agroecology and Sustainable Food Systems*, 1-33.

⁵ Souissi, A., Dhehibi, B., Oumer, A. M., Mejri, R., Fija, A., Zlaoui, M., & Dhraief, M. Z. (2024). Linking farmers' perceptions and management decision toward sustainable agroecological transition: evidence from rural Tunisia. *Frontiers in Nutrition*, 11, 1389007.

Perception of Value (VP) versus price, and their inherent Price Sensitivity (PS), and determine precisely how these psychological and economic factors collectively influence the ultimate consumer decisions to purchase and, crucially, justify paying a premium (WPOF) for agroecological products. Such detailed structural analysis is paramount for developing effective, evidence-based policy and targeted marketing strategies that can successfully align supply-side agroecological efforts with genuine, sustainable consumer demand in the Tunisian urban market.

2. Methodological Approach

2.1. Study area and Sample

Data was collected from a total of 400 consumers across four governorates in Tunisia: Manouba, Ben Arous, Ariana, and Tunis, with 100 respondents from each; thus ensuring balanced geographic coverage (Figure 1). This choice was driven by the collective representation of key socio-economic characteristics relevant to the study's scope.

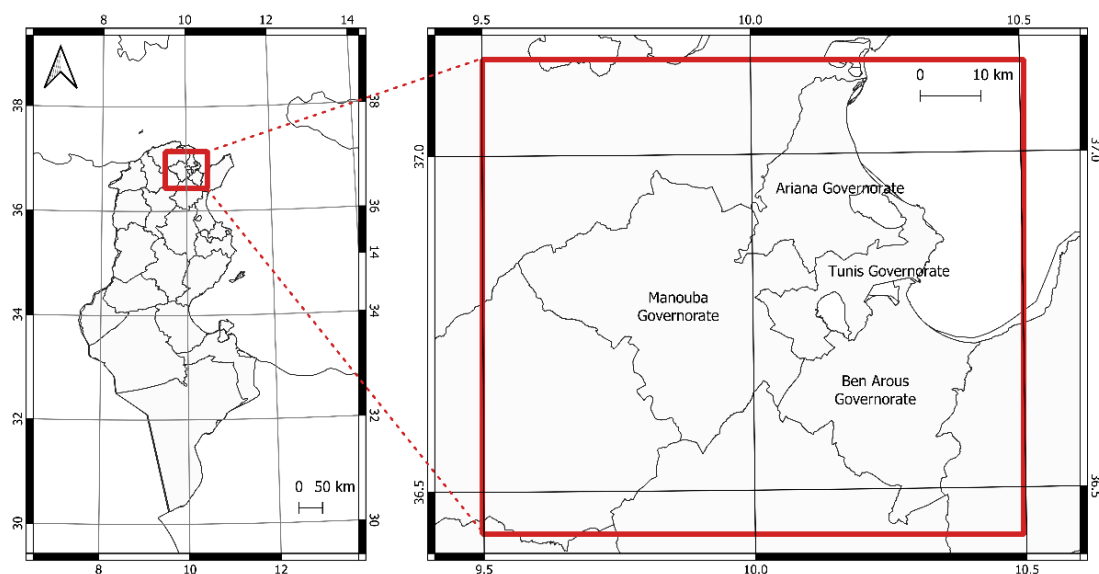


Figure 1. Study area (Own elaboration, 2025)

These governorates form the core of what is called “Tunis Urban agglomeration”, making them highly representative of Tunisia's most urbanized and densely populated regions, which typically exhibits the highest levels of consumption and market activity⁶. Furthermore, this selection captures necessary market diversification within a compact region: Tunis and Ariana represent areas of generally higher wealth and established commercial centers, while Ben Arous is known for its major industrial zones and proximity to the port, and Manouba provides a valuable inclusion of peri-urban and historically agricultural areas undergoing rapid urbanization. This mix allows the study to account for variances in consumer behavior influenced by differences in average income, accessibility to diverse retail environments, and the effects of dense urbanization on purchasing decisions.

2.2. Methodological framework

This research employed a structured, sequential methodology (Figure 2) to understand the determinants of agroecological products consumption in Tunisia. To do so, we designed a comprehensive survey based on key psychological and behavioral constructs (see Table 1, which reflects the key dimensions of the survey). The collected data underwent a dual analysis: it combined Descriptive Statistics and Cross-Tabulation Analysis, performed using IBM SPSS⁷ v25, to profile consumers and their habits, with Structural Equations Modelling (SEM)⁸, conducted using SmartPLS⁹ v4. SEM was specifically utilized to examine complex causal relationships among latent variables (e.g., Green Psychological Benefits (GPB), Environmental Concern (EC), Attitude toward agroecological products (AOF)), test hypothesized relationships, identify mediating effects, and explore segment differences through multi-group analysis. This was achieved by explicitly accounting for residual or error terms to provide a more realistic analysis compared to conventional techniques. This integrated analytical approach allowed

⁶ Mtimet, N., Souissi, A., & Mhamdi, N. (2020). Tunisian consumers perception and behavior towards organic food products. *New Medit*, 19(1), 3-18.

⁷ <https://www.ibm.com/fr-fr/products/spss>

⁸ Pearl, J. (2012). The causal foundations of structural equation modeling. *Handbook of structural equation modeling*, 68-91.

⁹ <https://smartpls.com/>.

for both a general overview and an in-depth causal understanding of the factors driving attitudes and willingness to pay for agroecological products.

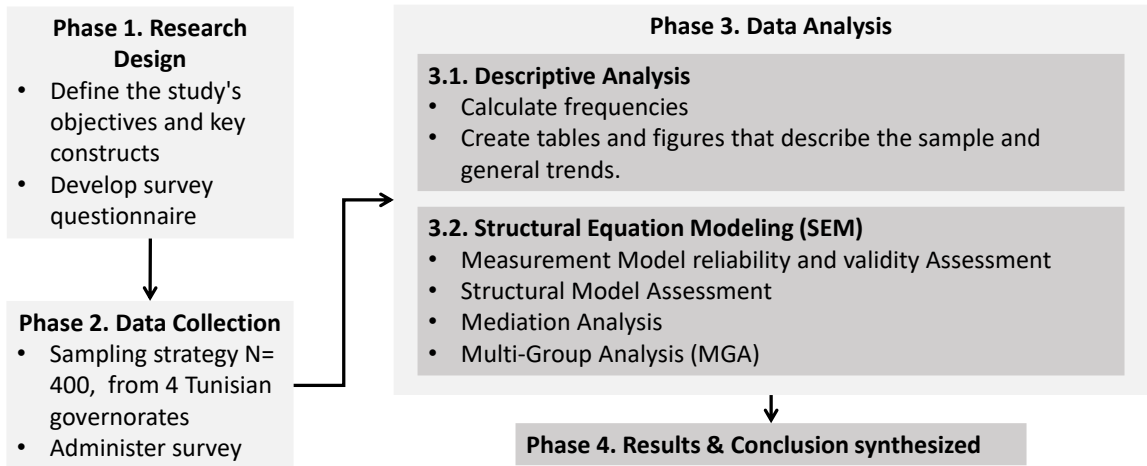


Figure 2. Methodological flowchart (Own elaboration, 2025).

Table 1. Key dimensions of the survey

Section	Topic Category	Examples of Data Collected
1. General Information	Sociodemographic Characteristics	Age, Gender, Place of residence (Urban/Rural), Occupation, Marital status, Household size, Household with children under 18, Education level, Monthly income, Monthly food expenditure
	Health & Physical Activity	Presence of chronic diseases (e.g., food allergies, obesity, high blood pressure, diabetes), Perceived physical fitness, Frequency of exercise per week
2. Food Buying Habits	Purchase Frequency	Frequency of purchasing various food categories (e.g., Fresh fruit/vegetables, Cereal products, Dairy products, Meat, Processed products)
	Purchase Location	Place of grocery purchase (e.g., Online, Large retail outlets, Convenience stores, Local markets, Cooperatives, Direct from producers)
	Awareness & Meaning	Knowledge of agroecological products, Perception of what an agroecological product means
3. Specific Case: Olive Oil produced based on Agroecological practices	Consumption & Purchase	Olive oil consumption habits, Perception of olive oil as an agroecological product, Frequency of olive oil purchases, Consumer interest in characteristics, Purchase locations
	Labeling & Value	Trust in organic and ethical labels, Perception of differences between agroecological and conventional products
4. Latent Variables	Psychological/Economic Scales	Measurement of the constructs (EC, EV, AOF, VP, GPB)

Source : Own elaboration, 2025.

3. Descriptive Statistics Preliminary Findings

3.1. Socio-Demographic Profile

The socio-demographic profile of agroecological consumers reveals a strong correlation with middle-class status, higher education levels, and relative wealth. These key characteristics, detailed in Table 2 and Table 3, can be summarized in the following bullet points:

- **Age and Income:** The majority of interviewed consumers are middle-aged: 41–60 years old (38.50%) and 25–40 years old (37.75%). The most common monthly income is between 1001 TND and 2000 TND (63.75% combined), confirming the majority belong to the urban middle class.

- **Education:** Over half of the respondents (55.89%) hold a university degree, suggesting that education is a major determinant.
- **Health and wealth:** While 82.00% of the respondents perceive themselves as being in good physical shape, a significant majority (65.50%) rarely or never exercise. Chronic diseases are reported by 27.50% of respondents.

Table 2. Synthetic table of key socio-demographic characteristics

Category	Group	N	Percentage
Age	25–40 years old	151	37.75%
	41–60 years old	154	38.50%
	Under 25 years old	16	4.00%
	Over 60 years old	79	19.75%
Gender	Woman	156	39.00%
	Man	244	61.00%
Occupation	Job seeker	13	3.31%
	Employee	288	71.99%
	Student	13	3.31%
	Self-Employment	86	21.39%
Education level	None	5	1.25%
	Vocational training	38	9.52%
	Primary	22	5.51%
	Secondary	111	27.82%
	University	224	55.89%
Monthly income	< 500 TND	15	3.75%
	> 4500 TND	1	0.25%
	From 1001 TND to 1500 TND	154	38.50%
	from 1501 TND to 2000 TND	101	25.25%
	from 2001 TND to 3000 TND	39	9.75%
	from 3001 TND to 4500 TND	12	3.00%
	from 500 TND to 750 TND	12	3.00%
	from 751 TND to 1000 TND	66	16.50%

Source: Primary data analysis conducted for this study, 2025.

Table 3. Synthetic table of health profile

Category	Group	N	Overall Total
Presence of chronic diseases	No	290	72.50%
	Yes	110	27.50%
Perceived physical fitness	In shape	328	82.00%
	Not in shape	72	18.00%
Frequency of exercise per week	1 to 2 days	77	19.25%
	3 to 5 days	59	14.75%
	Never or rarely	262	65.50%

More than 5 days	2	0.50%
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Source: Primary data analysis conducted for this study, 2025.

3.2. Food Buying Habits and Purchase Channels

Consumer food-buying habits are defined by a strong preference for fresh, unprocessed foods sourced predominantly through direct distribution channels as summarized in the following bullet points:

- **Frequency:** Fresh fruit and vegetables are staples, purchased frequently (55.00% purchase them one to two times a week, 31.50% three or more times a week). Processed foods are actively avoided by a quarter of the sample (25.25% never purchase them). Further details on purchase frequency can be found in Table 4.
- **Purchase Channels and Perception:** The survey found that purchases from cooperatives (99.5%) and direct purchases from producers (98.5%) are near-universal sourcing channels. This highlights a strong consumer preference for short, traceable supply chains for agroecological products. Notably, 0% of respondents reported purchasing from specialized organic grocery stores, pointing to a major retail infrastructure gap. In terms of perception, over half of consumers (51.50%) completely agree that agroecological products are "More natural," and 53.00% completely agree they are "Healthier". Further details on purchase channels and perception can be found in Table 5 and Table 6.

Table 4. Frequency of Grocery Purchases

Product Category	1 to 2 times a week	1 to 3 times a month	3 or more times a week	Never	Less than once a month
Fresh fruit and vegetables	55.00%(N=220)	11.75%(N=47)	31.50%(N=126)	0.25%(N=1)	1.50%(N=6)
Cereal products	40.50%(N=162)	23.75%(N=95)	30.25%(N=121)	0.50%(N=2)	5.00%(N=20)
Dairy products	35.75%(N=143)	12.75%(N=51)	49.00%(N=196)	0.75%(N=3)	1.75%(N=7)
Meat	37.25%(N=149)	29.75%(N=119)	28.00%(N=112)	0.25%(N=1)	4.75%(N=19)
Processed products	24.25%(N=97)	24.25%(N=97)	7.25%(N=29)	25.25%(N=101)	19.00%(N=76)
Beverages	35.25%(N=141)	16.00%(N=64)	26.75%(N=107)	10.50%(N=42)	11.50%(N=46)
Confectionery and sweets	37.75%(N=151)	19.50%(N=78)	14.75%(N=59)	11.25%(N=45)	16.75%(N=67)
Spices and condiments	24.75%(N=99)	21.75%(N=87)	4.75%(N=19)	3.00%(N=12)	45.75%(N=183)
Vegetable oils	22.25%(N=89)	22.75%(N=91)	5.75%(N=23)	3.25%(N=13)	46.00%(N=184)
Honey	4.75%(N=19)	6.50%(N=26)	2.50%(N=10)	23.00%(N=92)	63.25%(N=253)

Source: Primary data analysis conducted for this study, 2025.

Table 5. Purchase Channels

Purchase Channels	Response Type	N	Percentage
Online	Yes	385	96.25%
	No	15	3.75%
Convenience store/ supermarket	Yes	123	30.75%
	No	277	69.25%
Specialized organic grocery store	Yes	0	0.00%
	No	400	100.00%

Local Market	Yes	105	26.25%
	No	295	73.75%
Specialized shop (butcher, greengrocer, etc)	Yes	0	0.00%
	No	400	100.00%
Cooperative	Yes	398	99.50%
	No	2	0.50%
Directly from the producer (farm, etc)	Yes	394	98.50%
	No	6	1.50%

Source: Primary data analysis conducted for this study, 2025.

Table 6. Perception Statements

Category	Response Type	N	Percentage
More natural	Completely agree	206	51.50%
	All right	156	39.00%
	Neither disagree nor agree	22	5.50%
	Disagree	12	3.00%
	I don't agree at all	4	1.00%
Pesticide-free	Completely agree	193	48.25%
	All right	146	36.50%
	Neither disagree nor agree	36	9.00%
	Disagree	18	4.50%
	I don't agree at all	7	1.75%
Healthier	Completely agree	212	53.00%
	All right	155	38.75%
	Neither disagree nor agree	22	5.50%
	Disagree	10	2.50%
	I don't agree at all	1	0.25%
From short circuits	Neither disagree nor agree	127	31.75%
	All right	93	23.25%
	Disagree	76	19.00%
	I don't agree at all	65	16.25%
	Completely agree	39	9.75%

Source: Primary data analysis conducted for this study, 2025.

3.3. Case Study: Agroecological Olive Oil

The analysis focusing on olive oil as a specific agroecological product reveals these key results:

- **Consumer Interest:** Consumers showed high interest, with 63.00% being "Very interested" in a product "without chemical input". Further details can be found in Table 7.
- **Price Sensitivity (PS):** Consumers exhibit high price awareness, with 61.50% agreeing they "pay attention to the price" of agroecological olive oil, and 63.00% agreeing they "often look for the best prices". This price sensitivity contrasts with their willingness to pay a premium (Table 8).
- **Willingness to Pay (WPOF):** Only 44.50% agree that the price of agroecological olive oil can be justified by its environmental qualities (Table 9).

Table 7. Consumer Interest in Olive Oil Characteristics

Category	Response Type	N	Overall Total
Product without chemical input	Interested	133	33.25%
	Neither disinterested neither interested	13	3.25%
	Not at all interested	1	0.25%
	Not interested	1	0.25%
	Very interested	252	63.00%
From ancient olive trees	Interested	119	29.75%
	Neither disinterested neither interested	84	21.00%
	Not at all interested	16	4.00%
	Not interested	32	8.00%
	Very interested	149	37.25%
Certified organic	Interested	122	30.50%
	Neither disinterested neither interested	62	15.50%
	Not at all interested	5	1.25%
	Not interested	19	4.75%
	Very interested	192	48.00%
Sold in bulk	Interested	155	38.75%
	Neither disinterested neither interested	56	14.00%
	Not at all interested	27	6.75%
	Not interested	43	10.75%
	Very interested	119	29.75%

Source: Primary data analysis conducted for this study, 2025.

Table 8. Price sensitivity

Category	Response Type	N	Overall Total
I pay attention to the price of agroecological olive oil.	All right	246	61.50%
	Neither disagree nor agree	49	12.25%
	Disagree	39	9.75%
	I don't agree at all	8	2.00%
	Completely agree	58	14.50%
I often look for the best prices.	All right	252	63.00%
	Neither disagree nor agree	44	11.00%
	Disagree	20	5.00%
	I don't agree at all	2	0.50%
	Completely agree	82	20.50%
I always compare prices before buying	All right	239	59.75%
	Neither disagree nor agree	42	10.50%
	Disagree	33	8.25%

these types of products.	I don't agree at all	7	1.75%
	Completely agree	79	19.75%
I notice the price variations of agroecological olive oil.	All right	226	56.50%
	Neither disagree nor agree	73	18.25%
	Disagree	34	8.50%
	I don't agree at all	12	3.00%
	Completely agree	55	13.75%

Source: Primary data analysis conducted for this study, 2025.

Table 9. Distribution of Willingness to Pay a Higher Price (WPOF)

Category	Response Type	N	Overall Total
It is acceptable for me to pay more for environmentally friendly products.	All right	17	43.25%
	Neither disagree nor agree	101	25.25%
	Disagree	14	3.50%
	I don't agree at all	78	19.50%
	Completely agree	34	8.50%
I believe that the price of agro-ecological olive oil is justified by its environmental qualities.	All right	178	44.50%
	Neither disagree nor agree	102	25.50%
	Disagree	15	3.75%
	I don't agree at all	67	16.75%
	Completely agree	38	9.50%
I am willing to pay a premium price for the ecological benefits it provides.	All right	184	46.00%
	Neither disagree nor agree	107	26.75%
	Disagree	12	3.00%
	I don't agree at all	67	16.75%
	Completely agree	30	7.50%

Source: Primary data analysis conducted for this study, 2025.

4. Structural Equations Modelling (SEM) preliminary findings

4.1. Reliability and Validity of the Measurement Model

Statistical methods were used to evaluate the quality of the measurement model (Figure 3). As shown in the results (Table 10), the model demonstrated satisfactory internal consistency because the values for Cronbach's alpha and Composite Reliability (CR) were all greater than the recommended threshold of 0.70.

Furthermore, convergent validity was confirmed, as the Average Variance Extracted (AVE) for all constructs exceeded the required 0.50 level. The Dijkstra–Henseler's rho values, which ranged from 0.782 to 0.931, were also significantly above the acceptable minimum of 0.70.

These findings confirm the robustness of the constructs, particularly those examining willingness to pay a premium price, and are consistent with previous research¹⁰.

¹⁰ Hu, T., Al Mamun, A., Reza, M.N.H. et al. Examining consumers' willingness to pay premium price for organic food. *Humanit Soc Sci Commun* **11**, 1249 (2024). <https://doi.org/10.1057/s41599-024-03789-6>.

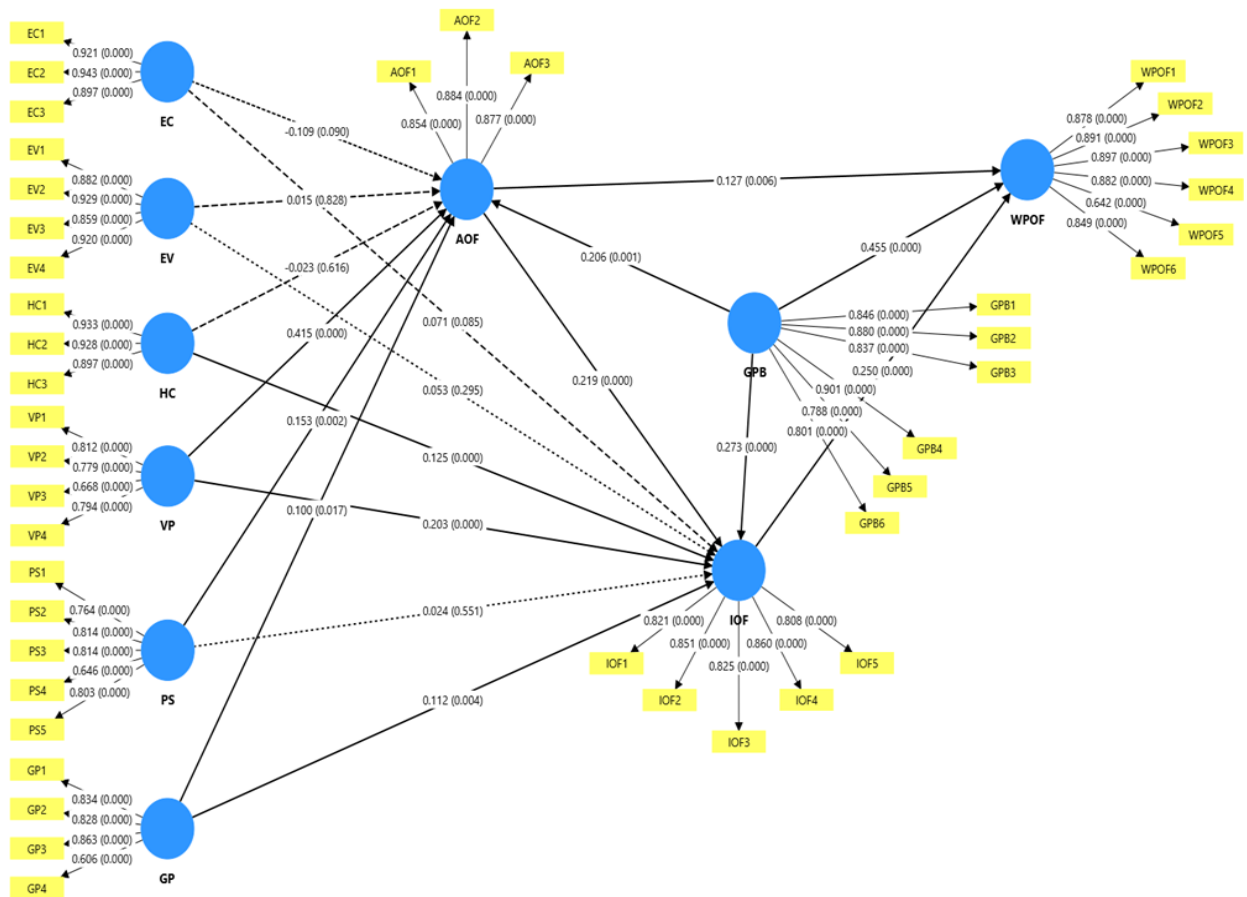


Figure 3. Path Model with Loadings and Path Coefficients (PLS-SEM results, Own elaboration,2025)

Table 10. Construct Reliability and Convergent Validity Results

	Items	Cronbach's alpha	Dijkstra–Hensele's rho	CR	AVE
AOF	5	0.842	0.848	0.905	0.760
EC	5	0.910	0.914	0.943	0.848
EV	5	0.920	0.926	0.943	0.807
GP	5	0.793	0.818	0.867	0.623
GPB	5	0.919	0.929	0.936	0.711
HC	5	0.909	0.919	0.943	0.846
IOF	5	0.890	0.896	0.919	0.694
PS	5	0.829	0.844	0.879	0.594
VP	5	0.764	0.782	0.849	0.586
WPOF	5	0.917	0.931	0.937	0.713

Source: Primary data analysis conducted for this study, 2025.

4.2. Direct Relationships (Hypothesis Testing)

The structural model identified the drivers of Attitude, Purchase Intent, and Willingness to Pay (Table 11). The results could be summarized as follows:

- Attitude (AOF) Drivers:** Contrary to conventional assumptions, a consumer's Environmental Concern (EC) and Health Consciousness (HC) did not have a direct significant impact on their Attitude (AOF) toward agroecological products. Instead, attitude is driven by Perception of Value (VP), Price Sensitivity (PS), and the Green Psychological Benefits (GPB) they derive from the purchase.

- **Willingness to Pay (WPOF) Driver:** Green Psychological Benefits (GPB) is the single strongest driver of a consumer's Willingness to Pay a Higher Price (WPOF) ($\beta = 0.455$, $p < 0.001$).

Table 11. Structural Model Path Coefficients and Hypothesis Test Results

Hypothesis		Beta	Confidence interval	t value	P values
H1a	EC -> AOF	-0.109	(0.242; 0.009)	1.696	0.090
H2a	EV -> AOF	0.015	(8.122; 8.159)	0.217	0.828
H3a	HC -> AOF	-0.023	(6.115; 6.064)	0.502	0.616
H4a	VP -> AOF	0.415	(0.302; 0.521)	7.425	0.000*
H5a	PS -> AOF	0.153	(0.060; 0.252)	3.111	0.002*
H6a	GP -> AOF	0.100	(0.020; 0.185)	2.385	0.017**
H7a	GPB -> AOF	0.206	(0.084; 0.329)	3.257	0.001*
H1b	EC -> IOF	0.071	(0.010; 0.149)	1.723	0.085
H2b	EV -> IOF	0.053	(2.046; 2.159)	1.047	0.295
H3b	HC -> IOF	0.125	(0.056; 0.189)	3.671	0.000**
H4b	VP -> IOF	0.203	(0.112; 0.297)	4.340	0.000**
H5b	PS -> IOF	0.024	(5.053; 5.104)	0.597	0.551
H6b	GP -> IOF	0.112	(0.035; 0.185)	2.893	0.004*
H7b	GPB -> IOF	0.273	(0.167; 0.378)	5.201	0.000*
H8	AOF -> IOF	0.219	(0.129; 0.304)	4.827	0.000*
H7c	GPB -> WPOF	0.455	(0.352; 0.554)	8.739	0.000*
H9	AOF -> WPOF	0.127	(0.035; 0.219)	2.736	0.006*
H10	IOF -> WPOF	0.250	(0.132; 0.367)	4.142	0.000*

* Significant at 1%

** Significant at 5%

Source: Primary data analysis conducted for this study, 2025.

4.3. Indirect (Mediation) Effects

The results (Table 12) show that Attitude (AOF) and Purchase Intent (IOF) act as significant mediators between the key constructs and WPOF:

- The relationship between Attitude (AOF) and Willingness to Pay (WPOF) is significantly mediated by Purchase Intent (IOF) ($\beta = 0.055$, $p = 0.002$).
- Green Psychological Benefits (GPB) indirectly and significantly affects WPOF through IOF ($\beta = 0.068$, $p = 0.001$).

Table 12. Analysis of Specific Indirect Effects and Mediation Test Results

	Beta	Standard Error	Confidence interval	T value	P values
AOF -> IOF -> WPOF	0.055	0.018	(0,023; 0,092)	3.062	0.002*
EC -> IOF -> WPOF	0.018	0.011	(-0,02; 0,042)	1.556	0.120
EV -> IOF -> WPOF	0.013	0.014	(-0,01; 0,043)	0.985	0.325
GP -> IOF -> WPOF	0.028	0.012	(0,007; 0,053)	2.381	0.017**
EC -> AOF -> IOF	-0.024	0.015	(-0,07; 0,002)	1.607	0.108
GPB -> IOF -> WPOF	0.068	0.020	(0,033; 0,111)	3.418	0.001*
EV -> AOF -> IOF	0.003	0.016	(-0,09; 0,033)	0.215	0.830
HC -> IOF -> WPOF	0.031	0.012	(0,010; 0,057)	2.600	0.009*
GP -> AOF -> IOF	0.022	0.011	(0,004; 0,046)	1.984	0.047**

EC -> AOF -> WPOF	-0.014	0.010	(-0,08; 0,001)	1.360	0.174
GPB -> AOF -> IOF	0.045	0.017	(0,016; 0,082)	2.659	0.008*
PS -> IOF -> WPOF	0.006	0.010	(-0,04; 0,028)	0.573	0.567
EV -> AOF -> WPOF	0.002	0.010	(-0,06; 0,024)	0.201	0.841
HC -> AOF -> IOF	-0.005	0.010	(-0,06; 0,014)	0.498	0.618
VP -> IOF -> WPOF	0.051	0.018	(0,020; 0,091)	2.763	0.006*
GP -> AOF -> WPOF	0.013	0.007	(0,001; 0,030)	1.716	0.086
GPB -> AOF -> WPOF	0.026	0.012	(0,005; 0,051)	2.176	0.030**
PS -> AOF -> IOF	0.033	0.013	(0,011; 0,062)	2.549	0.011**
HC -> AOF -> WPOF	-0.003	0.006	(-0,06; 0,009)	0.473	0.636
VP -> AOF -> IOF	0.091	0.022	(0,051; 0,136)	4.165	0.000*
PS -> AOF -> WPOF	0.019	0.009	(0,005; 0,038)	2.235	0.025**
VP -> AOF -> WPOF	0.053	0.022	(0,014; 0,099)	2.448	0.014**

* Significant at 1%

** Significant at 5%

Source: Primary data analysis conducted for this study, 2025.

D. Multi-Group Analysis (Moderating Effects)

The influence of key drivers varies by demographic and physical perception:

- **Gender:** The effect of Green Psychological Benefits (GPB) on WPOF is significantly different between genders ($p = 0.009$). Further details can be found in Table 13.
- **Physical Fitness:** The influence of Attitude (AOF) on Purchase Intent (IOF) is stronger for consumers perceiving themselves as unfit ($p = 0.004$). Further details can be found in Table 14.

Table 13. Multi-Group Analysis (MGA) for Path Differences by Gender (Female Vs Male)

	Difference	2-tailed p value
GPB -> WPOF	-0.289	0.009*
GPB -> AOF	0.258	0.038**
PS -> AOF	-0.197	0.039**
HC -> AOF	0.190	0.042**
EV -> AOF	-0.224	0.081
EC -> AOF	0.137	0.240
AOF -> WPOF	0.112	0.251
IOF -> WPOF	0.116	0.333
VP -> AOF	-0.111	0.362
EC -> IOF	0.071	0.372
EV -> IOF	0.075	0.458
PS -> IOF	-0.048	0.571
VP -> IOF	-0.055	0.574
GP -> AOF	0.051	0.576
AOF -> IOF	-0.042	0.662
GPB -> IOF	0.034	0.748
GP -> IOF	0.006	0.942

HC -> IOF -0.001 0.991
 * Significant at 1% Source: Primary data analysis conducted for this study, 2025.
 ** Significant at 5%

Table 14. Multi-Group Analysis (MGA) for Path Differences by Perceived physical fitness (Fit vs unfit)

	Difference	2-tailed p value
AOF -> IOF	-0.319	0.004*
AOF -> WPOF	-0.178	0.144
EC -> AOF	-0.069	0.649
EC -> IOF	0.088	0.359
EV -> AOF	-0.004	0.983
EV -> IOF	-0.098	0.393
GP -> AOF	-0.140	0.203
GP -> IOF	0.219	0.029**
GPB -> AOF	0.038	0.797
GPB -> IOF	0.066	0.612
GPB -> WPOF	-0.086	0.433
HC -> AOF	0.046	0.686
HC -> IOF	-0.042	0.599
IOF -> WPOF	0.328	0.057
PS -> AOF	0.215	0.073**
PS -> IOF	-0.071	0.568
VP -> AOF	-0.061	0.668
VP -> IOF	0.073	0.548

* Significant at 1% Source: Primary data analysis conducted for this study, 2025.
 ** Significant at 5%

5. Conclusion and Policy Implications

This study shows that people in Tunisia are more likely to consume agroecological products for personal gain and psychological reward than for abstract environmental or health concerns. The most critical finding is the dominating role of Green Psychological Benefits (GPB) as the primary predictor of a consumer's Willingness to Pay a Higher Price (WPOF) for all agroecological products. This suggests that consumers are willing to pay a premium not just for the product's quality, but for the feeling of contributing to the environment and common good.

Policy and marketing strategies should, therefore, focus on:

- Strengthening Psychological Rewards as a motivation for agroecology transition:** Communication campaigns should shift from general environmental messages (which had a non-significant direct effect on Attitude) to highlighting the personal, ethical, and community-based benefits (GPB) of choosing these products.
- Justify the Premium through better documentation of the agroecological practices in the products information:** Directly address the high price sensitivity and the finding that less than half of consumers believe the premium price is justified by implementing radical transparency marketing, showing precisely where the extra cost goes (e.g., fair wages, soil restoration, biodiversity) to transform price awareness into justified value acceptance.
- Addressing the Retail Gap:** The near-zero usage of specialized grocery stores, despite high consumer interest, indicates a critical need for developing and supporting dedicated retail infrastructure. The universal use of cooperatives and direct producer channels should be leveraged to improve transparency and trust.
- Segment by Value and Education:** Target the most receptive demographic—the highly educated urban middle class—by reinforcing the relationship between Health Consciousness (HC) and Purchase Intent (IOF) using educational content (e.g., short videos, digital media) that links agroecological practices to specific, measurable health and quality benefits, moving beyond simple "pesticide-free" claims.

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