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Segmentation of local food consumers based on altruistic motives and perceived purchasing barriers: a Croatian study

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ABSTRACT

This is the first empirical study which has segmented consumers based on their altruistic motives and perceived barriers in purchasing local food in a developing country, which has received little prior research attention and as such, provides a valuable contribution to the local food research stream. An empirical study was conducted via an online questionnaire on a sample of 402 Croatian local food consumers. In such a way we identified two consumer segments: (1) *embedded local food consumers* and (2) *disinclined local food consumers*. *Embedded local food consumers* report a significantly higher mean score concerning altruistic motives and a significantly lower mean score for perceived barriers in purchasing local food compared to the other segment. Also, they buy and consume local food more often and put more emphasis on personal motives, such as freshness, quality, and taste. *Embedded local food consumers* are more satisfied with the current local food supply and are willing to pay higher prices for local food as compared to *disinclined local food consumers*. This empirical study fills the evident research gap in local food literature regarding altruistic motives and barriers in purchasing locally produced food.

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1. Introduction

The local food movement began in the last decade because consumers started to pay more attention to their health, diet, environment, and support of local community (Feldmann & Hamm, 2015; Meyerding et al., 2019; Reich et al., 2018; Stanton et al., 2012; Wenzig & Gruchmann, 2018). The academic community has also identified and followed the local food movement in its research among local food producers (Selfa & Qazi, 2005; Zollet, 2019), retailers (Gruchmann et al., 2019; Printezis & Grebitus, 2018; Trivette, 2019), consumers (Aprile et al., 2016; Megicks et al., 2012; Memery

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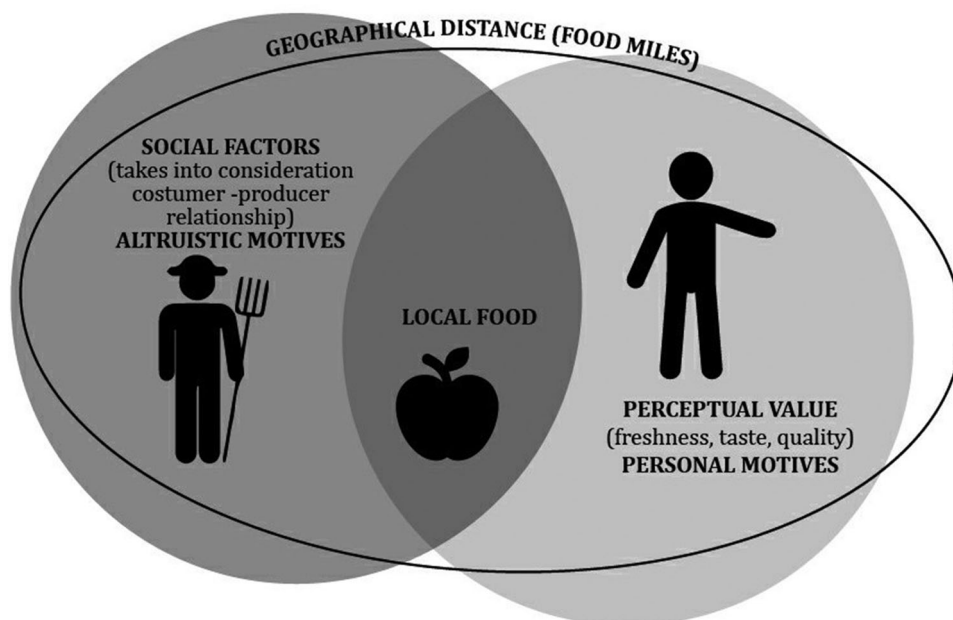


Figure 1. Different approaches in local food definition. Source: Authors' own compilation.

et al., 2015; Meyerding et al., 2019; Wenzig & Gruchmann, 2018; Zepeda & Deal, 2009) and governments (Bianchi & Mortimer, 2015).

However, although the local food movement is quickly expanding, there is no uniform definition of and understanding of precisely what local food is (Jones et al., 2004). This is an ongoing issue and debate between local food producers on one side and local food consumers on the other, but as well as for the academic community. The nonuniformity of the definition makes it difficult to compare local food knowledge and research results in different countries. Based on an extensive theoretical literature review, we have identified three (3) different author approaches in defining local food (Figure 1): 1) *the geographical distance approach*; 2) *the social approach* and 3) *the perceptual approach*. The geographical distance approach represents the distance food has travelled from the place of production to the site of consumption (usually defined in terms of proximity or food miles) (Chambers et al., 2007; Khan & Prior, 2010; Memery et al., 2015; Morris & Buller, 2003; Roininen et al., 2006).

A UK study by Memery et al. (2015) showed that the vast majority of researchers focus on the geographical distance approach, in terms of miles or kilometers that food has travelled from the place of production to point of sale. For example, the geographical distance can range from 10 to 170 kilometers (Chambers et al., 2007; Khan & Prior, 2010; Memery et al., 2015; Roininen et al., 2006). In the United States, local food is any food product that is distributed within 100 miles (about 160 km) from its origin (Smith & MacKinnon, 2007), while in some European countries (e.g. Italy), local food is considered as food bought and consumed within 100 km from the place of production (Kneafsey et al., 2013). The social approach takes into consideration the close relationship between the producer and consumer (Bianchi, 2017; Jensen et al., 2019; Meyerding et al., 2019; Skallerud & Wien, 2019; Witzling & Shaw,

2019), while the perceptual approach takes into consideration the consumer perception of local food (freshness, taste, quality) (Greibitus et al., 2013; Jensen et al., 2019; Meyerding et al., 2019; Penney & Prior, 2014).

Numerous scientific studies have been published explaining the different research areas highlighting the relevance of this research field (Feldmann & Hamm, 2015; Rainbolt et al., 2012; Zepeda & Nie, 2012), such as 1) *local food concepts* (Chambers et al., 2007; Coley et al., 2009; Feldmann & Hamm, 2015; La Trobe & Acott, 2000), 2) *local food definitions* (Adams & Adams, 2011; Zepeda & Leviten-Reid, 2004), 3) *consumer motivations* (Arsil et al., 2014; 2018; Pearson et al., 2011), 4) *local food purchasing behavior* (Bianchi, 2017; Megicks et al., 2012; Cholette et al., 2013), 5) *purchasing preferences between organic and local food* (Cholette et al., 2013; Denver & Jensen, 2014; Pugliese et al., 2013; Zepeda & Deal, 2009), 6) *local food labelling* (Onozaka & Mcfadden, 2011; Meyerding et al., 2019), 7) *local food consumption behaviour* (Annunziata et al., 2019), 8) *consumers' willingness-to-pay for local food* (Adams & Salois, 2010; Gracia et al., 2012), 9) *local food purchasing barriers* (Birch & Memery, 2014; Chambers et al., 2007; Khan & Prior, 2010; Megicks et al., 2012).

On the consumer-side of local food research, some studies identified consumer segments with regard to local food purchase and consumption (e.g. Aprile et al., 2016; Bean & Sharp, 2011; Khan & Prior, 2010; Zepeda & Nie, 2012), but limited research addressed consumer segments based on their motives in purchasing local food (Selfa & Qazi, 2005; Thilmany et al., 2008; Witzling & Shaw, 2019). Accordingly, no previous research has been conducted to segment consumers based on their altruistic motives and perceived barriers in purchasing local food. Furthermore, studies that have explored consumer motives in purchasing local food have been mostly conducted in the USA (Selfa & Qazi, 2005; Witzling & Shaw, 2019) or developed European countries (e.g. United Kingdom (La Trobe & Acott, 2000; Weatherell et al., 2003; Jones et al., 2004; Chambers et al., 2007; Khan & Prior, 2010; Penney & Prior, 2014), Italy (Aprile et al., 2016; Naspetti & Bodini, 2008), France (Sirieix et al., 2008), Denmark (Jensen et al., 2019), Finland (Roininen et al., 2006), Germany (Henseleit et al., 2007). The fact that local food is a global world movement can be seen through the studies gaining momentum in other countries, as well, such as in China (Sirieix et al., 2011), Chile (Bianchi, 2017), Indonesia (Arsil et al., 2014; Arsil et al., 2018), Lebanon (Pugliese et al., 2013). However, according to Campbell (2013), there is still a lack of and need to investigate the motives and behavior towards local food in countries with different cultural and economic backgrounds, as well as in less developed countries (Bianchi, 2017).

Taking this into consideration, the data presented in the study was collected in Croatia, a developing Central-Eastern European country. Croatia is a small developing Mediterranean country with high-level gastronomic culture. As previous studies have shown, Croatian consumers prefer domestic food (Zarić et al., 2018) and are willing to pay a premium for it (Tomić & Alfnes, 2018). As is the case in many EU countries, for example, in Germany (Meyerding et al., 2019), Croatia has no standards and legal local food regulations.

Furthermore, the local food movement in Croatia has influenced the opening of new smaller green specialized grocery stores, where some consumers prefer to buy

locally produced fresh and processed food. Following local food consumption trends, there are many initiatives to promote domestic food consumption in Croatia, which indicates not only the relevance but also the importance of further research on this topic (e.g. *School Milk Scheme* where local dairies deliver school milk). In 2018 the first short food supply chain 'Najbolje 'z Međimurja' was established, which brought together 20 Croatian local food producers. Altogether, there were 167.676 family farms registered in 2018 in Croatia. For these family farms, a short supply chain can be a potentially new distribution channel, as local production contributes to the development of the economy, as well as the country's identity.

In light of above considerations, *the main goals of this study were: (1) to examine consumer behaviour in the purchasing and consumption of local food, (2) to segment local food consumers based on altruistic motives and perceived barriers in purchasing local food and (3) to explore the differences among the obtained segments based on their socio-demographic characteristics and their purchasing and consumption behaviour.*

The remainder of this paper is organised as follows. It starts with a theoretical background section and research question explaining the motivation for the paper. In Section 2, the literature on personal and altruistic motives and barriers in purchasing local food is reviewed. Based on the literature review, we found a gap in the literature and conducted empirical research. In the next paragraph, we present our research methodology, together with data analysis, and a discussion of the obtained research results. Then we conclude with an emphasis on the main theoretical and managerial contributions, as well as the limitations of the conducted primary research and provide ideas for future possible research streams in the domain of local food purchasing and consumption behaviour.

2. Literature review

Previous studies have shown different food-related decision-making styles (Anić et al., 2015), as well as the different reasons that motivate consumers in purchasing local food. According to Weatherell et al. (2003) motives can be broadly divided into *Ad 1.) Motives associated with self-interest* (personal motives) and *Ad 2.) Motives related to altruism* (altruistic or societal motives). In order to maximize their own wealth rational humans do whatever they think is necessary in the view of neoclassical economics (Rushton, 1984). On the other hand, people are labeled as altruistic when they make sacrifices to benefit others without expecting personal benefit. Altruism is affection and behaviour, where the goal of the individual is to help another individual who does not expect any kind of reward or help from others (Simon, 1993). Altruism is usually described as 'selfless' because the interests of other individuals are placed above personal interests. Altruistic practices are conscious and are intended to help someone and require some aspects of sacrifice or renunciation (Mansbridge, 1990). Therefore, by this definition, altruistic behaviour would be one particular type of prosocial behaviour. Altruism is the opposite of selfishness (egoism).

Table 1. Current research on the exploration of personal motives in purchasing local food.

Personal motives in purchasing local food	References in Literature
Greater trust	Jensen et al. (2019), Arsil et al. (2018), Ngarje et al. (2011), Naspetti and Bodini (2008).
Familiarity	Meyerding et al. (2019), Penney and Prior (2014), Naspetti and Bodini (2008), Selfa and Qazi (2005), Zepeda and Leviten-Reid (2004).
Better quality	Meyerding et al. (2019), Witzling and Shaw (2019), Arsil et al. (2018), Aprile et al. (2016), Memery et al. (2015), Penney and Prior (2014), Denver and Jensen (2014), Arsil et al. (2014), Grebitus et al. (2013), Megicks et al. (2012) Conner et al. (2010) Zepeda and Deal (2009), Naspetti and Bodini (2008).
Better taste	Meyerding et al. (2019), Skallerud and Wien (2019), Jensen et al. (2019), Arsil et al. (2018), Aprile et al. (2016), Penney and Prior (2014), Denver and Jensen (2014), Arsil et al. (2014), Pugliese et al. (2013), Zepeda and Nie (2012), Pearson et al. (2011), Zepeda and Deal (2009), Naspetti and Bodini (2008), Selfa and Qazi (2005), Zepeda and Leviten-Reid (2004), Weatherell et al. (2003).
Freshness	Meyerding et al. (2019), Jensen et al. (2019), Penney and Prior (2014), Grebitus et al. (2013), Zepeda and Nie (2012), Bingen et al. (2011), Naspetti and Bodini (2008), Selfa and Qazi (2005), Zepeda and Leviten-Reid (2004), Weatherell et al. (2003).
Pleasant feeling	Skallerud and Wien (2019), Arsil et al. (2018), Bingen et al. (2011), Naspetti and Bodini (2008), Zepeda and Leviten-Reid (2004).
Food origin	Meyerding et al. (2019), Memery et al. (2015), Penney and Prior (2014), Pugliese et al. (2013), Naspetti and Bodini (2008), Weatherell et al. (2003).
Production method	Meyerding et al. (2019), Naspetti and Bodini (2008).
Price	Meyerding et al. (2019), Witzling and Shaw (2019), Jensen et al. (2019), Arsil et al. (2018), Donaher and Lynes (2017), Penney and Prior (2014), Arsil et al. (2014), Conner et al. (2010), Khan and Prior (2010), Naspetti and Bodini (2008), Chambers et al. (2007), Selfa and Qazi (2005).
Transparency	Meyerding et al. (2019), Naspetti and Bodini (2008).
Healthier food	Meyerding et al. (2019), Arsil et al. (2018), Penney and Prior (2014), Denver and Jensen (2014), Pugliese et al. (2013), Pearson et al. (2011), Naspetti and Bodini (2008), Weatherell et al. (2003).
Safety	Meyerding et al. (2019), Witzling and Shaw (2019), Aprile et al. (2016), Grebitus et al. (2013), Zepeda and Nie (2012), Naspetti and Bodini (2008).
Place of production (locally)	Aprile et al. (2016), Denver and Jensen (2014), Naspetti and Bodini (2008), Selfa and Qazi (2005), Weatherell et al. (2003).

Source: Authors' own compilation.

Personal motives are motivated by self-interest (e.g. the intrinsic quality of local food, price, and healthiness) (Memery et al., 2015; Weatherell et al., 2003).

Based on the detailed literature review depicted in Table 1, we conclude that *better quality and taste* are the most frequently mentioned personal motives among consumers, followed by the *price of the local food, freshness, healthier aspects of local food and greater trust in local food*.

Consumers are purchasing and consuming local food not only because of their personal pleasure and the value provided but also for altruistic reasons as well according to Gracia et al. (2012). Indeed, in previous studies (Aprile et al., 2016; Chambers et al., 2007; Morris & Buller, 2003; Onozaka et al., 2010), altruistic motives were found to be significant factors in explaining local food purchasing behavior. *Altruistic motives or doing 'wider good'* relate to the perception that consumers buy local food because they consider it to be more environmentally friendly (e.g. fewer food miles), and more socially responsible, as it directly supports local farmers, local retailers, local community and the local economy in general.

Based on the detailed literature review shown in Table 2, we also identified that altruistic motives are related to the *support of local farmers, support of local economies*

Table 2. Current research on the exploration of altruistic motives in purchasing local food.

Altruistic motives in purchasing local food	References in Literature
Sustainability	Meyerding et al. (2019), Naspetti and Bodini (2008)
Short transport distances	Meyerding et al. (2019), Aprile et al. (2016), Pearson et al. (2011), Naspetti and Bodini (2008).
Support of local farmers	Meyerding et al. (2019), Skallerud and Wien (2019), Witzling and Shaw (2019), Jensen et al. (2019), Bianchi (2017), Aprile et al. (2016), Bianchi and Mortimer (2015), Memery et al. (2015), Penney and Prior (2014), Arsil et al. (2014), Megicks et al. (2012), Bingen et al. (2011), Conner et al. (2010), Zepeda and Deal (2009), Naspetti and Bodini (2008), Chambers et al. (2007), Selfa and Qazi (2005), Zepeda and Leviten-Reid (2004).
Support of local community	Arsil et al. (2018), Donaher and Lynes (2017), Memery et al. (2015), Campbell et al. (2013), Megicks et al. (2012), Bingen et al. (2011), Pearson et al. (2011), Zepeda and Deal (2009), Naspetti and Bodini (2008), Zepeda and Leviten-Reid (2004).
More environmentally friendly	Meyerding et al. (2019), Witzling and Shaw (2019), Wenzig and Gruchmann (2018), Bianchi (2017), Aprile et al. (2016), Penney and Prior (2014), Denver and Jensen (2014), Campbell et al. (2013), Pugliese et al. (2013), Bingen et al. (2011), Naspetti and Bodini (2008), Selfa and Qazi (2005), Weatherell et al. (2003).
Societal concern	Skallerud and Wien (2019), Bianchi (2017), Memery et al. (2015), Campbell et al. (2013), Bingen et al. (2011), Naspetti and Bodini (2008), Megicks et al. (2012).
Animal welfare	Jensen et al. (2019), Penney and Prior (2014), Zepeda and Deal (2009).

Source: Authors' own compilation.

and communities, so as to the environmental concerns (e.g. less food miles are necessary to transport the food to the market, societal concerns, concerns for animal welfare as well as sustainability issues. According to Bianchi and Mortimer (2015), altruistic motives, such as supporting local family farms or environmental concerns, may be an even stronger indicator for purchasing local food compared to personal motives.

Although interest in purchasing local food has been increasing, different barriers still are preventing consumers from more frequent purchases (Table 3). One of the most substantial barriers in purchasing local food is *high price* (Chambers et al., 2007; COI/FSA, 2007; Conner et al., 2010; Khan & Prior, 2010; Lynes, 2015; Megicks et al., 2012; Penney & Prior, 2014; Sirieix et al., 2008; Zepeda & Leviten-Reid, 2004). There are also other barriers which prevent consumers from buying more local food, such as: *the actual or perceived availability of local food, time pressures faced by consumers, lack of product choices and lack of trust in the origins of local food and limited promotion of local food products*, among others.

3. Materials and Methods

3.1. Empirical research

In this study, among the three approaches, we used the *geographical distance approach* for defining local food, as previously described by Kneafsey et al. (2013). A total of 402 Croatian local food consumers over the age of 18 participated in an *online* questionnaire, conducted during February of 2017. The participants who agreed to be involved in the research were emailed a link to the *online* questionnaire. Before conducting the study research, the questionnaire was pre-tested in a face-to-face survey conducted with 20 respondents. We used non-probability convenience

Table 3. Current research on the exploration of barriers in purchasing local food.

Barriers in purchasing local food	References in Literature
Inconvenience and lack of availability	La Trobe (2001), Stephenson and Lev (2004), Zepeda and Leviten-Reid (2004), Chambers et al. (2007), Sirieix et al. (2008), Conner et al. (2010), Khan and Prior (2010), Bean and Sharp (2011), Pearson et al. (2011), Megicks et al. (2012), Penney and Prior (2014), Birch and Memery (2014).
High price of local food	Zepeda and Leviten-Reid (2004), Chambers et al. (2007), Sirieix et al. (2008), Conner et al. (2010), Khan and Prior (2010), Penney and Prior (2014), Lynes (2015).
Lack of time / time pressure faced by consumers	Tippins et al. (2002), Chambers et al. (2007), Sirieix et al. (2008), Conner et al. (2010), Khan and Prior (2010) Pearson et al. (2011), Megicks et al. (2012).
Lack of trust to the authenticity of local food	Bingen et al. (2011), Birch and Memery (2014).
Limited promotion	Pearson et al. (2011), Penney and Prior (2014).

Source: Authors' own compilation.

sampling – the snowball technique (Goodman, 1961). In the first stage of the research, we contacted a few local food consumers and asked them to recommend additional respondents, similar to the study conducted by Skallerud and Wien (2019). The questionnaire consisted of the following parts: (1) *Consumers' behavior in local food purchasing and consumption*, (2) *The importance of personal and altruistic motives*, (3) *Perceived barriers in purchasing local food* and (4) *Consumer socio-demographic characteristics*. The importance of personal and altruistic motives and perceived barriers in purchasing local food was measured on a 5-point Likert scale ranging from 1 - completely disagree to 5 – completely agree.

The personal motives used in this study were *freshness* (Bingen et al., 2011; Chambers et al., 2007; Grebitus et al., 2013; Penney & Prior, 2014; Selfa & Qazi, 2005; Zepeda & Nie, 2012), *better taste* (Arsil et al., 2014, Aprile et al., 2016; Selfa & Qazi, 2005; Weatherell et al., 2003; etc.), *better quality* (Aprile et al., 2016; Arsil et al., 2014; Conner et al., 2010; Naspetti & Bodini, 2008) and *healthier food* (Pearson et al., 2011; Penney & Prior, 2014; Pugliese et al., 2013; Weatherell et al., 2003) (see Table 1).

Altruistic motives were measured using five statements (see Table 2) formulated based on previous literature (Aprile et al., 2016, Bingen et al., 2011; Megicks et al., 2012; Naspetti & Bodini, 2008; Onozaka et al., 2010; Selfa & Qazi, 2005; Zepeda and Leviten – Reid, 2004).

We also refer to the previous studies to define the barriers in purchasing local food (see Table 3). The barriers used in this study were *high price of local food* (Chambers et al., 2007; Khan & Prior, 2010; Lynes, 2015; Megicks et al., 2012; Penney & Prior, 2014), *lack of time/time pressure faced by consumers* (Chambers et al., 2007; Conner et al., 2010; Khan & Prior, 2010; Megicks et al., 2012; Sirieix et al., 2008; Tippins et al., 2002) and *lack of trust* (Birch & Memery, 2014; Chambers et al., 2007).

3.2. Sample characteristics

The sample (N = 402) consisted of 67.90% female respondents, 58.20% of respondents were 18 to 30 years of age, and 63.50% of them had completed a university degree, including Master and/or PhD degree. The respondents mostly live in families of 2 – 4 household members (75.40%), no children below 14 (70.90%) and with a family

Table 4. Socio-demographic characteristics of the respondents.

Socio-demographics		n = 402 %
Gender	Male	32.10
	Female	67.90
Age	18 – 30	58.20
	31 – 40	17.20
	41 – 50	16.20
	> 50	8.40
Education	High school	36.60
	University degree	47.80
	Master and/or PhD	15.70
Family monthly income (€)	Up to 670	12.70
	671 – 1000	21.10
	1001 – 1300	26.40
	> 1300	39.80
Number of household members	1	6.00
	2 – 4	75.40
	5 – 8	18.70
Number of children below 14 in household	0	70.90
	1	19.90
	≥2	9.20

Source: Authors' own compilation based on survey.

monthly income higher than 1300 € (39.80%). (see [Table 4](#)). The results on socio-demographic characteristics revealed heterogeneous sample; yet, there was certain bias in terms of younger female respondents with higher education and income levels as compared to the census data for Croatia (Croatian Census of Population & Households & Dwellings, 2011).

3.3. Data Analyses

In the first stage of data processing, the frequencies of consumer responses were calculated by use of univariate analysis (via SPSS, v. 21.0 software). Assessment of consumer motives and barriers was based on their mean responses to the Likert scale questions. Secondly, factor and cluster analyses were conducted to segment local food consumers. Altruistic motives and perceived barriers in purchasing local food were used as input variables for factor analysis.

To establish the appropriateness of each inter-correlation matrix for factor analysis (Hair et al., 2010), we used the Bartlett test and the Kaiser-Meyer-Olkin Measure of Sampling Adequacy (KMO). The principal component method was performed on the eight variables and as proposed by Kaiser (1974) factors with eigenvalues higher than one and variables with factor loadings more significant than 0.6 were used for further analysis because only those variables were statistically significant for interpretation purposes. To ease the interpretation of each factor, the varimax rotation procedure was performed (Malhotra, 1999). Furthermore, to verify the reliability of the factor analysis, we computed Cronbach's alpha and followed suggestions by Nunnally and Bernstein (1994) about the quality of metrics. Internal consistency can be considered as good if Cronbach's alpha is higher than 0.6 ($\alpha > 0.6$) (Nunnally & Bernstein, 1994).

The Kaiser-Meyer-Olkin (KMO) statistics were 0.790, which is above the recommended value of 0.6 (Kaiser, 1974), and Bartlett's test of sphericity (χ^2 -test = 1261.922, $p < 0.001$), (Bartlett, 1954) reached statistical significance, supporting the factorability of the correlation matrix.

Factor scores of altruistic motives and barriers variables were used to cluster the consumers into segments, with Euclidean distance and Ward's aggregation method applied in the analysis. Cluster analysis is an often-used technique in food market research, as can be seen from studies on the segmentation of the cheese market (Mesías et al., 2003), tomato market (Alamanos et al., 2013), or applied to the market segmentation of traditional, organic, and functional food products (Brečić et al., 2017). Cluster analysis was also used in the segmentation of the local market whereby we highlight the works of Zepeda and Nie (2012), Aprile et al. (2016), Arsil et al. (2018) and Witzling and Shaw (2019). The differences between the obtained segments regarding altruistic motives and perceived barriers in purchasing local food were examined by the Mann-Whitney U-test. Moreover, the differences between segments according to consumer behavior in purchasing and consumption of local food; willingness' to pay more for local food; consumer satisfaction with the current local food available and respondents sociodemographic characteristics were determined by the ANOVA and χ^2 -test.

4. Results and Discussion

4.1. Consumer local food purchasing and consumption behaviour

Study results presented in Figure 2 showed that more than half of the Croatian consumers purchase local food several times a month, which is relatively low if we compared the results to some western EU countries.

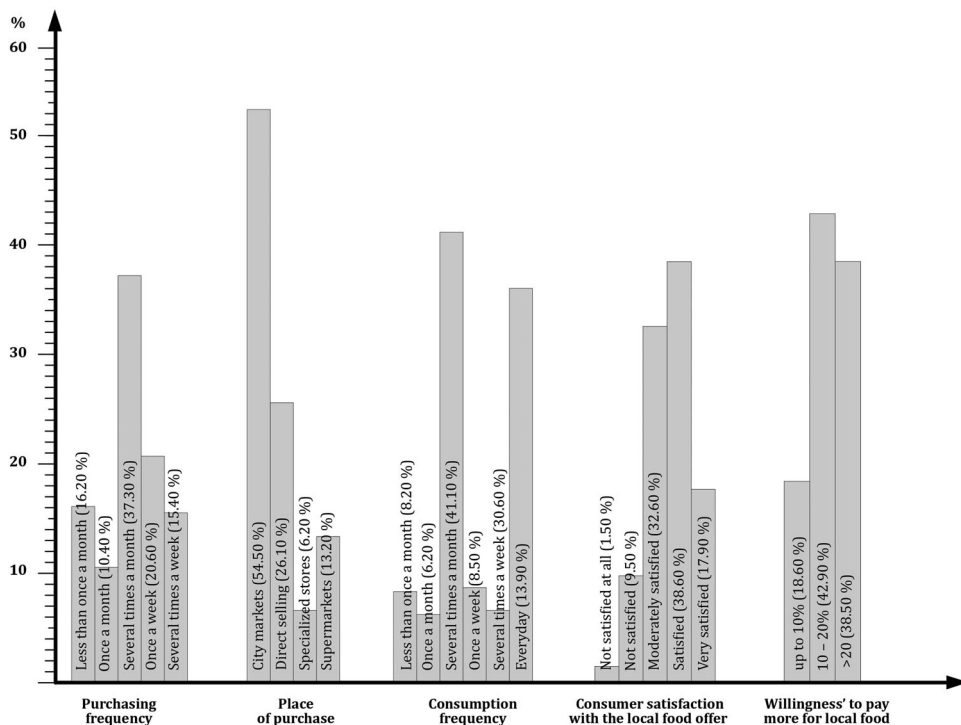


Figure 2. Local food purchasing and consumption behavior. Source: Authors' own compilation based on survey.

The study conducted in England by Gairdner (2006) revealed that one-third of respondents purchase local food less than once a month and more than one-third are purchasing it once a week. A study carried out by Aprile et al. (2016) in Italy found out that 45.00% of Italian consumers stated that they bought local foods often and they were considered as permanent buyers, 43.00% of respondents purchase local food sometimes and they were named as occasional buyers. Respondents in Croatia mostly consumed local food several times a month (41.10%), while around a third of them consumed local food several times a week. This is quite the opposite of the results of the survey conducted on the sample of 566 consumers in the UK which showed that 60.00% of the UK consumers declared to consume local food regularly (once a week), while 22.00% of them eat local food once a month (Clayton, 2015). These differences can be explained by the fact that the local food market in Croatia is still underdeveloped; therefore, these results of lower purchasing and consumption frequency compared to developed countries are not surprising.

In Croatia, likewise, as in other Mediterranean countries (Italy, Spain, Greece), consumers have high preferences for purchasing local food at city markets (54.50%). This can be related to the fact that the most extensive local food supply is at the city's markets where historically Croatian farmers sell their products directly to consumers. Contrary, supermarkets are the dominant sales channel for local food consumers in most highly developed countries (Jones et al., 2004; Onozaka et al., 2010; Penney & Prior, 2014). According to Jones et al. (2004), the main reasons for purchasing local food at supermarkets are convenient locations, operating hours and a wide range of products. In Croatia, supermarkets have a very narrow selection and promotion of local food products, which partly explains why consumers did not prefer this purchasing channel.

Regarding the preferred local food categories, respondents in Croatia mostly purchase local fruits and vegetables (83.00%), eggs (60.00%), fresh milk and dairy products (55.00%), meat and meat products (49.00%). Our results support the findings of several previous studies (Chambers et al., 2007; Grebitus et al., 2013; Khan & Prior, 2010), which identified the same product groups that consumers purchase more often. Unsurprisingly, the most widely bought local foods in all countries are fruits and vegetables. To pay a higher price for local food, almost all respondents are willing to pay more for it (96.00%), which is consistent with previous findings (Carpio & Isengildina-Massa, 2009; Feldmann & Hamm, 2015; Rainbolt et al., 2012). Most Croatian respondents would be willing to pay a 10-20% higher price for local food (42.90%), while 38.50% of the respondents would pay more than 20.00% above average prices. We have found that consumers who buy and consume local food more often and those who buy local food at city markets are willing to pay more for local food ($p=0.00$). Most of the consumers were satisfied ($\bar{x}=3.86$) or moderately satisfied ($\bar{x}=3.26$) with the availability of local food on the Croatian market.

4.2. Motives for purchasing local food

Respondents consider the most essential personal motives for purchasing local food to be freshness ($\bar{x}=4.24$), better taste ($\bar{x}=4.11$), higher quality of local food ($\bar{x}=4.09$)

Table 5. The factor loading matrix.

Statement	\bar{x}	SD	Factor loading	Variance explained	α
FACTOR 1 - Altruistic motives in purchasing local food					
Supports small scale local food producers	4.38	0.752	0.85	42.16%	0.85
Supports environmental sustainability	3.77	0.982	0.75		
Supports the local economy	4.34	0.773	0.88		
Generate more local jobs	4.27	0.804	0.87		
Support animal welfare	3.36	1.065	0.63		
FACTOR 2 - Barriers in purchasing local food					
High price	3.12	0.950	0.77	19.77%	0.59
Lack of time	2.48	1.029	0.77		
Lack of trust	2.17	0.953	0.66		

* 1 – completely disagree ... 5 – completely agree, **Mann-Whitney U-test.

Source: Authors' own compilation based on survey.

and they consider it healthier ($\bar{x}=3.99$). Among altruistic motives, respondents' evaluate as the most essential one, support to small scale local food producers ($\bar{x}=4.38$), support to the local economy ($\bar{x}=4.34$) and the generation of local jobs ($\bar{x}=4.27$), (Table 5). While, on the other hand, it is interesting to note that respondents evaluate support of environmental sustainability ($\bar{x}=3.77$) and animal welfare ($\bar{x}=3.36$) as less important than other motives. These results are in alignment with previous research on the importance of altruistic motives in purchasing local food, whereas the most important motive among altruistic motives is the support of small scale local food producers.

4.3. Local food consumer segmentation

4.3.1. Factor analysis

By using factor analysis, eight statements were grouped into two independent factors explaining 61.93% of the total variance, with the first factor explaining 42.16%. The extracted factors were named as follows: Ad 1.) *Altruistic motives in purchasing local food* and Ad 2.) *Barriers in purchasing local food*. Table 4 shows the results of the factor analysis as well as the reliability analysis of the variables.

4.3.2. The cluster analysis and the description of obtained segments

The cluster analysis identified two segments of consumers with different altruistic motives and perceived barriers in purchasing local food. The clusters, i.e. consumer segments, were named as *embedded local food consumers* and *disinclined local food consumers* (as seen from Table 6).

The discriminant analysis showed that both of the identified factors significantly influenced ($p < 0.05$) cluster differentiation. It was found that 93.03% of the original grouped cases were classified correctly, verifying that dividing consumers into segments was not just incidental.

4.3.3. Profiling local food consumers

In the interpretation of consumer segments, the statements included in the factor analyses were used, as well as, local food purchasing and consumption behaviour, willingness' to pay more for local food, consumer satisfaction with current local food

Table 6. Consumer segments based on altruistic motives and perceived barriers in purchasing local food.

Items	Embedded local food consumers	Disinclined local food consumers	p**
	n = 257 (63.90%)	n = 145 (36.10%)	
	Mean*		
Altruistic motives for local food purchasing			
Supports small scale local food producers	4.68	3.84	0.00
Supports environmental sustainability	4.11	3.17	0.00
Supports the local economy	4.65	3.78	0.00
Generate more local jobs	4.60	3.69	0.00
Supports the animal welfare	3.64	2.86	0.00
Barriers to local food purchasing			
High prices	2.95	3.64	0.00
Lack of time	2.16	3.06	0.00
Lack of trust	1.78	2.85	0.00

* 1 – completely disagree ... 5 – completely agree, **Mann-Whitney U-test.

Source: Authors' own compilation based on survey.

offered, the importance of personal motives, and sociodemographic characteristics of the consumers.

4.3.3.1. Segment 1: Embedded local food consumers. Segment 1 is more prominent and consists of 63.90% of the sample. This cluster is characterized by a high percentage of females (70.40%). Consumers in this segment are between 18 and 30 years of age (58.70%), well educated (51.00% with a university degree), and have a family monthly income (€) more than €1.300 (Table 7).

Embedded local food consumers strongly agreed that supporting small scale local food producers ($\bar{x}_{embedded} = 4.68$) and the local economy ($\bar{x}_{embedded} = 4.65$), as well as the possibility of generating more local jobs ($\bar{x}_{embedded} = 4.64$) were the principal motives for their purchasing decision. Also, to a large extent, they supported environmental sustainability ($\bar{x}_{embedded} = 4.11$) and animal welfare when purchasing local food ($\bar{x}_{embedded} = 3.64$).

In this cluster, consumers do not agree that higher prices ($\bar{x}_{embedded} = 2.95$), lack of time ($\bar{x}_{embedded} = 2.16$) and lack of trust or skepticism regarding the authenticity of local food ($\bar{x}_{embedded} = 1.78$) are the most significant barriers which prevent them from buying more local food (Table 6).

Most consumers in this segment buy local food several times a month (37.40%), and they consume it several times a week (35.00%). Even 41.00% of individuals belonging to this segment are satisfied with the current selection of local food. Most respondents in this segment would be willing to pay a 10-20% higher price for local food while 41.20% of them would pay more than 20% higher prices (Table 8). They put more emphasis on personal motives (freshness, quality, taste) in purchasing local food (Table 9).

4.3.3.2. Segment 2: Disinclined local food consumers. The second segment consists of 36.10% of the sample. Similarly, as cluster 1, cluster 2 is characterized by a high percentage of women (63.40%). Consumers are between 18 and 30 years of age (57.20%),

Table 7. Consumer segments according to their socio-demographic characteristics.

Sociodemographics		Embedded local food consumers (63.90%)	Disinclined local food consumers (36.10%)	p*
Gender	Male	29.60	36.60	> 0.05
	Female	70.40	63.40	
Age	18 – 30	58.70	57.20	> 0.05
	31 – 40	19.50	13.10	
	41 – 50	14.00	20.00	
	> 50	7.70	9.70	
Education	High school	33.90	41.40	> 0.05
	University degree	51.00	42.10	
	Master and/or PhD	15.20	16.60	
Family monthly income (€)	Up to 670	13.60	11.00	> 0.05
	671 – 1000	20.20	22.80	
	1001 – 1300	28.40	22.80	
	> 1300	37.70	43.40	
Number of household members	1	6.20	5.50	> 0.05
	2 – 4	73.20	79.30	
	5 – 8	20.60	15.20	
Number of children below 14 in household	0	19.80	20.00	> 0.05
	1	68.90	74.50	
	≥2	11.30	5.50	

Note: there is no statistically significant difference between segments with respect to sociodemographic characteristics, ($p < 0.05$).

Source: Authors' own compilation based on survey.

an equal share of them has finished high school (41.40%) and completed a university degree (42.10%), and have a family monthly income (€) of more than €1.300 (43.40%) (Table 7).

Although *disinclined local food consumers* report a positive mean score concerning altruistic motives, they are not as positive as *embedded local food consumers*. *Disinclined local food consumers* stated higher mean score in perceived barriers in purchasing local food, such as, higher prices ($\bar{x}_{disinclined} = 3.64$), lack of time ($\bar{x}_{disinclined} = 3.06$) and lack of trust in the authenticity of local food ($\bar{x}_{disinclined} = 2.85$) ($p < 0.05$) (Table 6). Consumers who belong to this segment buy and consume local food less often than *embedded local food consumers* ($p < 0.05$). This segment has a higher share of consumers who never purchase local food and those who buy local food less than once a month. More than a third of the *disinclined local food consumers* consume local food several times a month, about 15.00% less than once a month and only 9.00% every day. The majority of consumers belonging to this cluster are moderately satisfied with the current selection of local food (39.00%).

Similarly, as *embedded local food consumers*, most consumers in this segment are willing to pay 10-20% higher prices for local food, although there is higher share of consumers (compared to Segment 1) who are ready to pay lower prices - up to 10% and a smaller percentage of those who are willing to pay more than 20% higher prices ($p < 0.05$) (Table 8). This segment pays less attention to personal motives (Table 9).

4.3.4. Differences among obtained segments

We found out that *embedded local food consumers* more frequently buy and consume local food, which is in line with the studies carried out by Keeling-Bond et al.

Table 8. Consumer segments based on local food consumption and purchasing behaviour.

		Embedded local food consumers (63.90%)	Disinclined local food consumers (36.10%)	<i>p</i> *
Purchasing frequency	Less than once a month	11.30	24.80	< 0.05
	Once a month	10.90	9.70	
	Several times a month	37.40	37.20	
	Once a week	24.10	14.50	
	Several times a week	16.30	13.80	
Place of purchase	City markets	53.70	55.90	> 0.05
	Direct selling	29.20	20.70	
	Specialized stores	5.80	6.90	
	Supermarkets	11.30	16.60	
Consumption frequency	Less than once a month	4.30	15.20	< 0.05
	Once a month	5.40	7.60	
	Several times a month	29.60	37.90	
	Once a week	9.30	6.90	
	Several times a week	35.00	22.80	
Consumer satisfaction with the local food offer	Everyday	16.30	9.70	< 0.05
	Not satisfied at all	0.80	2.80	
	Not satisfied	7.40	13.10	
	Moderately satisfied	28.80	39.30	
	Satisfied	41.60	33.10	
Willingness' to pay more for local food	Very satisfied	21.40	11.70	< 0.05
	up to 10%	14.80	25.50	
	10 – 20%	44.00	40.90	
	>20	41.20	33.60	

Note: there is statistically significant difference between segments with respect to all variables, besides place of purchase ($p < 0.05$).

Source: Authors' own compilation based on survey

Table 9. Consumer segments based on importance of personal motives.

Items	Embedded local food consumers Mean*	Disinclined local food consumers	<i>p</i> **
Personal motives			
Local food is fresher	4.47	3.85	0.00
Local food tastes better	4.33	3.70	0.00
Local food has higher quality	4.30	3.72	0.00
Local food is healthier	4.17	3.68	0.00
Purchasing local food is in	2.46	2.30	0.00

* 1 – completely disagree ... 5 – completely agree.

**ANOVA.

Source: Authors' own compilation based on survey.

(2009) and Carpio and Isengildina-Massa (2009) who revealed that consumers with a higher propensity to buy local food were more influenced by altruistic attributes, such as supporting local farmers and the economy. As Roininen et al. (2006) discussed in their paper, people believe that purchasing local food is good for the economy and beneficial for rural areas and they suggest this positive association is often a primary reason for buying local food. A study carried out by Stephenson and Lev (2004) has also shown that the two most important reasons for purchasing local food were to motivate farmers to stay in rural areas and to support the local economy. Embedded local food consumers give high importance to altruistic motives, and therefore, we can characterize them as real locavores.

Furthermore, we found that *embedded local food consumers* were willing to pay higher prices for local food as compared to *disinclined local food consumers* ($p < 0.05$). The study results supported findings by Sunding (2003) and Thilmany

et al. (2008) who claimed that price premiums were more likely to be paid by consumers that were motivated to buy alternatively produced foods (e.g. organic food, local food) for altruistic reasons. Likewise, Underhill and Figueroa (1996) have shown that the willingness to pay for organic foods was related to the perception of them being more environmentally friendly and supportive of small-scale agriculture and local rural communities.

We have identified that perceived barriers (higher prices, lack of time and lack of trust) are important indicators of local food consumer purchasing behaviour. More specifically, perceived barriers are more important to *disinclined local food consumers*. Consequently, consumers belonging to this segment buy and consume local food less often than *embedded local food consumers*. Consistent with findings from previous studies (Chambers et al., 2007; Khan & Prior, 2010; Megicks et al., 2012; Roininen et al., 2006), this study confirmed that the 'higher prices' of local food is the most important barrier in purchasing local food. The results are contrary to a study by Donaher and Lynes (2017) that was carried out in Ontario, Canada. In that study, it was found that local produce is not consistently more expensive than the non-local options. Given the contradictory findings, more research is needed to shed light on the effect of prices on the purchasing behaviour of local food consumers.

In previous research, the barrier 'lack of time' or 'no time to find local food' was mostly associated with people who have busy lifestyles (Chambers et al., 2007). Although previous research has shown that a 'lack of time' has an influence on purchasing behaviour, there is still a lack of empirical evidence in the local food sector. Our results confirmed that lack of time is more important to *disinclined local food consumers* who consume local food less often.

Furthermore, as an important barrier that has an influence on consumer purchasing behaviour, we identified the 'lack of trust' that the product is actually local. Our results give support to the arguments of Birch and Memery (2014) who also identified that a lack of trust is a purchasing barrier for Australian consumers of local food. The lack of trust can be associated with a large number of food-safety scares, environmental concerns, and a general and growing distrust of the food system (Dukeshire et al., 2011).

For both segments, the most popular place for purchasing local food is city markets and direct selling and to a lesser extent, supermarkets ($p > 0.05$). The segments differed neither in gender, age, education level, family monthly income, number of household members, and number of children up to 14 years old in the household ($p > 0.05$) (Table 7). The obtained results can be related to the fact that the local food market in Croatia is still underdeveloped; therefore, it is possible to expect precise segmentation of consumers according to socio-demographic criteria in the next few years.

4.3.5. Research contributions

The *theoretical contribution* of this study to food marketing and consumer behavior literature relates to investigating the role of the different determinants that influence consumer purchasing behavior towards local food (Rainbolt et al., 2012; Vermeir & Verbeke, 2008). While some previous studies identified that positive attitudes were essential indicators of consumers' behavior in local food consumption (Aprile et al.,

2016), these results suggest that there are other psychological predictors, such as motives and barriers. Specifically, our results indicate that purchasing local food depends on altruistic motivations linked to supporting local farmers and the economy as well as environmental and ethical concerns. Purchasing barriers (higher prices, lack of time and lack of trust) were also found to be significant factors in explaining consumer purchasing behavior towards local food. More specifically, in this study, a market segmentation analysis was performed to provide information that can be used in developing marketing strategies for both farmers and retailers. The methodology used in this study was in line with generally-accepted practices (Alamanos et al., 2013; Aprile et al., 2016). The study was conducted in Croatia, thereby filling the gap of sparse research in transition countries in Central and Eastern Europe (Bianchi, 2017).

Concerning *managerial implications*, the information revealed in this study offers a number of practical insights for all stakeholders who operate in the local food market. From the producers' and retailers' point of view, understanding who the current buyers are of local products is a fundamental principle of a successful business (Kotler & Armstrong, 2010). The results of this study have revealed that there is a relatively large proportion of consumers who are still uncertain about their purchasing behavior, so there is an evident opportunity for local food producers to target their marketing efforts to this consumer segment. Knowing the way consumers perceive local food and understanding the barriers in purchasing can help marketers of local food establish proper marketing communication messages. Such messages need to inform and educate the public about the economic, environmental and social benefits to be gained by purchasing local food. The distinguished barriers that prevent buyers from buying more local food should be minimized or eliminated to stimulate purchasing local food. The recommended strategies for overcoming barriers should include greater availability due to the lack of modern consumer free time (for example, door to door delivery). The barrier of trusting the authenticity of local food can be overcome with labels and logos, which can be used to communicate important information to consumers, especially to those who buy more in supermarkets.

5. Conclusion

In this paper, we segment the local food consumers based on altruistic motives and perceived purchasing barriers. Our study provided insights into the existence of different consumer segments based on consumers' altruistic motives towards local food and the perceived purchasing barriers, which allow us to better understand local food consumers and local food consumption in Croatia, as well as factors that determine consumer decision-making.

Based on the altruistic motives and barriers of purchasing local food, this study finds two consumer segments; (1) *embedded local food consumers* and, (2) *disinclined local food consumers*. In this research, we identified differences between the segments, according to consumers' frequency of purchase and consumption of local food, the importance of personal motives, regarding consumer satisfaction with the offer and willingness to pay an extra price for local food. *Embedded local food consumers* report

a significantly higher mean score with regard to altruistic motives and a significantly lower mean score for perceived barriers in purchasing local food compared to *disinclined local food consumers*. Embedded local food consumers purchase and consume local food more often; they are more satisfied with the current local food supply, and they are willing to pay a higher price for local food as compared to individuals belonging to the other segment. Knowing consumers' perception of local food and by understanding the barriers which influence further market development, can help producers, retailers, marketers as well as policymakers to establish a proper communication strategy that will help in new market development.

5.1. Limitations and future research

This study fills the gap in the literature regarding altruistic motives and barriers in local food purchases. However, some limitations can give directions for future research. These limitations were mainly due to the contact technique (on-line survey) and small sample. Online survey has many advantages (access to individuals in distant locations, reduced researcher time, money and effort) but there are also some disadvantages, such as validity of the data and sampling issues. The findings of the study are limited concerning the lack of male, older participants (40+) and more family with children.

Subsequent studies should include a larger sample and face to face survey to better understand consumers' motives and perceived barriers in purchasing local food. Future research should extend the list of perceived barriers in the purchase of local food, such as availability, inconvenience, food labeling, knowledge barriers, etc.

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Disclosure statement

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References

- Adams, D. C., & Adams, A. E. (2011). De-placing local at the farmers' market: consumer conceptions of local foods. *Journal of Rural Social Sciences*, 26, 74–100.
- Adams, D. C., & Salois, M. J. (2010). Local versus organic: A turn in consumer preferences and willingness-to-pay. *Renewable Agriculture and Food Systems*, 25(4), 331–341. <https://doi.org/10.1017/S1742170510000219>
- Alamanos, E., Bourlakis, M., & Tzimitra-Kalogianni, I. (2013). Segmenting Greek tomato consumers: policy and marketing insights towards a healthy diet. *British Food Journal*, 115(4), 488–507. <https://doi.org/10.1108/00070701311317801>

- Anić, I. D., Rajh, E., & Piri Rajh, S. (2015). Exploring consumers' food-related decision-making style groups and their shopping behaviour. *Economic Research-Ekonomska Istraživanja*, 28(1), 63–74. <https://doi.org/10.1080/1331677X.2015.1022390>
- Annunziata, A., Agovino, M., & Mariani, A. (2019). Sustainability of Italian families' food practices: Mediterranean diet adherence combined with organic and local food consumption. *Journal of Cleaner Production*, 206, 86–96. <https://doi.org/10.1016/j.jclepro.2018.09.155>
- Aprile, M. C., Caputo, V., & Nayga, R. M. Jr. (2016). Consumers' preferences and attitudes toward local food products. *Journal of Food Products Marketing*, 22(1), 19–42. <https://doi.org/10.1080/10454446.2014.949990>
- Arsil, P., Li, E., Bruwer, J., & Lyons, G. (2014). Exploring consumer motivations towards buying local fresh food products: A means-end chain approach. *British Food Journal*, 116(10), 1533–1549. <https://doi.org/10.1108/BFJ-04-2013-0083>
- Arsil, P., Li, E., Bruwer, J., & Lyons, G. (2018). Motivation-based segmentation of local food in urban cities. *British Food Journal*, 120(9), 2195–2207. <https://doi.org/10.1108/BFJ-01-2018-0060>
- Bartlett, M. S. (1954). A note on the multiplying factors for various chi square approximations. *Journal of the Royal Statistical Society: Series B (Methodological)*, 16(2), 296–298. <https://doi.org/10.2307/2984057>
- Bean, M., & Sharp, J. S. (2011). Profiling alternative food system supporters: The personal and social basis of local and organic food support. *Renewable Agriculture and Food Systems*, 26(3), 243–254. <https://doi.org/10.1017/S1742170511000032>
- Bianchi, C. (2017). Exploring Urban Consumers' Attitudes and Intentions to Purchase Local Food in Chile. *Journal of Food Products Marketing*, 23(5), 553–569. <https://doi.org/10.1080/10454446.2015.1048021>
- Bianchi, C., & Mortimer, G. (2015). Drivers of local food consumption: a comparative study. *British Food Journal*, 117(9), 2282–2299. <https://doi.org/10.1108/BFJ-03-2015-0111>
- Bingen, J., Sage, J., & Sirieix, L. (2011). Consumer coping strategies: A study of consumers committed to eating local. *International Journal of Consumer Studies*, 35(4), 410–419. <https://doi.org/10.1111/j.1470-6431.2010.00949.x>
- Birch, D., & Memery, J. (2014). *Buying local food and drink: Understanding barriers to purchase* [Paper presentation]. In Academy of Marketing Conference: Marketing Dimensions: People, Places and Spaces, 7–10 July 2014, Bournemouth, England.
- Brečić, R., Mesić, Ž., & Cerjak, M. (2017). Importance of intrinsic and extrinsic quality food characteristics by different consumer segments. *British Food Journal*, 119(4), 845–862. <https://doi.org/10.1108/BFJ-06-2016-0284>
- Campbell, B. L., Mhlanga, S., & Lesschaeve, I. (2013). Perception versus Reality: Canadian Consumer Views of Local and Organic. *Canadian Journal of Agricultural Economics/revue Canadienne D'agroeconomie*, 61(4), 531–558. <https://doi.org/10.1111/j.1744-7976.2012.01267.x>
- Campbell, J. M. (2013). Buy local: Differentiating Hispanic and Caucasian shoppers of locally produced foods in US grocery. *Journal of Retailing and Consumer Services*, 20(3), 325–333. <https://doi.org/10.1016/j.jretconser.2013.01.009>
- Carpio, C. E., & Isengildina-Massa, O. (2009). Consumer willingness to pay for locally grown products: the case of South Carolina. *Agribusiness*, 25(3), 412–426. <https://doi.org/10.1002/agr.20210>
- Chambers, S., Lobb, A., Butler, L., Harvey, K., & Traill, W. B. (2007). Local, national and imported foods: A qualitative study. *Appetite*, 49(1), 208–213. <https://doi.org/10.1016/j.appet.2007.02.003>
- Cholette, S., Ungson, G. R., Özlük, Ö., & Özşen, L. (2013). Exploring purchasing preferences: Local and ecologically labelled foods. *Journal of Consumer Marketing*, 30(7), 563–572. <https://doi.org/10.1108/JCM-04-2013-0544>
- Clayton, A. (2015). Growing Our Local Food Economy, consultation document, LESS CIC Lancaster. Available at: <http://www.lessuk.org/blog/wp-content/uploads/2015/01/Consultation-handout.pdf>

- COI/FSA (2007). *Local Food – Omnibus Research Report*. Food Standards Agency.
- Coley, D., Howard, M., & Winter, M. (2009). Local food, food miles and carbon emissions: A comparison of farm shop and mass distribution approaches. *Food Policy*, 34(2), 150–155. <https://doi.org/10.1016/j.foodpol.2008.11.001>
- Conner, D., Colasanti, K., Ross, R. B., & Smalley, S. B. (2010). Locally Grown Foods and Farmers Markets: Consumer Attitudes and Behaviors. *Sustainability*, 2(3), 742–756. <https://doi.org/10.3390/su2030742>
- Croatian Census of Population, Households and Dwellings. 2011. <https://www.dzs.hr/Eng/censuses/census2011/censuslogo.htm>
- Denver, S., & Jensen, J. D. (2014). Consumer preferences for organically and locally produced apples. *Food Quality and Preference*, 31, 129–134. <https://doi.org/10.1016/j.foodqual.2013.08.014>
- Donaher, E., & Lynes, J. (2017). Is local produce more expensive? Challenging perceptions of price in local food systems. *Local Environment*, 22(6), 746–763. <https://doi.org/10.1080/13549839.2016.1263940>
- Dukeshire, S., Garbes, R., Kennedy, C., Boudreau, A., & Osborne, T. (2011). Beliefs, attitudes, and propensity to buy locally produced food. *Journal of Agriculture, Food Systems, and Community Development*, 1(3), 1–29. <https://doi.org/10.5304/jafscd.2011.013.008>
- Feldmann, C., & Hamm, U. (2015). Consumers' perceptions and preferences for local food: A review. *Food Quality and Preference*, 40, 152–164. <https://doi.org/10.1016/j.foodqual.2014.09.014>
- Gairdner, J. (2006). Local food is miles better. *Farmers Weekly*
- Goodman, L. A. (1961). Snowball sampling. *The Annals of Mathematical Statistics*, 32(1), 148–170. <https://doi.org/10.1214/aoms/1177705148>
- Gracia, A., De Magistris, T., & Nayga, R. M. (2012). Importance of social influence in consumers' willingness to pay for local food: are there gender differences? *Agribusiness*, 28(3), 361–371. <https://doi.org/10.1002/agr.21297>
- Grebitus, C., Lusk, J. L., & Nayga, R. M. (2013). Effect of distance of transportation on willingness to pay for food. *Ecological Economics*, 88, 67–75. <https://doi.org/10.1016/j.ecolecon.2013.01.006>
- Gruchmann, T., Seuring, S., & Petljak, K. (2019). Assessing the role of dynamic capabilities in local food distribution: a theory-elaboration study. *Supply Chain Management: An International Journal*, 24(6), 767–783. <https://doi.org/10.1108/SCM-02-2019-0073>
- Hair, J. F., Black, W. C., Tatham, R. L., & Anderson, R. E. (2010). *Multivariate data analysis* (7th ed.). Prentice Hall International.
- Henseleit, M., Kubitzki, S., & Teuber, R. (2007). Determinants of consumer preferences for regional food. In M. Canavari, D. Regazzi, & R. Spadoni (Eds.), *International marketing and international trade of quality food products, Proceedings of the 105th Seminar of the European Association of Agricultural Economists* (pp. 55–67). Edizione Avenue Media.
- Jensen, J. D., Christensen, T., Denver, S., Ditlevsen, K., Lassen, J., & Teuber, R. (2019). Heterogeneity in consumers' perceptions and demand for local (organic) food products. *Food Quality and Preference*, 73, 255–265. <https://doi.org/10.1016/j.foodqual.2018.11.002>
- Jones, P., Comfort, D., & Hillier, D. (2004). A case study of local food and its routes to market in the UK. *British Food Journal*, 106(4), 328–335. <https://doi.org/10.1108/00070700410529582>
- Kaiser, H. F. (1974). An index of factorial simplicity. *Psychometrika*, 39(1), 31–36. <https://doi.org/10.1007/BF02291575>
- Keeling-Bond, J., Thilmany, D., & Bond, C. (2009). What influences consumer choice of fresh produce purchase location? *Journal of Agricultural and Applied Economics*, 41(1), 61–74. <https://doi.org/10.1017/S1074070800002558>
- Khan, F., & Prior, C. (2010). Evaluating the urban consumer with regard to sourcing local food: a heart of England study. *International Journal of Consumer Studies*, 34(2), 161–168. <https://doi.org/10.1111/j.1470-6431.2009.00836.x>

- Kneafsey, M., Venn, L., Schmutz, U., Balázs, B., Trenchard, L., Eyden-Wood, T., & Blackett, M. (2013). *Short Food Supply Chains and Local Food Systems in the EU*. Joint Research Centre Institute for Prospective Technological Studies, European Commission. Available from: [http://publications.jrc.ec.europa.eu/repository/bitstream/JRC80420/final%20ipts%20jrc%2080420%20\(online\).pdf](http://publications.jrc.ec.europa.eu/repository/bitstream/JRC80420/final%20ipts%20jrc%2080420%20(online).pdf)
- Kotler, P., & Armstrong, G. (2010). *Principles of marketing*. Pearson education.
- La Trobe, H. L., & Acott, T. G. (2000). Localising the global food system. *International Journal of Sustainable Development & World Ecology*, 7(4), 309–320. <https://doi.org/10.1080/13504500009470050>
- Lynes, J. (2015, April). *Identification of barriers and benefits for Jack Johnson's 'All at Once' Campaign*. World Social marketing conference.
- Malhotra, N. K. (1999). *Marketing research: An applied orientation*. Prentice-Hall International.
- Mansbridge, J. J. (1990). On the relation of altruism and self-interest. In J. J. Mansbridge (Ed.), *Beyond self-interest* (p. 133–143). University of Chicago Press.
- Megicks, P., Memery, J., & Angell, R. J. (2012). Understanding local food shopping: Unpacking the ethical dimension. *Journal of Marketing Management*, 28(3-4), 264–289. <https://doi.org/10.1080/0267257X.2012.658838>
- Memery, J., Angell, R., Megicks, P., & Lindgreen, A. (2015). Unpicking motives to purchase locally-produced food: analysis of direct and moderation effects. *European Journal of Marketing*, 49(7/8), 1207–1233. <https://doi.org/10.1108/EJM-02-2014-0075>
- Mesías, F. J., Escribano, M., Rodríguez De Ledesma, A., & Pulido, F. (2003). Market segmentation of cheese consumers: an approach using consumer's attitudes, purchase behaviour and sociodemographic variables. *International Journal of Dairy Technology*, 56(3), 149–155. <https://doi.org/10.1046/j.1471-0307.2003.00092.x>
- Meyerding, S. G. H., Trajer, N., & Lehberger, M. (2019). What is local food? The case of consumer preferences for local food labeling of tomatoes in Germany. *Journal of Cleaner Production*, 207, 30–43. <https://doi.org/10.1016/j.jclepro.2018.09.224>
- Morris, C., & Buller, H. (2003). The local food sector: a preliminary assessment of its form and impact in Gloucestershire. *British Food Journal*, 105(8), 559–566. <https://doi.org/10.1108/00070700310497318>
- Naspetti, S., & Bodini, A. (2008). Consumer perception of local and organic products: substitution or complementary goods? *The International Journal of Interdisciplinary Social Sciences: Annual Review*, 3(2), 111–122. <https://doi.org/10.18848/1833-1882/CGP/v03i02/52526>
- Nganje, W. E., Hughner, R. S., & Lee, N. E. (2011). State-branded programs and consumer preference for locally grown produce. *Agricultural and Resource Economics Review*, 40(1), 20–32. <https://doi.org/10.1017/S1068280500004494>
- Nunnally, J. C., & Bernstein, I. H. (1994). *Psychometric theory*. McGraw-Hill.
- Onozaka, Y., & Mcfadden, D. T. (2011). Does Local Labeling Complement or Compete with Other Sustainable Labels? A Conjoint Analysis of Direct and Joint Values for Fresh Produce Claim. *American Journal of Agricultural Economics*, 93(3), 693–706. <https://doi.org/10.1093/ajae/aar005>
- Onozaka, Y., Nurse, G., & McFadden, D. T. (2010). Local food consumers: How motivations and perceptions translate to buying behavior. *Choices*, 25(1), 1–6. <https://doi.org/10.22004/ag.econ.93822>
- Pearson, D., Henryks, J., Trott, A., Jones, P., Parker, G., Dumaresq, D., & Dyball, R. (2011). Local food: Understanding consumer motivations in innovative retail formats. *British Food Journal*, 113(7), 886–899. <https://doi.org/10.1108/00070701111148414>
- Penney, U., & Prior, C. (2014). Exploring the urban consumer's perception of local food. *International Journal of Retail & Distribution Management*, 42(7), 580–594. <https://doi.org/10.1108/IJRDM-09-2012-0077>
- Printezis, I., & Grebitus, C. (2018). Marketing Channels for Local Food. *Ecological Economics*, 152(C), 161–171. <https://doi.org/10.1016/j.ecolecon.2018.05.021>

- Pugliese, P., Zanasi, C., Atallah, O., & Cosimo, R. (2013). Investigating the interaction between organic and local foods in the Mediterranean: The Lebanese organic consumer's perspective. *Food Policy*, 39, 1–12. <https://doi.org/10.1016/j.foodpol.2012.12.009>
- Rainbolt, G. N., Onozaka, Y., & McFadden, D. T. (2012). Consumer motivations and buying behavior: the case of the local food system movement. *Journal of Food Products Marketing*, 18(5), 385–396. <https://doi.org/10.1080/10454446.2012.685031>
- Reich, B. J., Beck, J. T., & Price, J. (2018). Food as ideology: Measurement and validation of locavorism. *Journal of Consumer Research*, 45(4), 849–868. <https://doi.org/10.1093/jcr/ucy027>
- Roininen, K., Arvola, A., & Lähteenmäki, L. (2006). Exploring consumers perceptions of local food with two different qualitative techniques: Laddering and word association. *Food Quality and Preference*, 17(1-2), 20–30. <https://doi.org/10.1016/j.foodqual.2005.04.012>
- Rushton, J. P. (1984). The altruistic personality. In *Development and maintenance of prosocial behavior* (pp. 271–290). Springer.
- Selfa, T., & Qazi, J. (2005). Place, taste, or face-to-face? Understanding producer-consumer networks in “local” food systems in Washington State. *Agriculture and Human Values*, 22(4), 451–464. <https://doi.org/10.1007/s10460-005-3401-0>
- Simon, H. A. (1993). Altruism and economics. *The American Economic Review*, 83(2), 156–161.
- Sirieix, L., Grolleau, G., & Schaer, B. (2008). Do consumers care about food miles? An empirical analysis in France. *International Journal of Consumer Studies*, 32(5), 508–515. <https://doi.org/10.1111/j.1470-6431.2008.00711.x>
- Sirieix, L., Kledal, P. R., & Sulitang, T. (2011). Organic food consumers' trade-offs between local or imported, conventional or organic products: a qualitative study in Shanghai. *International Journal of Consumer Studies*, 35(6), 670–678. <https://doi.org/10.1111/j.1470-6431.2010.00960.x>
- Skallerud, K., & Wien, A. H. (2019). Preference for local food as a matter of helping behaviour: Insights from Norway. *Journal of Rural Studies*, 67, 79–88. <https://doi.org/10.1016/j.jrurstud.2019.02.020>
- Smith, A., & MacKinnon, J. B. (2007). *Plenty: One man, one woman, and a raucous year of eating locally*. Harmony Books.
- Stanton, J. L., Wiley, J. B., & Wirth, F. F. (2012). Who are the locavores? *Journal of Consumer Marketing*, 29(4), 248–261. <https://doi.org/10.1108/07363761211237326>
- Stephenson, G., & Lev, L. (2004). Common support for local agriculture in two contrasting Oregon communities. *Renewable Agriculture and Food Systems*, 19(04), 210–217. <https://doi.org/10.1079/RAFS200481>
- Sunding, D. L. (2003). The Role for Government in Differentiated Product Markets: Looking to Economic Theory. *American Journal of Agricultural Economics*, 85(3), 720–724. <https://doi.org/10.1111/1467-8276.00474>
- Thilmany, D., Bond, C. A., & Bond, J. K. (2008). Going Local: Exploring Consumer Behavior and Motivations for Direct Food Purchases. *American Journal of Agricultural Economics*, 90(5), 1303–1309. <https://doi.org/10.1111/j.1467-8276.2008.01221.x>
- Tippins, M. J., Rassuli, K. M., & Hollander, S. C. (2002). An assessment of direct farm-to-table food marketing in the USA. *International Journal of Retail & Distribution Management*, 30(7), 343–353. <https://doi.org/10.1108/09590550210433329>
- Tomić, M., & Alfnes, F. (2018). Effect of Normative and Affective Aspects on Willingness to Pay for Domestic Food Products—A Multiple Price List Experiment. *Journal of Food Products Marketing*, 24(6), 681–696. <https://doi.org/10.1080/10454446.2017.1323067>
- Trivette, S. A. (2019). The importance of food retailers: applying network analysis techniques to the study of local food systems. *Agriculture and Human Values*, 36(1), 77–90. <https://doi.org/10.1007/s10460-018-9885-1>
- Trobe, H. L. (2001). Farmers' markets: consuming local rural produce. *International Journal of Consumer Studies*, 25(3), 181–192. <https://doi.org/10.1046/j.1470-6431.2001.00171.x>

- Underhill, S. E., & Figueroa, E. E. (1996). Consumer preferences for non-conventionally grown produce. *Journal of Food Distribution Research*, 27(2), 56–66. <https://doi.org/10.22004/ag.econ.27067>
- Vermeir, I., & Verbeke, W. (2008). Sustainable food consumption among young adults in Belgium: Theory of planned behaviour and the role of confidence and values. *Ecological Economics*, 64(3), 542–553. <https://doi.org/10.1016/j.ecolecon.2007.03.007>
- Weatherell, C., Tregear, A., & Allinson, J. (2003). In search of the concerned consumer: UK public perceptions of food, farming and buying local. *Journal of Rural Studies*, 19(2), 233–244. [https://doi.org/10.1016/S0743-0167\(02\)00083-9](https://doi.org/10.1016/S0743-0167(02)00083-9)
- Wenzig, J., & Gruchmann, T. (2018). Consumer Preferences for Local Food: Testing an Extended Norm Taxonomy. *Sustainability*, 10(5), 1313. <https://doi.org/10.3390/su10051313>
- Witzling, L., & Shaw, B. R. (2019). Lifestyle segmentation and political ideology: Toward understanding beliefs and behavior about local food. *Appetite*, 132, 106–113. <https://doi.org/10.1016/j.appet.2018.10.003>
- Zarić, V., Cerjak, M., Rajković, B., Atelj, M., Tomić, M. (2018). Consumer perception of intrinsic and extrinsic fruits and vegetables characteristics on open markets and retail chains in Serbia and Croatia. in *Proceedings of the 53rd Croatian & 13th International Symposium on Agriculture in*, 175–180.
- Zepeda, L., & Deal, D. (2009). Organic and local food consumer behaviour: Alphabet theory. *International Journal of Consumer Studies*, 33(6), 697–705. <https://doi.org/10.1111/j.1470-6431.2009.00814.x>
- Zepeda, L., & Leviten-Reid, C. (2004). Consumers' Views on Local Food. *Journal of Food Distribution Research*, 35(3), 1–6. <https://doi.org/10.22004/ag.econ.27554>
- Zepeda, L., & Nie, C. (2012). What are the odds of being an organic or local food shopper? Multivariate analysis of US food shopper lifestyle segments. *Agriculture and Human Values*, 29(4), 467–480. <https://doi.org/10.1007/s10460-012-9364-z>
- Zollet, S. (2019). Brandi Janssen: Making local food work: the challenges and opportunities of today's small farmers. *Agriculture and Human Values*, 36(1), 161–162. <https://doi.org/10.1007/s10460-018-9899-8>