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Sciences, Netherlands

## \*CORRESPONDENCE

Stefan Wahlen

✉ [Stefan.Wahlen@uni-giessen.de](mailto:Stefan.Wahlen@uni-giessen.de)

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# Exploring young consumer's understanding of local food through proximity and social representations

Veronika László<sup>1</sup> and Stefan Wahlen<sup>2\*</sup>

<sup>1</sup>Department of Innovation Management, University of Pannonia, Veszprem, Hungary, <sup>2</sup>Department of Consumer Research, Communication and Food Sociology, Justus-Liebig University, Giessen, Germany

The ever-changing nature of consumers' understanding of local food highlights the need for in-depth research. This study explores how Gen-Z consumers define, perceive and experience local food. Through the analysis, we extend the existing conceptualization of local food by differentiating three aspects of proximity: geographical, value, and relational proximity. We contribute novel insights into the differentiation of proximity to the established understanding for this specific consumer group. Methodologically, we use a free association game played with Gen-Z consumers in Hungary. Theoretical frameworks, including social representation, central core and proximity theories, are used to uncover implicit knowledge about local food. The results reveal a consumer understanding that associates health, freshness, taste, quality and trustworthiness as the central core of the local food concept. Surprisingly, value and relational proximity gain importance, while geographical proximity takes a peripheral role. This study facilitates a re-evaluation of the local food concept in light of evolving consumer understanding, while also establishing a link between proximity theories and social representation theory. The findings provide practical implications that distinguish different aspects of proximity that are relevant to farmers and policy makers in light of evolving consumer understandings.

## KEYWORDS

local food, consumer perception, food consumption, proximity, free association game

## 1 Introduction

In recent years, local and alternative food networks have received increasing attention (Goodman et al., 2014). The dynamic nature of consumers' understanding of local food highlights the need for comprehensive research to understand food system change, while the conceptualization of local food lacks clarity (Enthoven and Van Den Broeck, 2021). Eriksen (2013) notes that different understandings of local food have practical consequences. A variety of interpretations of local food could also hinder further development of the sector (Anderson, 2008; Pearson et al., 2011). With a better understanding, several other practical opportunities could be initiated. While the concept of "distance" or "proximity" may mean different, non-exclusive things to participants in the food chain, it remains vague and ambiguous to many consumers (Sirieix et al., 2008).

The notion of "local" is subjective and culturally and regionally specific. European consumers associate local products with more environmentally friendly production methods, a smaller carbon footprint, higher quality standards (e.g. freshness, nutritional

value) and healthy eating (Augère-Granier, 2016; Penney and Prior, 2014). In Northern and Western Europe, local is associated with quality criteria such as environmental sustainability and animal welfare. In Eastern and Central Europe, local food is associated with culture, rural tradition and local knowledge. In Southern Europe, the local context of production determines quality: culture, tradition, climate, soil and local knowledge (Fonte, 2008). Local food systems are often farmers' markets, farm-gate sales, box schemes, community-supported agriculture or public procurement schemes.

In Hungary, where this study was conducted, local products have clear positive attributes: food is tastier, more natural and more environmentally friendly. The understanding of local food is better than that of average food (Szedyné Fricz et al., 2020). According to a representative consumer survey (Szente et al., 2014), the vast majority of Hungarian consumers (72.9%) are either partly or completely in favor of locally produced food. Local food is preferred over imported food when the price is the same (Szente et al., 2014). This high level of support suggests that Hungarian consumers are particularly interested in locally produced food. By comparison, organic food was important to only 38.9% of respondents. Nagy-Peto et al. (2023) found that 91.2% of Hungarian consumers have specific ideas about what they consider to be local food. Their main expectations include the involvement of Hungarian producers and traditional production technology. However, their expectations regarding the distance of origin of local food were quite different.

Besides the regional variations, local food understandings may vary across generations as well, therefore the examination of Gen Z consumers has recently gained prominence. Gen Z comprises people born between 1995 and 2010 (Williams and Page, 2011) and this generation seems to consume differently from previous generations (Schlossberg, xbib2016 cited by Orea-Giner and Fusté-Forné, 2023). Many of them follow healthy eating habits and their consumption is linked to sustainable activities (Su et al., 2019). According to the EIT Food research (2021), they want a healthy food system in which they can actively participate. Food is a relevant attribute for Gen Z consumers when they seek to discover a sense of place (Alton, 2012), and they are willing to pay more for organic (Fromm and Read, 2018). The foodservice industry is also interested in Gen Z because they enjoy eating out and are willing to try new dishes (Lee et al., 2022). According to Robinson and Schänzel (2019), Generation Z consumers make new acquaintances, interact with locals when they travel, and seek a deeper meaning for personal life and self-development. Awareness of the environmental consequences of personal behavior can be applied to the study of local food consumption when traveling (Orea-Giner and Fusté-Forné, 2023).

Looking at the local food models and definitions in general, several conceptualisations of local food focus on spatial proximity, but the phenomenon of local food is much more complex and nuanced. Proximity is not simply geographical distance, but closeness in space, time, relationship or similarity. It's important to reassess these geographically focused concepts, given how much both the local food landscape and consumer preferences have evolved. Although local food has received considerable attention, what consumers consider local is still controversially debated (Blake et al., 2010; Chicoine et al., 2022; Hinrichs, 2003; Meyerding and

Trajer, 2019; Pearson et al., 2011). It is also unclear which types of proximity dominate consumers' understanding of food locality.

Therefore, the aim of this study is to answer the following research question: How do Hungarian Gen Z consumers perceive food locality? In pursuing this investigation, we aim to explore the social representation of local food and contribute to a better understanding of local food for this locality and this specific age group. In this paper, theories of proximity and social representation are used to develop deeper knowledge. In the following, we outline our theoretical background that contributes to a better understanding of the local in local food. We then describe our methodological approach, a free association game.

## 1.1 Theoretical background - local food and proximity

Empirical studies on local food are numerous, but the conceptualization of local food is often unclear (Enthoven and Van Den Broeck, 2021). While spatial aspects predominate in characterizing local food, relational or qualitative terms are also important (Ostrom, 2006, cited in Chicoine et al., 2022). Eriksen (2013) suggests that proximity provides a comprehensive framework for understanding the different conceptions of local food, encompassing spatial, temporal and relational dimensions (Torre, 2010).

Geographical proximity, which measures the distance between production and consumption, is a commonly used criterion (Feldmann and Hamm, 2015; Fernández-Ferrín et al., 2018; Hasanzade et al., 2022). This dimension focuses on spatial factors, such as production location and distribution radius. Fernández-Ferrín et al. (2017) classify geographic proximity into geographic and political-administrative categories, where geographic proximity directly refers to the physical distance between production and consumption, while political-administrative proximity takes into account borders and regions.

Social or relational proximity emphasizes the relationships between local farmers and consumers, and significantly influences consumers' understanding and practices of local food (Denver et al., 2019; Fernández-Ferrín et al., 2018; Jensen et al., 2019). This dimension includes direct relationships between local actors, facilitated by alternative distribution practices such as farmers' markets (Kneafsey et al., 2013). Zhong (2023) also expands the definition of local food beyond geographical boundaries to include relational proximity between consumers and producers, enriching our understanding of local food dynamics by highlighting how food system actors interact in local contexts.

We further propose the inclusion of value proximity, which incorporates shared values and perspectives within the food supply chain (Reckinger, 2022). Eriksen (2013) identifies value proximity as exploring the intrinsic values associated with local food, such as authenticity and freshness. Autio et al. (2013) also highlight that consumers value the perceived safety benefits, ethical associations and improved taste of local food. Similarly, Zhong (2023) groups consumer perspectives on local food into three categories: place-based native food, culture-based hometown food, and value-based

ecological food, and argues that the definition of local food should transcend geographical boundaries and include value proximities between consumers, places, cultures, and producers as robust parameters. For some consumers, local food is preferred because of its “taste, freshness and quality” or because it is perceived to be “healthy” (Anderson, 2008). These attributes are seen as intrinsic to local food and include notions of greater authenticity and higher quality (Weatherell et al., 2003), as well as being fresher (Jekanowski et al., 2000; Trobe, 2001), more nutritious, tastier and safer (Seyfang, 2004).

In order to understand consumers’ understandings and the qualities they attribute to local food, it is necessary to use sophisticated qualitative tools and methods to gain deep insights into consumers’ understandings. In our quest for deeper understanding, we use social representation theory as a guiding framework.

## 1.2 Social representation

Social representation theory provides insights into how individuals and groups collectively construct shared meanings and understandings of the world. People develop “common sense” knowledge through everyday interactions, which forms the basis of social representations (Moscovici, 1961). Moscovici builds on Durkheim’s (1912) idea of collective representations, viewing them not as individual characteristics but as systems of values, ideas and practices that enable social exchange and communication. Social representations provide a code for social exchange, naming and classifying aspects of the environment. While this theoretical approach has been applied to diverse fields such as public understanding of science (Bauer and Gaskell, 2002), health (Aim et al., n.d.), sustainability (Techio et al., 2016), rurality (Halfacree, 2017), ethical and unethical food (Mäkinen et al., 2011), healthy food (Gaspar et al., 2020), eating insect (Bisconsin-Júnior et al., 2022) or sustainable food consumption (László, 2022), the social representation of food locality remains unexplored.

In order to apply representation theory to the concept of local food, the incorporation of central core theory is essential. Abric’s (1976) Central Core Theory provides a structured approach to social representations by organizing representations around central and peripheral areas. This distinction includes peripheral elements organized around a core, where the core contains stable beliefs with significant consensus within the group. Peripheral beliefs, on the other hand, are numerous, unevenly shared and prone to change over time (Moliner and Abric, 2015). A representation undergoes a radical transformation when the central core changes. Therefore, identifying this central core is crucial for understanding a concept. Abric’s (1976) central core method has been utilized for decades to explore social representations and has shown significant relevance in the food sector (Gómez-Corona et al., 2016; Melendrez-Ruiz et al., 2020; Patinho et al., 2021; Rodrigues et al., 2017; quoted by Bisconsin-Júnior et al., 2022). To uncover the central core, various methods are available (Guimelli, 1993), with the most widely used being the frequency-importance matrix, which identifies four categories of associations, as shown in the Table 1.

TABLE 1 The Frequency-importance matrix.

Frequency	Central core	First periphery
	High frequency and high importance	High frequency and low importance
	Contrast zone	Second periphery
	Low frequency and high importance	Low frequency and low importance

Self-edited table based on (Abric, 2003).

In the matrix the first quadrant in the top left-hand corner represents the central core, with high frequency and high importance, signifying the most salient and significant terms for the population studied (Vergès, 1994). The second quadrant on the top right represents the first periphery, with high frequency but low importance. The third quadrant in the lower left is the contrast zone with low frequency but high importance. The fourth and last quadrant on the bottom right is the second periphery with low frequency and low salience. The contrast zone and the first periphery represent a potentially destabilizing zone, a source of change and the development of reasoned arguments (Ramognino and Vergès, 2005, p. 155).

The core moderates the meaning of all peripheral elements and shapes the global meaning of a representation. Moreover, this core is the most stable and resistant part of a representation, so that involving more participants in research is unlikely to lead to changes in the central core (Abric, 1984; Guimelli, 1993; Sammut et al., 2015). The central core comprises a limited number of elements that form the common and consensual basis of collective memory and the system of norms to which a group refers (Abric, 2003).

The two theoretical lenses, proximity and social representation, offer different perspectives for exploring assumptions for the local food context. In the local food literature, geographical proximity is the most common focus in defining local food, while other types of proximity, such as value or relational proximity, offer subsidiary values to the local food concept. As observed in the diverse field of proximity theories, a geographical approach appears consistently in all theories, while other domains vary from author to author, such as people and objects (Torre, 2010), tradition and ethnicity (Fernández-Ferrín et al., 2019), and social, organizational and cognitive aspects (Boschma, 2005). Based on this, we expect associations related to geographical proximity to take place in the central core, and associations related to value or relational proximity to occupy peripheral areas of the representational fields.

## 2 Materials and methods

### 2.1 The free association game

The free association game technique, along with its variations, is commonly employed to understand social representations. This technique has the potential to reveal implicit relationship between core and periphery and gain insights into consumers’ understanding of “local food.” The free association game is an

exercise in which players express the first thing that comes to mind when they hear or experience something. When questions are asked directly about consumer understandings, the responses are unlikely to reflect consumer attitudes in their full reality and complexity, but the free association technique can provide a window into implicit content (Joffe and Elsey, 2014). The brevity of the technique ensures that participants do not feel that their competence is being tested and that they have no difficulty in understanding the task (De Rosa, 2002). Association exercises are governed by specific rules to minimize the influence of the participants and to reduce external stimuli (noise).

The free association game technique, while insightful, has limitations. It is important to recognize that certain unavoidable external factors such as setting, location, time of day and the participant's mood can influence the process, and social desirability bias may lead to answers that do not fully reflect true attitudes. No technique can perfectly reveal social representations, and they inherently have a contextual and situated position within a relational system of meaning. Interpretation of stimulus words varies among individuals, complicating generalization. Facilitator influence, even subtle, may shape responses, and the choice of stimulus words may limit the range of associations.

Designing the free association game for this research, we base our methodological considerations on the associative network technique (De Rosa, 2002). In this self-designed game (László, 2022), the first step was to explain the general rules to the participants. It was emphasized that the aim was not to give a definition of the stimulus word, but to spontaneously express the first thoughts that came to mind. The game had one stimulus word ("local food") and participants were asked to associate words that immediately came to mind. Participants were then asked to rate each associated word individually, categorizing it as a negative, positive or neutral expression for them (polarity). The next task was to rank the terms in order of perceived importance. The final step of the game was to collect demographic data from the participants.

## 2.2 Data collection and analysis

The free association games were played between January and March 2023 in Hungary, Anonym. From the total sample, 103 players were included in this analysis. Main inclusion criteria were nationality and age in order to obtain a homogeneous sample (Hungarian Gen Z consumers). Homogeneous group was also used by Bisconsin-Júnior et al. (2022) in their similar study investigating insect consumption through social representation theory, as a more specific group might share similar needs, wishes. Exclusion criteria were not fully playing free association games (e.g. not being able to put them in order, or only recalling the stimulus). A total of 75 female and 28 male respondents participated. All participants were university students aged between 18 and 25, with a mean age of 20.64 years. Five expressions were collected from each participant ( $n = 515$  in total) for the stimulus "local food." The majority of the participants, 40.71%, live in a settlement, 38.83% of them in a town, 16.50% in a county town and only 3.88% in the capital.

TABLE 2 Associations evoked 10 or more times: frequency ( $f$ ), order of importance (OI), polarity ( $p$ ) and share of the total database.

Expression	$f$	OI	$p$	Share of total data base
Health	34	1.62	1.00	6.60%
Expensive	33	3.15	-0.97	6.41%
Fresh	27	1.63	0.96	5.24%
Tasty	26	2.27	0.92	5.05%
Hungarian	25	3.16	0.72	4.85%
Vegetable/fruit	23	3.35	0.61	4.47%
Shop	15	3.40	0.13	2.91%
Bio	12	3.67	0.75	2.33%
Local	12	3.83	0.92	2.33%
Small farmer	12	3.33	0.58	2.33%
Market	12	3.50	0.42	2.33%
Quality	11	1.73	0.82	2.14%
Red pepper	11	4.45	0.09	2.14%
Trustworthy	10	2.10	1.00	1.94%

## 2.3 Analytical procedure—Lemmatization, categorization, translation

Associations were collected in person and recorded on accompanying sheets. The recorded data underwent stemming and lemmatization. Stemming refers to a process of cutting off the ends of words, often including the removal of derivational affixes, while lemmatization refers to the use of vocabulary and morphological analysis of words with the aim of returning the base or dictionary form of a word (Manning et al., 2008). Therefore, the associations were cleaned of commas, punctuation marks, and missing/incomplete data. In a second step, synonyms were identified. The search for synonyms is necessary because the importance of a phenomenon with different versions would be underestimated without unification. Terms mentioned more than once were translated into English. Data analysis was carried out in Microsoft Excel and Atlas TI, presented in full detail in the results.

## 3 Results

### 3.1 Accessibility, importance, and polarity

After completing the analytical procedure, the dataset was sufficient for more nuanced calculations and indicator assessments. First, associations were thoroughly examined for accessibility, importance and polarity, as explained in this chapter.

An important aspect of the associated words is frequency ( $f$ ), which indicates how many participants evoked a given association, in other words frequency counts the mentions of a given word. Rank indicates the average position of the words and were sorted according to their frequency (the rows in Table 2). Out of the 515 associations collected, the most frequently evoked words (i.e.

those that could be close to the core of the local food connection phenomenon) are “health” ( $f = 34$ ), “expensive” ( $f = 33$ ), “fresh” ( $f = 27$ ), “tasty” ( $f = 26$ ), “Hungarian” ( $f = 25$ ) and “vegetable, fruit” ( $f = 23$ ).

Table 2 outlines the attributes of the most frequently evoked terms, with further explanation of the indices later in this chapter. In addition to frequency, order of importance (OI) is also taken into account. This metric reflects the significance of an association beyond its mere frequency, acknowledging that the most commonly mentioned term may not necessarily hold the greatest importance for participants; it may simply be the most socially shared term. Evaluating the evoked terms and ranking each word by order implies a more rational cognitive process. To calculate the OI, we simply averaged the importance scores given by the participants. Thus, the smaller the number, the more important the expression is on average for the participants.

The polarity and neutrality indices allow us to explore whether given expressions carry emotional weight (and of what kind) or are neutral for the participants. The polarity index ( $P$ ) serves as a synthetic measure of implicit evaluation and attitude within the representational field (De Rosa, 2002). As a control measure, the neutrality index is examined, where high positive polarity corresponds to a lack of neutrality (no emotional charge) and vice versa. To calculate polarity (see Equation 1) and neutrality (see Equation 2), players were asked to rate each expression individually as positive, neutral or negative, providing data for polarity and neutrality ratings.

Index of polarity:

$$(P) = \frac{[(N^\circ \text{ of “+” words}) - (N^\circ \text{ of “-” words})]}{N^\circ \text{ of total words associated}} \quad (1)$$

( $P$ ) ranges between  $(-1; 1)$ . If ( $P$ ) is between  $-1$  and  $-0.5$  most words are connotated negatively. If ( $P$ ) is between  $-0.4$  and  $+0.4$  positive and negative words tend to be equal. If ( $P$ ) is between  $+0.4$  and  $+1$ , most words are connotated positively.

Index of neutrality:

$$(N) = \frac{[(N^\circ \text{ of “0” words}) - (N^\circ \text{ of “+” words}) + N^\circ \text{ of “-” words}]/ N^\circ \text{ of total words associated}}{2} \quad (2)$$

( $N$ ) ranges between  $(-1; 1)$ . If ( $N$ ) is between  $-1$  and  $-0.5$  few words are neutral. If ( $N$ ) is between  $-0.4$  and  $+0.4$  neutral words tend to equal to the sum of positive and negative words. If ( $N$ ) is between  $+0.4$  and  $+1$  most words are neutral, and there is a high neutrality.

The polarity index of local food is 0.5282, indicating that the majority of associations are positive. Conversely, the neutrality index of local food is  $-0.6078$ , indicating that few words are neutral. This suggests that people have strong opinions about local food, as this concept evokes expressions with an emotional component.

## 3.2 Central core of local food

The central core of local food was identified using the frequency-importance matrix. To establish the baselines, the

average of frequency ( $F$ ) and importance ( $OI$ ) was considered first, but these averages can be very misleading due to the high number of associations mentioned only once ( $n = 106$ ). Therefore, a strict rule was introduced to use only higher frequency expressions ( $f > 2$ ), and the baseline averages were set at  $f = 9.05$  and  $OI = 2.99$ .

According to the frequency-importance matrix (Table 3), the central core, i.e. the stable part of the local food concept, is healthy, fresh, tasty, quality and trustworthy. As a second step, the associations presented in the frequency-importance matrix were also qualified based on proximity, considering the three domains of proximity (Eriksen, 2013); in order to better understand the central and peripheral nature of the different proximities regarding local food.

Product-related characteristics were categorized as value proximity, including attributes such as freshness, organic or traditional. Interpersonal or person-related associations were classified as relational proximity, including terms such as trustworthy, small farmer or support. Associations related to physical distance or administrative region were grouped under geographic proximity, such as local, Hungarian or garden. Associations related to value proximity are both numerous and significant, dominating the central core. Relational proximity seems to be important but is rarely encountered. Associations related to geographical proximity are found only in the peripheral areas of the cognitive structure.

## 3.3 Stability of the representational field

To ensure the reliability of the results and conclusions, it is essential to assess the stability of the representational field, as well as to examine the cognitive structure and its stability through diversity and hapax (Hollósy-Vadász, 2017; Vergès, 1994). Diversity ( $D$ ) measures the extent of consensus regarding the meaning of a specific representation. In contrast, hapax ( $H$ ) reflects the stability of the cognitive organization related to that object.

Diversity:

$$(D) = T/N \quad (3)$$

( $D$ ) lies between  $(0; 1)$ . The closer  $D$  is to 1, the greater the variability, and hence the lower the consensus. The group of different words ( $T$ ) (the categories in which the words are coded) and the quotient of all words ( $N$ ) are examined. There are a total of 515 mentions, 60 words are mentioned more than once and there are a total of 166 different expressions, so the diversity is  $166/515 = 0.322$ . The diversity is higher than ideal, but still in the acceptable range. With more participants, the diversity approaches zero.

Hapax:

$$(H) = (N \text{ where } f = 1) / T \quad (4)$$

( $H$ ) ranges between  $(0; 1)$ .

Its value is always between 0 and 1; the higher the value, the more unstable the cognitive organization of the phenomenon. The number of words mentioned by only one respondent divided by the total number of words mentioned is examined. For local food  $Hapax = 106/166 = 0.638$  we see that there is a rather

TABLE 3 Frequency-importance matrix.

Central core			First periphery		
$f > 9.05$ (high)			$f > 9.05$ (high)		
OI < 2.99 (high)	$f$	OI	OI > 2.99 (low)	$f$	OI
Health	34	1.62	Expensive	33	3.15
Fresh	27	1.63	Hungarian	25	3.16
Tasty	26	2.27	Vegetable fruit	23	3.35
Quality	11	1.73	Shop	15	3.40
Trustworthy	10	2.10	Bio	12	3.67
			Local	12	3.83
			Small farmer	12	3.33
			Market	12	3.50
			Red pepper	11	4.45
Contrast zone			Second periphery		
$f < 9.05$ (low)			$f < 9.05$ (low)		
OI < 2.99 (high)	$f$	OI	OI > 2.99 (low)	$f$	OI
Sustainable	7	2.29	Settlement	8	3.13
Penny	5	2.60	Agriculture	6	3.17
Wheat	4	3.00	Cheap	6	3.17
Free of packaging	4	2.75	Domestic	5	3.60
Bread	4	3.00	Pasta	5	4.20
Milk	4	2.50	Support	4	4.00
Egg	4	2.00	Restaurant	3	3.33
Sausage	3	2.33	Garden	3	4.00
Flour	3	2.67	Potato	3	3.67
Bakery product	3	3.00	Workplace	3	3.67
Nutrient-dense	3	1.67	Tomato	3	4.33
Natural	3	1.67	Bakery	3	3.33
Tradition	3	2.00	Juicy	3	3.33
Chemical-free	3	3.00			

unstable cognitive structure describing local food, which can be strengthened by involving more people. However, the levels of diversity and hapax conclusions to be drawn from the data.

## 4 Discussion

Consumer understanding of local food was explored using free association games and then examined through the lenses of proximity and the core and periphery of social representation. Descriptive analysis was carried out to provide a basis for understatement, including calculations of the frequency of associated words, their salience and their polarity (emotional charge) or neutrality. Building on this, more nuanced calculations were carried out. The central core (the most stable and important part of the phenomenon) was examined by splitting associations based on importance and frequency, revealing the stable part of

the consumer's understanding through the frequency-importance matrix. The central core and the representational field were then re-examined through the lens of the different areas of proximity (geographical, relational and value). This investigation allowed us to discern the types of associations within the core and to identify shifts in proximity types toward the contrast zone or peripheries. Exploring the different domains of proximity facilitates our goal of uncovering consumers' understanding of local food, which we will now explore in more detail.

### 4.1 Geographical proximity in the periphery

In line with the existing literature, our initial expectation was that geographical proximity would form the central core of the local food concept. However, our findings from Hungarian Gen Z

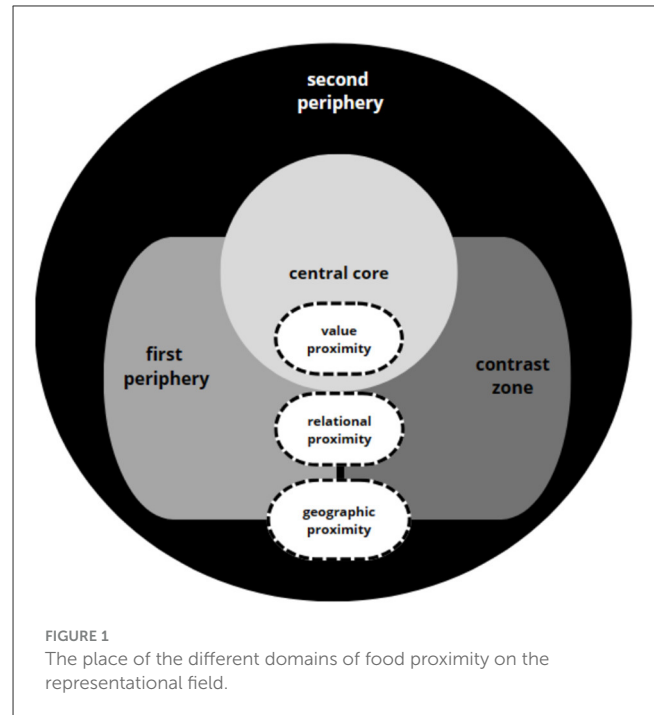
consumers indicate that expressions such as “local” or “Hungarian,” appear only in the first periphery. Nagy-Peto et al. (2023) suggests that expectations about the distance of origin of local food were quite diverse amongst Hungarian consumers, suggesting that geographical proximity may not be the most important or at least stable attribute of the understanding of local food. Terms referring to geographical distance were in the periphery and contrast zone, meaning that they are not a stable part of the representation, there is no consensus among consumers.

An unanticipated outcome was the emergence of national iconic products (such as “red pepper” or “unicum”) and the term “Hungarian” among the representations, while truly local products (typical of the region of data collection) only occasionally emerged. The question also arises as to whether or not consumers make a significant distinction between local and national food products. Several studies suggest that consumers do not significantly differentiate between domestic and local products, e.g. Eriksen (2013) mentions that “for others, food is considered local if it is produced in the same country where it is consumed” (p. 47). Regional boundaries “can range from the municipal to the national level or even beyond, and can vary for different types of products” (Schönhart et al., 2009, p. 244). Our findings also support the idea that consumers are deeply confused about these phenomena, which should be further explored in the future.

Sirieux et al. (2008) suggested that although consumers are aware of distance and associate it with the complexity of food supply chains, they do not choose food products based on food miles criteria, and consumers are more concerned with how distance hides the environmental and social conditions of production, delivering a message quite similar to our research; geographical proximity plays a peripheral role in consumers’ understanding of food proximity, while the social and value attributes are more important. Therefore, producers should shift their marketing strategies to emphasize attributes like quality, health benefits, and trust, rather than concentrating exclusively on the geographical distance between where food is produced and consumed.

## 4.2 The emergence of relational proximity

According to our findings, relational proximity emerges as a key aspect of social representation, demonstrating the importance of social connections in consumer understanding. Local food transcends mere geographical distance; it embodies fewer intermediaries and fosters stronger interpersonal ties, particularly through increased trust within the system. The inclusion of “trustworthy” in the central core underlines its importance. As highlighted by Benson et al. (2020), consumer trust is the foundation of any market, and this resonates in the food sector. Building sustainable food systems depends on fostering consumer trust. Critical factors that foster trust in food include transparency, proactivity, collaboration and a consumer-centered approach—qualities often found in local food systems. Despite its centrality, trust often receives little attention in conventional definitions of “local.” Yet it is undeniably a fundamental element of the concept. Our research findings highlight the complex



interplay between trust and local food and encourage exploration in future studies. Building direct and meaningful relationships with consumers can be a powerful strategy for local food producers, as it can also create a competitive advantage in the market. By fostering trust through transparency, direct communication, and involvement in community food initiatives (Morrow et al., 2023) such as farmers’ markets and box schemes, producers can solidify their place in the local food system.

## 4.3 The dominance of value proximity

There is a general agreement in the literature that local food is considered positive (Feldmann and Hamm, 2015; Zepeda and Li, 2006). This is in line with the findings of this research, as the low neutrality index in our results suggests an emotional charge of the representation, and the polarity index proves it to be positive.

Our results are also in line with the suggestion of Szegedyne Fricz et al. (2020) that Hungarian consumers see local food as delicious, natural and environmentally friendly. Taste is at the core of consumers’ understanding of local food, while “natural” was rarely mentioned in our study, nor was “sustainability” important, both falling in the contrast zone. Other product attributes gained in importance, such as “freshness” and “quality,” as well as trust itself. Health is the strongest element of the central core, but there are also some other evocations related to health, such as “nutritious,” “good for me”; therefore, health should be considered as part of the local food concept. Our findings are also in line with Kovács et al. (2022), who suggest that for young Hungarian consumers, the characteristics associated with local products are freshness, quality, nutritional value, reliability, safety, evocation of local flavors, naturalness, healthiness,

TABLE 4 The place of the different domains of food proximity on the representational field based on the results.

Representational field		Central core	First periphery	Contrast zone	Second periphery
		$f > 9.05$	$f > 9.05$	$f > 9.05$	$f > 9.05$
		$OI < 2.99$	$OI > 2.99$	$OI < 2.99$	$OI > 2.99$
Type of proximity (Eriksen, 2013)	Value proximity	Health, fresh, tasty quality	Vegetable, fruit, expensive, red pepper, bio	Sustainable, wheat, free of packaging, bread, milk, egg, sausage, flour, bakery product, nutrient-dense, natural, tradition, chemical-free	Tomato, bakery, juicy, cheap, pasta, potato
	Relational proximity	Trustworthy	Small farmer		Support
	Geographic proximity		Shop, Hungarian, marker, local	Penny	Workplace, settlement, restaurant, garden, domestic, agriculture

environmental friendliness, etc., while Benedek et al. (n.d.) indicates that freshness is less important for consumers than sustainable packaging.

Szente et al. (2014) argued that the organic origin is not a very important aspect of the local food concept in Hungary (38.9% of respondents), which is further proved by this study, as the term “bio” (referring to organic) was in the first periphery; often mentioned but with low importance. Nagy-Peto et al. (2023) found that Hungarian consumers’ expectations of local food include the involvement of Hungarian producers and labor, and traditional production technology. This is questionable according to our results, as “tradition” was not an important attribute, nor were Hungarian producers. These differences could be due to the fact that younger consumers may have quite different expectations on the innovative-traditional scale of local food.

Looking at the result, there is an unexpected association with the second highest frequency; “expensive” ( $f = 33$ ) and almost every time it was judged as a negative term, with an average polarity of  $-0.970$ . It can be concluded that one of the main weaknesses of local food may be that young consumers find it too expensive. The perception of local food as expensive presents a challenge that producers must tackle. Exploring innovative pricing strategies or emphasizing the added value of local products, such as superior freshness and reduced environmental impact, may increase consumers’ willingness to pay; however, further research is needed to address this issue effectively.

#### 4.4 Consumer understanding of food proximity on the representational field

We propose a theoretical concept (Figure 1) that situates local food proximities within the representational field, as outlined in Table 4, and incorporates all the lessons learned discussed previously. Here, the core of the consumer’s understanding of food locality relates to values: the most stable part of the concept in the consumer’s mind is product-value oriented, supported by a strong

presence of relational proximity, which is gaining ground, while geographical proximity is losing its importance.

Based on our analysis of the free association game, the primary factor influencing consumers’ understanding of food locality is value proximity. This implies that specific product attributes are at the core of consumer identification of food locality. Value proximity encompasses different values attributed to local food by different stakeholders. While relational proximity is also a factor at the core of consumer understanding, its importance appears to be somewhat diminished. Consumers’ understanding of locality is closely linked to their relationships with farmers or other consumers. Direct connections between local actors are being re-established through alternative modes of production and distribution, such as farmers’ markets, farm shops, cooperatives, box schemes and food networks (Eriksen, 2013). We argue that these direct relationships are gaining prominence in consumer understanding.

Contrary to initial assumptions, explicit spatial or geographical locality appears to be marginal in consumer associations. Various theories and definitions have traditionally considered locality through the lens of area, place or geographical boundaries, as well as distance or radius metrics (Eriksen, 2013). However, we argue that these explicitly spatial elements do not have a significant impact on consumers’ understanding of food locality. Consequently, we argue for theories that delve deeper into the evolving dynamics of locality, considering both relational and value perspectives.

## 5 Limitations of the research

This study acknowledges several limitations that may affect the reliability and generalizability of the findings. Firstly, increasing the sample size would enhance the robustness of the results. The demographic homogeneity of the current sample limits the ability to draw broad conclusions, as the findings may not be fully applicable to more diverse populations. Additionally, potential biases in data collection methods, particularly due to the qualitative nature of the research, could influence the results. The free association game used in the study may be influenced by the



situational context, which could shape the associations made by participants. These contextual factors may result in responses that do not necessarily reflect participants' genuine perceptions or beliefs, further impacting the study's findings. Translation from Hungarian to English introduces challenge, as subtle differences in meaning may be lost, leading to potential inaccuracies and affecting the integrity of the data.

## 6 Conclusion

Ambiguities in the definition of local food in the literature, coupled with the dynamically changing nature of consumer understanding, highlight the need for comprehensive research. This study focuses on the evolving understanding of local food among Generation Z consumers, with a particular focus on the Hungarian context. Through an exploratory qualitative analysis using free association games and proximity lenses, this research has illuminated several key insights into the complex landscape of consumer perceptions surrounding local food.

A primary conclusion of this study is the redefinition of geographical proximity in the context of local food. Contrary to traditional assumptions, our findings suggest that geographical factors play a peripheral role in consumers' understanding of local food. Instead, relational and value proximity emerge as dominant themes, highlighting the importance of social connections and intrinsic product attributes such as freshness, taste and quality. Furthermore, trust emerges as a critical determinant of consumer understanding of local food. The centrality of trust underlines the importance of transparent and consumer-oriented food systems in fostering trust and loyalty among consumers and within the food supply chain. The dominance of proximity values in consumers' understanding of local food presents both opportunities and challenges for food industry stakeholders. Understanding and harnessing consumer values such as health and authenticity can inform marketing strategies and product development initiatives aimed at appealing to the preferences of Generation Z consumers.

At a practical level, the findings of this research have implications for policy makers, marketers and producers alike. By recognizing the evolving dynamics of consumer perceptions around local food, stakeholders can adapt their approaches to better meet changing consumer needs and preferences. This may involve redesigning marketing campaigns to emphasize product attributes that align with consumer values, or implementing initiatives to increase transparency and trust within local food systems.

Our findings challenge conventional beliefs about Hungarian consumers' expectations of local food. Contrary to previous studies, our research suggests that taste and health are prioritized over traditional aspects such as the involvement of Hungarian producers. Furthermore, it appears that some consumers might not distinguish between local and domestic food products, suggesting that this should be explored in future studies. However, the association of local food with higher costs, as indicated by the frequent use of the term "expensive," poses an economic challenge. As consumer preferences evolve, it is imperative to rethink theories centered on geographical

proximity and to adopt new perspectives in line with consumers' evolving understanding of local food. By unraveling the multifaceted social representation of local food among Hungarian consumers, this research lays the groundwork for promoting sustainable and economically viable local food systems in the region.

## Data availability statement

The datasets presented in this study can be found in online repositories. The names of the repository/repositories and accession number(s) can be found at: <https://doi.org/10.5281/zenodo.12731046>.

## Author contributions

VL: Conceptualization, Resources, Visualization, Writing – original draft, Writing – review & editing, Data curation, Formal analysis, Funding acquisition, Methodology. SW: Conceptualization, Resources, Visualization, Writing – original draft, Writing – review & editing, Supervision.

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## Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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