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"Local Production": What Do Consumers Think?

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Abstract: Since the mid-1990s, there has been a growing interest among consumers and producers in downscaling to a local level the length of the agri-food chains as a solution for fairer and more sustainable food production systems. From the point of view of consumption, the attribute "local" is assuming an important role in defining food purchasing preferences, both in terms of expectations of product quality and in terms of its perceived relevance in determining the supply chain sustainability. This research aims to define how individuals' perception of local production influences the definition of "local" among consumers based on a survey submitted to a sample of 500 consumers in North-Western Italy. The paper provides: (i) a semantic map built on keywords adopted by the respondents to describe local production; (ii) a categorization of food consumers divided in clusters on the basis of their eating styles; and (iii) a characterization of consumers clusters according to the preferences and knowledge expressed towards local production. The results show that consumers' awareness and attitudes towards the concept of the "local" are influenced by the joint effect of their socio-demographic profile and their food consumption style, with some unexpected evidences that would deserve to be deepen with further research. However, given this uncertainty, three main traits seem to characterize the consumers attitude towards the "local": a positive relation among the dimensions of environment, local development and product quality and the strength of the link between local production and the reduction of the length of the supply chain. Ultimately, territoriality is perceived as an index of higher product quality (seasonal, therefore fresh and genuine).

Keywords: local production; consumer perception; food chain; clustering; sustainability; eating styles

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1. Introduction

One of the most evident reactions to the criticality of globalized food systems is the growing interest of consumers and producers in the local dimension of food supply chains. The local scale is often identified as a "desired scale" in order to counteract the negative environmental, social, and economic effects of the global agri-food system, and as the most suitable scale for achieving more just and sustainable food systems [1–3]. However, the concept of the local, as with all geographical scales, can also be interpreted as a socio-cultural and political construction, functional to defining and supporting the strategies of territorial actors [4,5]. Through the concrete implementation of variously locally rooted and spatially extended production systems, the actors in the agri-food chains build and practice different conceptions of "local", which form the basis for different trajectories of evolution of production systems and food distribution, as well as for the definition of consumer preference patterns. This "local turn" can be related to the affirmation of the local development paradigm in territorial policies, based on the need for place-based strategies built around the enhancement of the endogenous resources of a territory [6,7], to the

strategies that specialized rural regions implement to be competitive in increasingly globalized economies [8], as well as to the growing search for quality products by consumers, which has affected the agri-food supply chains following the progressive awareness of the negative externalities of industrial supply chains on a global scale in terms of product healthiness and socio-environmental impacts [9,10]. Simplifying, on the basis of the most recent contributions in the field of geographical and territorial disciplines, the narratives of the local refer to three perspectives: (1) economic, where the local is technically understood as shortening the food chain that leads from production to purchase and consumption to the benefit of territories [11–14]; (2) social and environmental sustainability, where the local is loaded with connotations referring to a fairer and more sustainable food supply chain including its environmental and social impacts [12,15–19]; (3) food quality, where local refers to the production of good and healthy food [20–24]. These local production (LP) narratives are produced by all of the actors in the chain, from producers, distributors/retailers, to consumers. In particular, from the perspective of production, this dimension can be manifested both through a real re-localization of supply chains, which shortens the distance between places of production and consumption, and through the construction of information mechanisms (e.g., brands) that associate products with places [25]. From the consumer's perspective, the LP is assuming an important role in defining purchasing preferences, both due to the expectations of product quality associated with it, and due to the perception of its relevance in the broader framework of the sustainability of the food chain. In this context, the orientation of consumer choice towards local fruit and vegetables (F&V) seems to be even more emphasised than for other agri-food products [26,27]. It has been demonstrated that the healthiness and genuineness of the "fruits of the earth" evoked by the narratives on their embeddedness in the places of origin, as well as the seasonal aspect of these products, lead the consumer to the choice of a product that can embody these characteristics par excellence [20,26]. This research focuses on the perspective of consumers through the consideration of their views on the analysis of the LP concept in relation to F&V products with the aim of answering the following research questions: (Q1) What do food consumers mean by LP? (Q2) To what extent the meaning and keywords assigned to LP relate to the economic, social-environmental and quality perspectives? (Q3) Can consumers profiles be defined on the basis of their social and economic conditions and food consumption styles? (Q4) How are these profiles associated with opinions and attitudes towards LP for F&V?

2. Materials and Methods

2.1. The Survey

In order to answer these questions, a survey was directly (face-to-face) submitted to a non-stratified sample of 500 consumers of large-scale retail trade and local markets distributed in Piedmont and Lombardy (North-West Italy). Previous research has demonstrated that also in this specific geographical context consumers generally identify "local food" as characterized by higher quality and consider short food supply chains as a mean to re-localize and rehumanize food systems, notably through alternative food networks. However, few research has been carried out in this context about the real meaning attributed by consumers to the notion of "local" [28–30]. The research presented in this contribution precisely aims to fill this gap about consumers understandings of what means for food to be local. Data collection took place from February to August 2019, alternating data collection days from Monday to Sunday and equally considering the time slots from 8.00 a.m. to 12.00 p.m. and from 4.00 p.m. to 8.00 p.m. The survey was conducted in accordance with the ethical standards laid out in the Declaration of Helsinki. The participation of all interviewed subjects was voluntary and informed given consent was provided by all respondents that were all over 18 years old. The questionnaire was structured in three sections (Table 1). The first is dedicated to the individual's socio-demographic characteristics. The second to individual's food and F&V purchasing and consumption habits and

lifestyles. The third on the consumers' knowledge, perception and opinions related to the concept of LP and, in particular, about the F&V LP.

Table 1. Structural framework of the questionnaire.

Questions	Possible Answers
Section 1: socio-demographic information	
1.a Gender	Male, female
1.b Age	Open answer
1.c Family size	1 member, 2 members, 3 members, 4 members, equal or more than 5 members
1.d Age of children (if any)	Open answer
1.e Educational level	Primary school, lower secondary school, upper secondary school, master's degree
1.f Employment	Housekeeper, unemployed, employed, self-Employed, retired, student
1.g Average annual income (€/year)	<25,000, 25,000–40,000, 40,000–60,000, >60,000
Section 2: lifestyle. food and F&V purchasing and composition habits	
2.a On average how much do you spend per month on goods and services (e.g., transport, clothes, food, housing, care and insurance . . .)? (€/month)	<500, 500–1000, 1000–1500, 1500–2500, >2500
2.b Of this amount, how much do you spend on food purchases (% share)?	Open answer
2.c Where do you buy the following products? (1 choice for each food product: *meat. fish. eggs/dairy products. cereals and derivate. legumes. fruit. vegetables. sweets. nuts. alcoholic beverages*).	Supermarket, open air markets, convenience store, online
2.d Regarding the purchase of fruit and vegetables, how important do you think the following features? *(Scoring for each attribute using the 5-point Likert scale from 1-very not important to 5-very important)*	Good for health/seasonal products/go well with various culinary preparations/natural/genius/easy to consume/are local products/are good in taste/are products linked to tradition/are sustainable products/are fresh products,
2.e What is the family's prevailing food style? (1 answer)	Traditional protein diet (pasta, bread, vegetables, fruit, cheese, eggs and meat or fish almost every day);
The respondents were able to associate the adjective 'weakly' with their choice of dietary style, which is associated with a lack of constancy in following the style itself.	traditional balanced (pasta, bread, vegetables, fruit, cheese, eggs, and meat or fish 2–3 times a week);
	lacto-vegetarian/ lacto-egg-vegetarian (pasta, bread, vegetables, fruit, cheese/+egg);
	vegan,
2.f How often do you eat out for lunch? (1 answer)	Always, 2–3 times per week, <=1 time per week, 1 time per month,
2.g How often do you eat out for dinner? (1 answer)	Always, 2–3 times per week, <=1 time per week,
	1 time per month,
Section 3: local production perception	
3.a. Indicate 3 words that define for your opinion the local production of F&V (3 choices between the 13 proposal words or concepts)	Short chain/regional product/traditional/typical product/freshness/value for money/seasonality/sustainable for the environment/high quality/link with the territory/organic/healthy/tasty/other_____.
3.b How much do you agree with the following statements regarding the local production? (*Scoring for each statement using the 5-points Likert scale from 1: strongly disagree to 5-strongly agree*)	• Is important for environmental sustainability; • Is important for territorial development; • Is useful for a healthy and balanced diet; • Is one of the main aspects I consider when making purchases; • Is good for the agricultural sector; • It could provide good products at a low price for everyone; • It provides products at a higher sale price (economic sustainability for producers); • Provides products of higher quality and superior taste; • The organic product is always a local product; • Guarantees more controlled/easily traceable and retraceable products.

The last section of the questionnaire was defined on the basis of an extensive bibliographic research that allowed to define key words and characterizing aspects associated to the concept of LP (questions 3.a and 3.b. Table 1) in accordance to the three already defined

food local production perspectives: economic, social, and food quality. In particular, the keywords selected for the construction of question 3.a the perspective they pertained to and the literature references are described in Figure 1 [9,11,12,20,22–24,26–30]. For this latter question, the respondents were asked to choose three keywords (from a group of 13) that in their perception best define the concept of LP.

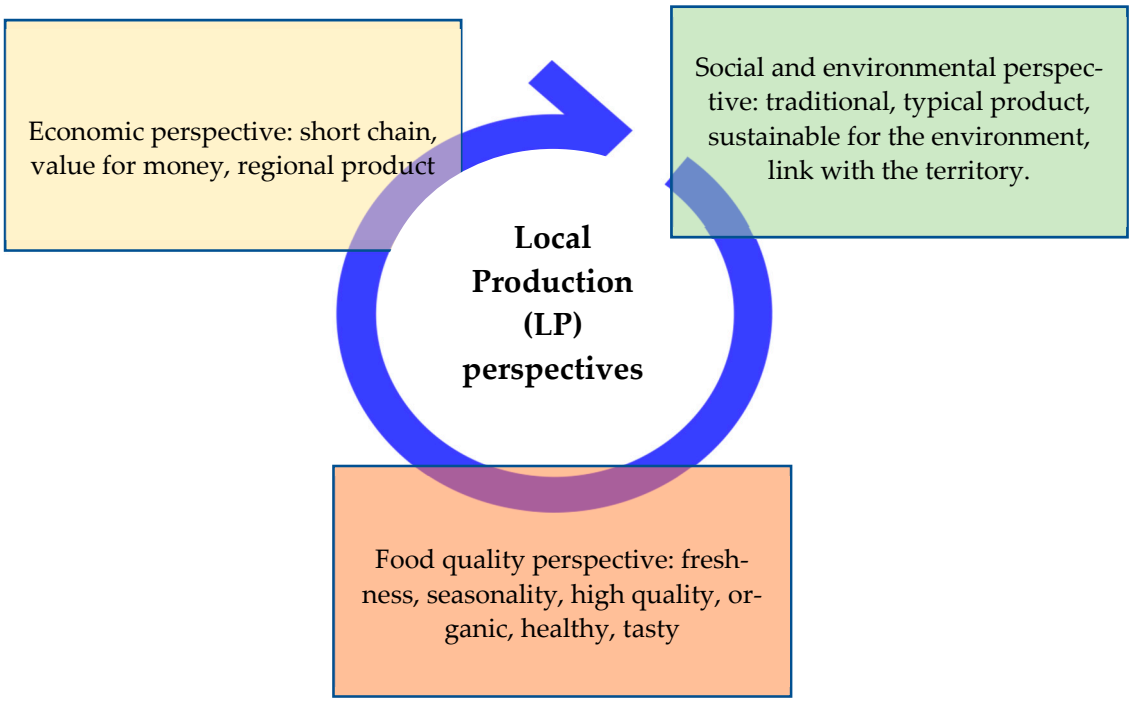

Figure 1. Keywords selected for the local production (LP) definition (construction of the question 3.a in the questionnaire) grouped in the relative perspective. For each word collection, the literature references are reported.

2.2. Data Analysis

The methodology adopted to provide evidences able to answer the research questions is composed of three main tasks.

Task 1—Building a Semantic Network for defining Local Production

In order to get to a definition of the concept of LP from the consumers perspective, the keywords chosen by the respondents (answers to the questions 3.a, Table 1) were elaborated and analyzed through a two-step procedure:

- A ranking of the keywords selected by the respondents and the analysis of their joint recurrences (in pairs and triples);
- A simple network analysis where the nodes were dimensioned on the basis of the ranking and the edges between words were measured as the number of joint recurrences.

Task 2—Building a typology of consumers

A partitioning clustering algorithm (k-means) was applied to information related to age, average income, education, the share of budget spendable on food spending, the place chosen for food purchase and the food style of the family (answers of questions 1.b, 1.e, 1.g, 2.b, 2.c, 2.e, Table 1) to define different consumer profiles [31].

K-means clustering is a recursive procedure aimed at clustering the observations around a pre-defined number of K different randomly-initiated points (centroids). The procedure assigns every observation to the nearest centroid and after the assignment is

completed the centroids are moved to the average of all of the points assigned to it. The algorithm repeats until when no observation changes the assigned centroid.

In order to qualify each defined group on the basis of their own specificities, was made an analysis of the frequencies of the joint distribution of consumers by groups and by the variables adopted to feed the clusters algorithm together to the food and eating styles variables (Section 2 of the questionnaire). Based on this joint distribution, the clustering procedure has therefore iterated many times until the best result was produced, intended as the highest variance among the groups and the lowest variance within the groups of the variables considered.

Task 3—Building a typology of Local production consumers

In order to provide evidences about the main aspects of the LP as perceived by the consumers, an analysis of the consumers' evaluations on the items of survey Section 3.b has been performed along two steps.

A factor analysis aimed at identifying latent dimensions able to affect the individual perceptions towards LP collected through the survey.

Factor analysis is in fact a statistical technique based on the analysis of the common variance among number of correlated variables that allows to investigate dimensions that cannot be measured directly but that are strongly correlated with the observed variables. In addition, EFA allows to substituting a large number of variables with a few underlying and unmeasurable factors thus simplifying the structure of data itself. The analysis of the correlation among the factors and the new variables allows one to qualify each of the factors as explanatory of population common traits.

The threshold of correlation adopted to identify the relation among the variables is 0.30 [32]. Suitability of data has been tested through the Barlett Test (p-value = 0.000) and the KMO test (0.696);

- A second K-means clustering is fed by the results of the FA (using the predicted values of the resulted factors as clustering variables) aimed at building a typology of local production consumers intended as a characterization of individuals on the basis of their opinions and attitudes towards LP of fruit and vegetables.

The typologies defined in Task 2 and 3 have then been jointly considered in order to qualify how relate different level of awareness and attitudes towards LP with some socio-economic characteristics of consumers and their eating styles.

Finally, a few details about the data used and the software adopted. As for data, the subset of variables used for the analysis in task 2 and 3 is composed of all 1–5 Likert scales that given the completeness and the results of the sampling and sphericity test were not further transformed. As for the statistical software adopted, UCINET has been used to analyze and visualize the network representing the semantic map (task 1), STATA 15 to run the k-means algorithm (task 2), and the factor analysis (task 3).

3. Results and Discussion

3.1. Socio-Demographic Profile of the Sample

The answers of 486 respondents (the 97% of the total interviewed sample) were considered valid for the purposes of the research. The socio-demographic characteristics of the considered sample are reported in Table 2. The interviews were for almost 70% women and are balanced between the age groups considered with a slight preponderance of the 46–55 class and a minority of young consumers. In terms of income, almost 50% of the respondents belong to the middle class (25–40 k€), about 30% declare a medium-high income (>40 k€) and the remaining 20% medium-low (<25 k€). The distribution of educational qualifications is similar but more balanced with about 50% of the respondents having upper secondary school certification and the remainder divided almost equally between the lower secondary school and master's degree. In terms of employment situation, about 70% of the respondents can count on a secure income (employee or retired).

Table 2. Socio-demographic characteristics of the sample (n = 486).

Characteristics	Categories	%
Gender	Men	30.65%
	Woman	69.35%
Age groups	18–35	7.06%
	36–45	15.32%
	46–55	33.67%
	56–65	25.00%
	>65	18.95%
Family size	1	14.11%
	2	41.73%
	3	27.22%
	4	14.52%
	5	2.42%
Age of children (if any)	1–5	5.25%
	6–13	17.78%
	14–18	28.86%
	>18	48.10%
Education	Primary school	5.24%
	Lower secondary school	18.75%
	Upper secondary school	54.23%
	Master's degree	21.77%
Occupation	Student	2.21%
	Employed	47.18%
	Self-employed	13.71%
	Retired	19.55%
	Homeworker	17.34%
Average annual income of the family (€/year)	<25,000	22.18%
	25,000–40,000	48.79%
	40,000–60,000	25.20%
	>60,000	3.83%

3.2. A Consumers' Definition of Local Production

Starting from the answers at the question 3.a, the perimeters of a definition of local production based on the recurrence and co-occurrence of the words chosen was drawn. In particular, the analysis of co-occurrences allows the identification of a multi-perspective definition of the LP concept based on consumer perceptions (Figure 2).

Considering the individual recurrence of terms (in brackets in Figure 2), emerged the relevance of the concept of short supply chain which, despite the vagueness of its territorial references, shows that it is largely the one most evoked by the idea of LP. In general, it seems that the concepts that in some way refer to the "values" of proximity (in terms of time, seasonality, and space, territory and region) and quality (in terms of food genuineness) have gathered more preferences, while those linked to "more concrete" aspects (convenience, organoleptic quality, etc.) were less considered as qualifying LP. The association between "local" and "geographic proximity" was also found in Jensen et al. [33], which also highlighted the consideration of values such as transparency and freshness (linked to product seasonality) attributable to a local production system, often attributable to aspects characterizing small businesses, enthusiastic producers and short food supply chains. In our case, also the relationship between local production and organic certification seems to be less strong than what emerges also in other researches in the literature [34,35]. However, local origin associated with seasonality, territoriality and localization emerge among the main factors of motivation and trust, although not always related to organic food products, even in other works that have highlighted these implications especially for the process of choosing no animal-based products [26,33].

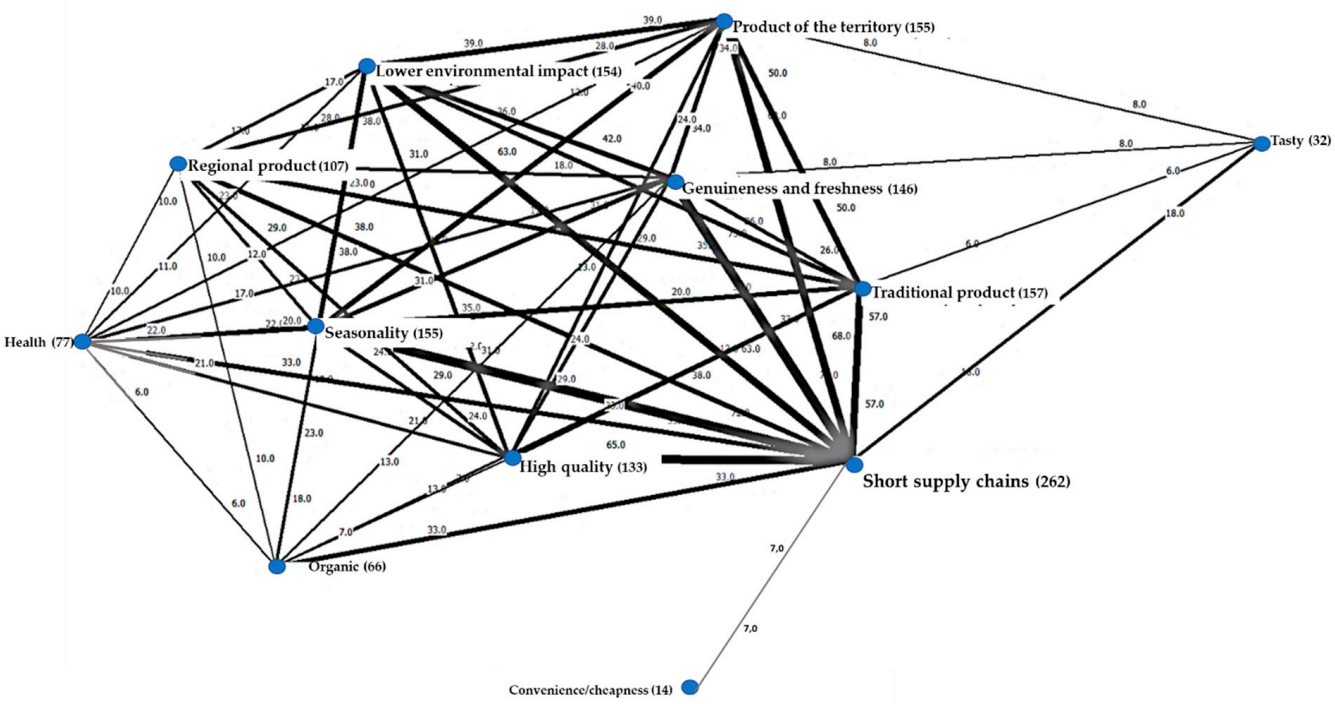

Figure 2. Local Production: a semantic network. Numbers next to the nodes refer to the frequency of recurrence of the key word represented by the node; numbers over the links refer to the joint recurrence of the nodes they link (only links with values higher than the first quartile of the distribution of co-occurrences—six—are displayed).

Looking at the network of relationships between concepts, the importance of the short supply chain is clearly confirmed and it has a central position in the definition of the idea consumers regarding F&V LP, being rather closely linked to qualitative drivers of food choice such as high quality, seasonality and genuineness and freshness. Not surprisingly, the relevance of the short supply chain concept is that this model allows producers and consumers to interact without intermediation and thus relieve the prices of goods of their costs [36]. Thus, on the one hand, producers can sell at a fair price commensurate with production costs and, on the other hand, consumers have the opportunity to buy genuine, fresh, healthy and environmentally friendly products at reasonable prices [37]. This is consistent with findings in the literature in which consumers sensitive to local production are aware of the added value of these products, often recognizable by relatively higher prices, but that they, in parallel, do not perceive local products as expensive [33,38].

3.3. A Typology of Food Consumers

Four groups of respondents were identified on the basis of the variables of age, income, education and share of household budget allocated to food purchases (Table 3).

Consumers defined as "the mature" were relatively older and not highly educated individuals who, with a non-fluent but secure income situation, devoted an average share of their income to food expenditure and made food choices to maintain good health with a balanced diet based on (higher quality) market products. In accordance with the phenomenon of the growing aging of the population, parallel to an increase in life expectancy, there are several studies in the literature that have studied the dietary needs and preferences of "older" consumers [39–41]. As found in our study, literature researches shows a marked attention of mature consumers profiles to quality food, always paying attention to product price [39], and to healthy food, often correlating it to aspects of products deriving from local production chains as "natural content", "familiarity", and "ethical concern" [41–43].

Table 3. Consumers groups based on their socio-demographic characteristics, food purchasing and consumption styles.

Consumer Clusters	Age (Average)	Education Degree	Average Income of the Family (€/year)	% Share for Food Purchase	Food Place of Purchase [1]	Predominat Food Style
The mature	>55	Low (up to lower secondary school)	Medium-low (<25,000 and 25,000–40,000)	Medium (20–22.5%)	Open-air market	Traditional balanced
The survival	45–55	Medium (upper secondary school)	Medium (25,000–40,000)	Low (<20%)	Only large retail chains	Weakly protein diet
For necessity	Mixed group	Medium-low	Low (<25,000)	High (>30%)	Open-air market and convenience stores	Traditional protein diet
The careful	<45	High (master's degree)	High (>40,000)	Medium-Low (20–25%)	convenience stores	Traditional protein diet and weakly vegetarian

[1] In addition to the large retail chains place of purchase.

"The survival" consumers showed no particular interest in food consumption. They allocated a low percentage of their budget to food shopping, choosing as their main place of purchase the distribution channel for conventional food offered by large-scale retailers. However, in addition to the high assortment variety available to the consumer in one place, at a convenient price and with a high level of service, in the large-scale retail trade there is a growing attention towards an offer of products in line with the most modern, ethical or sustainable choice orientations [44]. On the other hand, consumers "for necessity" appeared to be individuals with a delicate income situation who therefore have to allocate a high share of their low income to food consumption exercised equally among all sales solutions, perhaps in search of the most convenient solutions. In Webber et al. [45] and Haynes-Maslow et al. [46] also the relation between the choice of the place of purchase of F&V and the consumer income and resource was assessed. In particular, in line with our findings, Haynes-Maslow et al. highlight as farmers' (open-air) markets are perceived positively by low-income consumers and as convenient locations to buy F&V products. Finally, the last group of attentive consumers ("the careful") was made up of young, well-off and educated people who, while allocating a medium-low percentage of their income to food purchases, turn to local shops in addition to large-scale distribution and show a fairly well-defined consumption style with a diet that also looks to quality foods (protein and vegetarian diet), highlighting a probable association between local and healthy/healthy food shopping. This group of consumers is of particular relevance in the perspective of this research as, as a protagonist of the "quality turn" [10], it can play an important role in the definition and development of the PL model.

Table 4 shows the results of a simple calculation of the ratios between the opinions expressed by consumers belonging to the different groups and the opinions of the whole sample on the importance of 10 aspects characterizing the local production (answers to the question 3.b).

If, in general, factors such as environmental sustainability, territorial development, benefits for the agricultural and local sector and quality seem to find the same level of consensus among the different groups of consumers (values close to unity). In addition, some interesting differences can be detected considering the single groups. The joint consideration of the distributions 'per line' in Table 2 and the profiles in Table 1, in fact,

allows to hypothesize, in addition to different orientations, some differences between the groups in terms of awareness. Regarding the orientations, or relative preferences, the most pronounced differences distinguish the group of mature people, who especially focus their attention on food quality and wholesomeness during food choices, and the group of attentive people who considered the economic-social (prices) and production chain (organic and traceability) dimensions as main drivers in their decision-making process. Often factors of awareness, and therefore of experience, are attributable to more mature individuals who, as confirmed by the previous results, orient their choices on quality products with a more anthropocentric vision of the product purchase process, aimed at obtaining health benefits for individuals [47,48]. In parallel, the direct link between price perception and evaluation and the higher food quality and security is widely explored and confirmed in several literature research on consumer study [49–51].

Table 4. Consumers opinion (ratios between the opinions expressed by consumers belonging to the different groups and the opinions of the whole sample) belonging to the answer to the question: "How much do you agree with the following statements regarding the local production?" expressed by the 4 consumer clusters towards the proposed statements on the concept of local production. Values >/=/< 1 are higher/equal/lower than the sample mean.

Statements about the Local Production	Consumer Clusters (Based on Socio-Demographic Characteristics, Food Purchasing and Consumption Styles)			
	The Mature	The Survival	For Necessity	The Careful
Important for environmental sustainability	0.97	1.00	1.06	0.99
Important for land development	0.99	1.00	1.03	0.99
Useful for a healthy, balanced diet	1.04	1.01	0.96	0.98
One of the main purchase drivers	1.04	0.99	0.95	1.00
Good for the agricultural sector	0.99	1.03	1.00	1.00
Could provide good products at low prices for all	0.99	0.97	0.98	1.04
Products with higher selling price but adequate for farmers' economic sustainability	0.95	1.00	1.03	1.03
Higher quality and better tasting products	1.01	0.97	1.01	1.01
Organic product is always a local product	0.96	1.03	0.96	1.04
Guarantees more controlled and traceable products	0.96	0.96	1.05	1.03

Regarding awareness, it is worth highlighting the difference between "the careful" and "for necessity". The aforementioned priorities in the opinion of the attentive ones seem to highlight a high level of awareness of the potential of the local supply chain that goes beyond their immediate interest. For example, although they are consumers, they are concerned about profitability for producers, and although they are affluent, they are concerned about accessibility to consumption. On the other hand, the evaluations offered by consumers "for necessity" (all positive, but clearly do not influence the scale as a driver of purchase) suggest that they are driven more by "rhetoric" or superficial narrative (hearsay) than by real expressions of awareness. And this different degree of awareness of consumer groups must be considered if one wants to support the development of a model of local supply chain based as much on a shared narrative as on strategies that can be actively received by consumers. A comparative study to support our results could be Grunert et al. [52] that by doing a cross-country analysis, explored how the motivation, knowledge and understanding of the meaning of some concepts related to the sustainability of production, including local ones, change between subjects. Among the main results of this work, it has emerged that in general there is a low level of awareness influenced, among other things, by the country and the demographic characteristics of individuals. These results, together with ours, confirm the need for greater clarity and awareness of these concepts (perception of sustainability, safety, health benefits, etc.) as aspects rooted in individuals, as they are still very heterogeneous drivers of food choice.

3.4. Addressing the Main Local Production Aspects: A Typology of Local Production Consumers

As explained in the Methodology Section, after having tested the suitability of the data reported in Table 4, a factor analysis has been carried out to identify latent variables able to assess the extent to which the different aspects at stake can be jointly considered as resulting from a wider individual attitude. Table 5 reports the results of the FA. Although the model identified five statistically significant factors (eigenvalue > 0), only three are considered for the analysis on the basis of their contributions to the overall variance and their correlations with at least two of the investigated aspects (correlation > 0.3).

Table 5. Results of exploratory factor analysis: correlation between factors generated and aspects considered *.

	Factors		
Local Aspects	**F1—Quality and Health**	**F2—Sustainability**	**F3—Accessibility**
Environment	0.17	0.41	0.04
Local development	0.10	0.32	0.09
Healthy eating	0.50	0.10	0.05
Purchasing Drivers	0.52	0.04	0.10
Agricultural development	0.16	0.09	0.37
Affordable price	0.21	0.13	0.38
Profitable price	0.15	−0.02	−0.01
Quality	0.37	0.13	0.13
Organic	0.45	0.14	0.13
Traceability	0.08	0.39	0.20

(*) The table shows the results after the Varimax rotation. Varimax has been adopted since maximising loading variance for each factors simplifies their interpretation.

The first factor (factor F1—Quality and Health), the most decisive one in that it alone explains the entirety of the variance, is defined by a fairly significant correlation with the variables healthy eating, purchasing drivers, organic, and quality. This result shows how the first factor can be traced back to a style of choice in which the quality of food is evaluated from the point of view of a healthy choice, in which the association food-health (food as body care) is predominant, thus defining a perspective of food quality oriented to increase the health of the body. This result is in accordance with the choice model based on egoistic motivations, which overpower altruistic choices drivers, that shape the purchasing-decision making profiles of consumer studied by Birch et al. [53].

Concerning the second factor (F2—for a sustainable model), instead, a significant and positive correlation emerges with the variables environment, local development and traceability. In this case, it is possible to define a model of choice writable to an individual convinced of the link between local production and the benefits (environmental and social) on the territory of origin. This factor seems to define a model of choice of "mindful" consumers for whom the benefits on society and the environment (altruistic motivations) resulting from the choice of a local product prevail, compared to the intrinsic quality, also to do a "wider good" [53].

The third factor (F3—For an accessible supply chain) is defined by the variables Agricultural development and accessible price. This last factor could be associated with a personal concern on the part of consumers about the accessibility of local produce, either since it is not readily available on the market or due to unaffordable prices. The low availability of the product on the market can be associated both with a lack of accessibility to the market for small local producers and with a low visibility of the product on the market. This result, therefore, highlights a deficiency concerning the competitiveness of producers on the market, but also a lack of efficiency of marketing and communication strategies [54,55].

The aspect of profitability for businesses remains isolated. But considering the interaction between the aspects most linked to a sustainable and inclusive perspective, it is not

surprising that the concern for "mere" profit is not easily matched by other aspects. At first glance, it seems to us that a partial confirmation from the data of the perspectives identified in Introduction can be detected. On the contrary, these perspectives can benefit from this analysis to identify a few more elements of clarification with respect to their detailed definition. In particular, we believe the following correspondences can be proposed:

- F1—Quality and health <-> food quality perspective;
- F2—For a sustainable model <-> social and environmental sustainability perspective;
- F3—For an accessible supply chain <-> local economic perspective.

While the correspondence between F1 and the food quality perspective seems evident, the relationship between F2 and F3 and the other two perspectives is more blurred, suggesting that the aspects of sustainable, local, and economic development must be considered together.

From the cluster analysis applied to factors F1, F2 and F3, four groups of consumers were identified on the basis of their attitude and perception towards the local production, determining a typology of Local Production Consumer (Table 6). The *enthusiastic* are sensitive to all of the different LP's aspects with particular attention paid to environment and quality of the product while a residual weight is attributed to the price. The *sustainable* are mostly concerned about the environment and the local development while, maybe being relatively younger, health is far the last in their priorities. The *pragmatics* are mostly interested in the quality of the product but compared to the other groups of LFDs are quite sensitive to the price. Finally, the *moderates* do not express any specific interest for any of the aspects with a relatively higher attention paid to the environment.

Table 6. A typology of food production consumer: average evaluations of relevance of aspects characterizing local production.

	Consumer Clusters (Based on Local Production Perception) *				
	Enthusiastic	**Sostainable**	**Pragmatic**	**Moderate**	**Total**
N	119	118	145	104	486
%	24.5	24.3	29.8	21.4	100
Mean of preferences	4.2	3.71	3.69	3.05	3.68
Environment	4.63	4.33	3.74	3.68	4.09
Local development	4.27	4.41	3.79	3.61	4.02
Healthy eating	3.83	2.63	3.42	2.16	3.06
Purchasing Drivers	4.04	2.98	3.88	2.41	3.39
Agricultural development	4.17	3.99	3.75	3.36	3.83
Affordable price	4.26	3.91	3.57	3.08	3.71
Profitable price	3.76	3.29	3.76	3.39	3.57
Quality	4.44	3.77	3.94	3.17	3.86
Organic	4.06	3.05	3.46	2.42	3.28
Traceability	4.41	4.41	3.55	3.7	4

(*) Ordered by the average value of the preferences.

By looking at the joint distribution of the two typologies (Table 7) a few points about the relationship among the individual profiles of consumers (based on socio-economic characteristics and eating styles) and their attitudes towards LP deserve to be highlighted. LP seems to be a matter of experienced people, as the share of *enthusiastic* in the mature group is far higher than the average. The raise of sustainability as an issue of common interest is then confirmed by the equal distribution of the *sustainable* among the consumers' groups. LP, finally, seems to be still an option related to some economic aspects as the *moderates* are mostly present in the group of consumers for necessity while the *pragmatics* are the highest share of consumers in all of the other groups.

Table 7. A comparison between consumer typologies: the experience of eating local among food consumers.

Consumer Clusters (Based on Socio-Demographic Characteristics, Food Purchasing and Consumption Styles)	Consumer Clusters (Based on Local Production Perception)				
	Enthusiastic	**Sustainable**	**Pragmatic**	**Moderate**	**Total**
The mature	30.1	24.4	30.9	14.6	123
The survival	22.0	24.8	34.9	18.3	109
For necessity	24.2	23.1	18.7	34.1	91
The careful	22.1	24.5	31.9	21.5	163
Total	24.5	24.3	29.8	21.4	486

Reversing the perspective, consumers belonging to "The mature" group are as enthusiastic as they are pragmatic (i.e., they show a propensity towards local production and in particular towards concrete aspects linked to food quality and opportunities to support their territory (thus combining altruistic and egotistical motivations when making their choice)). While several authors [53,56] have found altruistic motivations, environmental and social sustainability, ethicality, and support for farmers to be the most important considerations when purchasing local productions, for the mature, concerns about health as well as the hedonistic aspect is in line with the demographic profiling of these individuals [57,58]. In addition, well-being involvement and focus on eating healthy foods has been found to be closely related to fruit and vegetable consumption [59,60].

Not unexpectedly, survival food consumers confirm to be distinctly pragmatic also in their attitude towards local production, which they recognize as a useful tool for quality assurance. This result is in line with Knight (2013) who found that intrinsic product qualities (taste, high quality, etc.) were the most important benefits during local product choice [61]. A certain pragmatism is also found among young people (the careful) confirming the egoistic (or anthropocentric) motivations that affect the food choice models among the new generation regarding food product linked to issues such as animal welfare, ethics, etc. [47]. Predictable is the moderate enthusiasm for the experience of the short supply chain on the part of those who must, by necessity, concentrate their consumption on the satisfaction of food needs and cannot pay excessive attention to the evaluation of aspects other than purely economic ones.

4. Conclusions

This paper shades a light on the specific topic of the consumers' knowledge and perception of LP and their related attitudes and choices when it comes to buy and eat 'locally'. Starting from a literature review aimed at identifying a few open issues related to the definition of Local Production, through the analysis of the results of a survey submitted to a sample of consumers in the metropolitan areas of Turin and Milan (North West Italy) we tried to find answers to the research questions detailed in the introduction.

First of all, as for the definition of LP and its relation with the economic, social-environmental, and quality dimensions, and on the basis of the keywords chosen by the surveyed consumers to describe LP and its main aspects, an analysis of the recurrences shows that the concept mostly associated is the short supply chain, highlighting how consumers perceive local by firstly referring to a reduction in the spatial (but also temporal) distance between the food production and consumption phases. Territoriality, however, is also interpreted as an index of higher product quality (seasonal, therefore fresh and genuine).

Secondly, we were able to define two meaningful typologies of consumers. The first is based on the joint consideration of their socio-demographic characteristics and their eating styles, which allowed us to qualify them in terms of general attitudes towards food consumption and four types of consumer resulted from the clustering procedure: the mature, the survival, for necessity, and the careful, The second typology, based on their preferences and opinions about LP, allowed us to qualify them in terms of general attitudes towards the consumption of fruits and vegetables locally produced and four types

of consumers resulted from the analysis: the enthusiastic, the sustainable, the pragmatic, and the moderate.

The joint consideration of the two typologies allowed us to qualify the attitudes and choices related to LP. The potential impact on the environment and on the local development seem to be perceived by the consumers as the most relevant features of LP far more important of more ordinary and concrete aspects such as the quality and the price. This prioritization helps to explain the distribution of the LP enthusiastic that concentrates in the group of mature consumers while the consumers moderately interested in LP belong to the group of consumers for necessity. Based on these provisional evidences, LP, at least for how it is perceived by the consumers, has been confirmed to be still a 'niche' choice not yet able to fully compete with alternative, traditional options to satisfy food needs of the general public.

The limitations of the research certainly include the period of data collection, which can be classified as pre-pandemic. The restrictions imposed on both economic activity and human mobility human mobility due to the worldwide spread of the COVID-19 virus have also affected food choice and purchasing habits, as well as the perception, awareness, and attitude towards local production [62]. The last few years have been characterized by an increase in long shelf-life purchases, a reduction in out-of-home food consumption, and an upswing in delivery purchases, directly from the producer or in convenience stores of local products. Thus, at the same time as changing habits about where and how often to buy products, COVID-19 has raised awareness about the quality, safety and sustainability of local supply chains that have played a role in mitigating the effects of negative impact in the food supply chain by promoting community resilience [63]. In this regard, it would be interesting to develop comparative research between the results reported in this paper and similar data collected during and/or after the pandemic.

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