DOCTORAL (PhD) DISSERTATION

ILONA LILIÁNA BIRTALAN

Food Consumption and Psychological Wellbeing

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DOCTORAL (PhD) DISSERTATION

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LIST OF ABBREVATIONS

AFN Alternative Food Network
BPSS Bio-Psycho-Socio-Spiritual Well-being
CSA Community Supported Agriculture
IPA Interpretative Phenomenological Analysis
TA Reflexive Thematic Analysis

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Last, but not least, I am grateful to my husband and to my children. Their continuous support and patience were the life-giving energy for me on the path to scientific knowledge.

FOREWORDS

As a clinical health psychologist, I am focused on exploring and understanding the rich data in our environment which can form our thinking, behavior and attitudes. In addition, my opinion as a researcher is that authentic learning must be firmly rooted and linked in a dynamic manner to the everyday realities of our lives.

As an active citizen I relish creative, socioeconomic relationships. As a former active volunteer of the Association of Conscious Consumers I took part in several consumer projects and enjoyed my new views and ideas relating to the local food environment via personal lived experiences.

Perhaps it is therefore understandable how the everyday realities of the distance between people and their food supply in community-based approaches among environmentally and socially active farmers and consumers encouraged me to consider the tactile embodied experience.

List of Publications the Dissertation is Based Upon

1. Birtalan, I. L., Neulinger, Á., Rácz, J., & Bárdos, G. (2020). Community supported agriculture membership: The benefits of spousal involvement. *International Journal of Consumer Studies*, *44*(2), 172–180. https://doi.org/10.1111/ijcs.12555
2. Birtalan, I. L., Bartha, A., Neulinger, Á., Bárdos, G., Oláh, A., Rácz, J., & Rigó, A. (2020). Community Supported Agriculture as a Driver of Food-Related Well-Being. *Sustainability*, *12*(11), 4516. https://doi.org/10.3390/su12114516
3. Birtalan, I. L., Neulinger, Á., Bárdos, G., Rigó, A., Rácz, J., & Boros, S. (2021). Local food communities: Exploring health-related adaptivity and self-management practices. *British Food Journal*, *123*(8), 2728–2742. https://doi.org/10.1108/BFJ-12-2020-1176
4. Birtalan, I. L., Fertő, I., Neulinger, Á., Rácz, J., & Oláh, A. (2022). The wellbeing paradox in Hungarian local sustainable agriculture: A health psychology approach. *BMC Public Health*, *22*(1), 2326. https://doi.org/10.1186/s12889-022-14643-2

Each co-author has granted permission for the publications to be included in the current dissertation.

CHAPTER I. FOOD CONSUMPTION AND PSYCHOLOGICAL WELLBEING

Introduction

Our choices and decisions have a significant effect on our life satisfaction. Personal judgements - from where to live to what to eat - influence our well-being. Since meals are a fundamental part of our everyday life, eating the right food may help to improve personal satisfaction. A healthy diet (rich in fruits and vegetables) may decrease the risk of life-threatening diseases such as cancer or cardiovascular disorders (Miller et al., 2017; Turati et al., 2015) and can influence the quality of life (Meiselman, 2016). Furthermore, a healthy diet, rich in fruits and vegetables, is associated with greater self-efficacy, higher levels of positive emotions or improved moods, a higher quality of social support and reduced psychological distress (Ares et al., 2015; Bishwajit et al., 2017; Brookie et al., 2018). Moreover, an interesting study by Mujcic & Oswald (2016) suggests that the positive effects of fruit and vegetable consumption on the quality of life develop faster than the beneficial effects on physical health. Additionally, the type of food processing or origin of food, such as raw or organic food, has been found to impact mental health and subjective well-being (Brookie et al., 2018).

Consumer demand for organic products has been growing worldwide as it is considered healthier, safer, better tasting and of higher quality than conventional foods (Vega-Zamora et al., 2013). Organic food is free from artificial chemicals and genetically modified organisms. Its consumers exhibit healthy dietary behavior and are more likely to take preventive health action than those in the general population (Baudry et al., 2016). This health improvement in turn may lead to individuals feeling and being more satisfied with their life (Seconda et al., 2017), demonstrating a basis for strong future orientation (Chekima et al., 2017). Scholars suggest organic consumption is more than simply handling functional needs (nutrition), it expresses consumer core values and enacts consumer identity, it is an element of one's way of living (Du et al., 2017; Schifferstein & Ophuist, 1998). Biospheric values, other-oriented motives, or social identification perspectives are part of such food's societal associations influenced by the organic nature (Du et al., 2017; Rana & Paul, 2017; Van Doorn & Verhoef, 2015). Studies examining organic food consumption demonstrate a greater subjective well-being (Apaolaza et al., 2018).

Interestingly, behavior related to the purchase of organic food increases the probability of buying local agricultural products (Zepeda & Li, 2006). Moreover, fears of

safety risks associated with large-scale industrial food production narrow/limit not only the type but the source of food choice and turn consumer attention to local food (Harris, 2010; Ostrom, 2006). People assume that local organic food promotes better circumstances for the environment in contrast to large agrifood-complexes (Cleveland et al., 2016). Not surprisingly, the local origin of food positively influences perceptions and thus the act of purchase is perceived as psychologically closer by the consumer (Bazzani et al., 2017; Merle et al., 2016).

The Food Environment in Health

Over recent decades, public health research and practice have become increasingly interested in the influence of the food environment on health-related outcomes (Lytle & Sokol, 2017). To better understand the role of environments in shaping behavior, dietary patterns and other health-related factors are the main emphasis on the complex influences of the social and built environment. Beyond individual and subjective factors, e.g., how people attribute meaning to health, it is necessary to understand how these processes are influenced by communities, and by current institutional or environmental frameworks.

One of the independent predictors of individuals' food choices and diet quality seems to be the local food environment (Kelly et al., 2011). In the recent literature, two main approaches can be roughly distinguished and have been used to explain the context of the local food environment. First, numerous studies illustrate a strong difference between the North American and European perspective regarding local food production (Goodman, 2003; Holloway et al., 2007). The North American perspective highlights local food as a potential alternative to the models of production used in the industrialized global food system (Goodman, 2003). This approach is based on the principles of social justice and sustainable environment aimed at strengthening the connection between producers and consumers (Holloway et al., 2007). The European perspective qualifies local foods in relation to the value of the specific conditions of production associated with a geographical area which provide a clear identity for the product (Fonte, 2008). In addition, growing knowledge of the local food environment in Eastern European countries suggests they are not inherently equivalent to what studies have found in the United States or Western Europe: it provides a dual role as a means of survival and a leisure pursuit within the context of food self-provisioning (Benedek & Balázs, 2016; Jehlička et al., 2013).

Local Food Communities

There are a number of consumer groups which challenge the operation of a consumption-based society, especially industrialized production: e.g. farmers' markets, box schemes and solidarity purchasing groups, and these alternative methods of consumption, have become increasingly widespread over the last few decades (Goodman & Goodman, 2009; Pascucci et al., 2016). In these forms of Alternative Food Networks (AFNs), consumers perceive local food production as environmentally friendly and psychologically closer to them, allowing them to identify the origin of the food and strengthen the consumer-producer and urban-rural relationship (Dixon & Richards, 2016; Goodman & Goodman, 2009). The advantages of AFNs lie in the closeness of the production, the feeling of control by consumers over food safety, high quality produce and environmental protection.

While many features of the local food environment have been examined, little attention has been given to local food communities, even though they hold a significant position alongside AFNs. Community Supported Agriculture (CSA) is one possibility for local food communities who are trying to minimize the negative effects of conventional production via its special mechanisms. CSA has the potential to solve certain global dilemmas e.g., it highlights risk-sharing cooperation between producers and consumers, but only by meeting the needs of farmers and CSA member groups (Cone & Myhre, 2000). Within CSAs, consumption is not stigmatized; instead of challenging market beliefs, it is emphasized as a route to moral superiority (Cone & Kakaliouras, 1995; Press & Arnould, 2011; Thompson & Coskuner-Balli, 2007).

There is no single definition of CSA, but the main principle of those that exist is that they attempt to supply consumers directly with fresh and organically grown products. CSA is an approved strategy used by farmers, who are searching for a niche by going "beyond organic" in the local food economy (Goodman and Goodman, 2009, p. 7). Each CSA model attempts to strike a balance between the local and the wider economic, social, and environmental policy context, although some elements, such as the weekly pick-up of the products, seasonality issues and familiarity with the farmer, are common. In a broader context, CSAs establish inclusive and democratic environments through direct collaboration between producers and consumers (Balázs et al., 2016).

The Phenomenon of the CSA

CSA transcends being a direct marketing tool connecting farmers with typically well-educated and financially stable urban dweller consumers, who fundamentally desire to gain access to fresh, organic, locally products (Jarosz, 2011; Landis et al., 2010; Lang, 2010; Lea et al., 2006). It is a form of local food communities for individuals for whom food has strong importance. This direct acquisition for the members ensures farm-to-table food from a specific local area. Similarly, Cone and Myrhe (2000) pointed out how CSA re-embeds people in a specific locality and provides a lived sense of seasonality. Not surprisingly, food, land and nature are crucial components of the atmosphere of CSA (Hinrichs, 2000).

Reviewing the literature, more than 60 years have passed since the CSA's first appearance in the 1960s and 1970s with the related scientific literature also being almost 60 years old. Below, I introduce the phenomenon of the CSA from these different approaches.

CSA, as a Response to the Broader Social Environment

In addition to its emphasis on alternatives and local preferences, the CSA movement emerged from a strong countercultural foundation voicing concerns over conventional farming, which also embodies commitments to conscious production and reduced consumption practices (Cox et al., 2008; Press & Arnould, 2011; Ravenscroft et al., 2013). In addition to a broader framework, the CSA movement is part of AFNs which are associated with the concepts of locality, embeddedness, quality, and short food supply chains (Goodman & Goodman, 2009).

The local food movement in practice is fundamentally about being place-sensitive, value-oriented (collaborative) and participatory in nature (DeLind, 2011). The combination of localization and citizenship has been termed 'civic agriculture' in which the underlying philosophy is the (re)integration of people, land and food also representing a strategy of resistance to industrialized agriculture (Allen et al., 2003; DeLind, 2002; Trauger et al., 2010).

Food production and consumption are linked to ethical decisions and, not surprisingly, Thomson and Coskuner-Balli (2007) introduced CSA as a manifestation of ethical consumerism. In addition, as it is local production and consumption, it can also be part of the so-called 'food kilometer' programs, since these require less transportation (Zsolnai & Podmaniczky, 2010). Furthermore, common behaviors associated with CSA

membership include recycling, composting, and reducing waste (MacMillan Uribe et al., 2012).

CSA membership also qualifies as a leisure activity. When it is interpreted in this way, based on postmodern leisure-studies, devotional practice and the search for meaning may also be associated with it (Kis, 2014; Ravenscroft et al., 2013). Engaging in community farming, even though it might seem temporary and insignificant, can actually contribute to a broader sense of self-identity, providing a meaningful purpose in our lives (Ravenscroft et al., 2013). The actions related to food production and distribution offer members a chance to convert routine tasks into activities of ritual importance within their chosen free time pursuits (Cone & Myhre, 2000; Wharton et al., 2015).

Moreover, according to some authors (Press & Arnould, 2011), at least in America, the work of CSA farmers recalls elements of American pastoralism as a history-rooted legitimacy for this agricultural way of life.

Geographical Aspects of the CSAs

CSAs flourish in urban settings with a regional focus, promoting greater interaction and understanding between city dwellers and people living in rural areas (Jarosz, 2011; Pole & Gray, 2013; Tegtmeier & Duffy, 2005). The connection between them holds particular significance on the outskirts of urban areas (Goland, 2002). Certainly, the densities of CSA operations vary significantly, encompassing areas where they are relatively rare (Galt, 2011).

From a global aspect, there are substantial differences regarding the background of the participants in different market-cultures: for example, their emergence in North America appears as a response to the perceived challenges posed by globalization (Mcllvaine-Newsad et al., 2004), whereas for Chinese consumers, CSAs offer a viable option for accessing safe food (Shi et al., 2011). However, CSA members engage in local eating within a specific context, connecting with particular producers and environments. As a result, CSA farms hold the potential to reintegrate individuals into specific places by linking them to a piece of land (Cone & Myhre, 2000).

Relational Aspects of the CSAs

The motivation and behavior of CSA participants might undergo changes throughout their membership duration (Cox et al., 2008; O'Hara & Stagl, 2002). While health promotion initially attracts individuals to CSAs, its significance may wane with

time, giving way to an increased focus on factors such as seasonality and waste reduction (Goland, 2002; O'Hara & Stagl, 2002).

Practically, a CSA endeavors to cultivate trust and establish a sense of connection to both the land and the farm. Wells and Gradwell (2001) argue that a CSA can be seen as a 'caring practice', and this emphasis on care fosters relationships between farmers and consumers, as well as between individuals and the natural environment. Consequently, a CSA can engender a sense of belonging and responsibility with certain members experiencing it as a form of 'living' on the farm within the broader farming team, thereby affording an avenue to reintegrate their self-identity within a communal context (Kis, 2014; Ravenscroft et al., 2013; Schnell, 2013). Furthermore, personal motivations rooted in nostalgia are also regarded as factors for joining a CSA, particularly through individual social histories (Autio et al., 2013).

CSAs are particularly popular among women, shaping their active involvement in these initiatives (DeLind & Ferguson, 1999). This is revealed by the proportion of membership: for instance, Kane and Lohr's study (Kane & Lohr, 1996) of south-eastern US CSAs reported 84.6% of the members involved being women. Women could be those who are "re-embedding themselves and their families within local communities" (Cone & Myhre, 2000, p. 193). In addition to the membership, it seems, CSAs are dominated by female growers (Wells & Gradwell, 2001).

Economic Aspects of the CSAs

Exploring the exchanged surplus value between farmers and members, investigating the impact of interpersonal closeness and trust alongside associated costs, and assessing how these factors contribute to local economies and the farm's role in generating public goods (like nutrition and education) are additional avenues for enhancing the economic perspective of CSAs (Cooley & Lass, 1998; Galt et al., 2019; Pascucci et al., 2016; Sproul & Kropp, 2015).

Direct marketing is the predominant driving force in CSA operations. This encompasses the retail value of the food supplied to CSA members in comparison to wholesale vegetable prices or other comparable marketing avenues such as local grocery stores, farmers' markets, and even personal home production. The pricing structure of CSAs also factors into this equation, and the pricing model of CSAs are good examples for price-oriented studies (see Galt, 2013; Galt et al., 2011, 2019; Paul, 2019; Sproul &

Kropp, 2015). There are other analytical methods connected to consumption approaches such as consumer satisfaction, or perceived value (see Chen, 2013; Cronin et al., 2000).

Dietary Aspects of the CSAs

The majority of CSA members have reported a greater variety of vegetables and an increase in home cooking as a result of membership due to the strictly scheduled weekly CSA product deliveries (Cohen et al., 2012; MacMillan Uribe et al., 2012; Minaker et al., 2014). Furthermore, as vegetables are harvested and delivered fresh, the loss of nutrients is minimized (Forbes & Harmon, 2008).

When comparing the dietary habits of CSA members and non-members, it is evident that members exhibit a greater consumption of fiber and vitamin A, additionally, they incorporate a higher quantity of fruit and vegetables compared to individuals who are not part of the CSA (Forbes & Harmon, 2008). It seems, while CSA members already display an initial awareness of their dietary choices, engaging in CSA participation leads to an increase in their foundational consumption of fruits and vegetables compared to what they would likely strive for otherwise (Cohen et al., 2012). Moreover, CSA can improve positive health outcomes such a reduced body mass index and waist circumference (Minaker et al., 2014).

Participation might alter food-purchasing habits: it can decrease the frequency of eating out, certain members may find it easier to transition away from supermarket shopping while some reported a rise in the consumption of accouterments such vinegars, olive oil, and garlic (Cone & Myhre, 2000; Wharton et al., 2015).

Life Change Effects via CSA

CSA membership can trigger a substantial lifestyle transformation. Upon joining, noticeable shifts in activity routines occur with the collection of produce and the amount and variety of vegetables. Research suggests that a considerable proportion of CSA members allocate a substantial portion of their time to meal preparation, thereby fostering family engagement in food cooking as well as considering it a family ritual (Hayden & Buck, 2012; Wharton et al., 2015).Altought individuals reported a reduction in time spent on food-related tasks following their CSA membership, yet it is conceivable that their actual time investment might have increased; however, this increased engagement might be perceived as less time-consuming due to the positive experiences associated with it, as Perez and colleagues suggest (2003).

CSA provides individuals with the opportunity to recognize the essential role of food in human existence, fostering a perspective that regards food as something more than a detached market commodity (Kloppenburg et al., 1996). Consequently, individuals might experience an elevation in culinary inventiveness and derive increased pleasure from the act of cooking or through articulating a wider range of "food knowledge" (Cox et al., 2008, p. 211).

Cone and Myhre (2000) highlighted the significant effects on one's awareness of time and providing a conscious sense of seasonality. Even though the participants did not initially consider seasonality when deciding to join, they gradually developed an appreciation of it as time went by (Schnell, 2013). Many CSA members go beyond simply appreciating food seasonality and place, they have a more holistic experience, reflecting on humanity's connection to nature (MacMillan Uribe et al., 2012). This sentiment embodies living in harmony with a larger system, specifically appreciating the natural gifts that the land offers through its seasonal harvesting processes (Hayden & Buck, 2012).

Over the course of their CSA membership, individuals experience an increase in their environmental awareness due to exposure to nature, weather as members become more engaged in the food-growing process or via embodied experiences themselves (Hayden & Buck, 2012). Shifting from an economic perspective to a more ecological and cultural understanding of the CSA can offer a more profound insight into agricultural work and the life of growers (Delind, 2006).

Urban inhabitants often perceive farmers as primarily concerned with economic success and productivity due to the geographical or social distance, and the role of intermediaries. However, closer interaction with farmers through CSAs reveals that farmers are increasingly prioritizing traditional values such as care, responsibility, and ethical considerations, including animal welfare. As a result, CSA members encounter a different or previously overlooked aspect of farmers' identities when establishing direct connections (see Meijboom & Stafleu, 2016).

The duration of membership also plays a role: long-term members appear to adapt their principles for managing life in response to the requirements of their membership (Cone & Myhre, 2000). When considering educational advantages, CSA facilitates hands-on learning about the food system and seems to provide an appropriate and dependable framework for nurturing a child's interest in discovering healthy local foods (Chen, 2013; Wharton et al., 2015).

In parallel with the previously mentioned shifts, members expressed intense emotional responses linked to their membership ranging from pride through anticipation to guilt (Wharton et al., 2015). Chen (2013) indicated that working share members (one form of CSAs, where members work on the land) recognize five types of feelings as emotional values: happiness, freedom, life enrichment, stress relief, and a sense of accomplishment.

It appears that conventional expectations regarding consumption patterns can erode the initial enthusiasm of CSA members (DeLind & Ferguson, 1999). Even though there are numerous benefits, there are still certain unfavorable aspects associated with CSA that a significant number of members find inconvenient. CSA members often voice dissatisfaction concerning, for example, variety, quantity, logistical challenges (Galt et al., 2019; Vasquez et al., 2017; White et al., 2018). Handling those seasons plagued by weather extremes limiting the harvest to be shared, or, in good years, tiring of the responsibility of storing and preparing a weekly abundance of products are reported concerns, as are unfamiliar vegetables (effects of the mainly biodynamic food production) or preparation requirements that challenge members (Tegtmeier & Duffy, 2005).

Qualitative Paradigm in the Dissertation

Researcher Subjectivity as a Tool of Qualitative Paradigm

Given my interest in grasping the situated and contextual knowledge of CSA members, I was focused on how members make sense of their lives and the structures of their CSA experiences. From these perspectives, the qualitative approach and as a tool, the semi-structured interviews seemed to be the most appropriate choice, providing an open situation through which for both sides, the interviewer and interviewees, a higher level of flexibility and freedom were given in terms of probing and expanding the interviewees' responses (Alshenqeeti, 2014).

However, a qualitative paradigm requires an external perspective to foster an elevated understanding of our roles and the decisions we make as a researcher, along with their potential impact on others. Through the tool of reflexivity, qualitative researchers can, and even must, analyze their own perspectives, values, and roles in the research. This involves counteracting the impact of personal bias, recognizing it, and clarifying it (Olmos-Vega et al., 2023). In this approach, reflexivity becomes a tool for leveraging the researcher's expertise and personal background as well as their reflexive engagement with theory, data and interpretation (Braun & Clarke, 2021b).

Four own roles were recognized in this research which influenced my attitude (see Table 1). From a personal reflexivity viewpoint, for me as an economist, the formal (management, goals, operations, technology) but mainly informal (culture, norms, relationships, skills) subsystems were interesting to explore. As a health psychologist, recognizing how to manage/'do' health (promote, prevent, form) actively was a reason for conducting the research. As an actively conscious consumer, understanding the impacts of social transformation (specifically grassroots movements) on shaping interrelations was a crucial subject to grasp. Moreover, reflexivity allowed me to also gain greater awareness of my role as a mother, who nurtures her children but to temporarily set aside these personal experiences to enable me to listen attentively and empathetically to research participants and to truly hear the farmers' voices.

Table 1. Summary of my own roles, perspectives and values in the research

Roles	**Own perspectives**	**Values**
Economist	Understanding formal and informal subsystems	Culture, norms, relationships, skills
Health psychologist	Doing 'health'	Agency
Conscious consumer	Social transformation	Shaping interrelations
Mother	Listening attentively	Empathy

Methodological Reflexivity

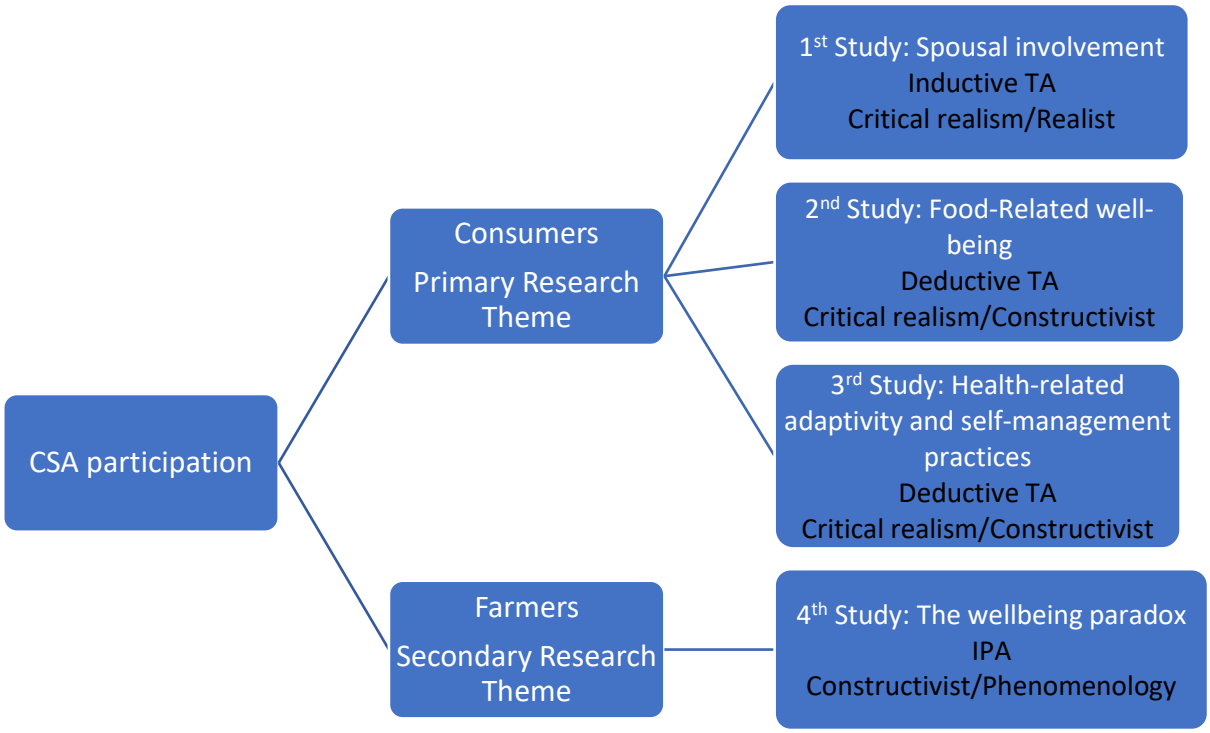
Employing methodological reflexivity means comprehending the constraints that the chosen paradigm places on the research (see summarized in Figure 1). For CSA member studies I have chosen reflexive thematic analysis (hereinafter 'TA') as the tool for data analysis. Since *a priori* no theory had been worked out as to what exactly I could apply in understanding, I used this theoretically flexible qualitative methodology (Braun & Clarke, 2021a).

The CSA member studies align with critical realism from the ontological standpoint, which emphasizes that experiences and understanding are conceptualized as being influenced and filtered through the lenses of language and culture (Braun & Clarke, 2022b). My focus was on how the 'material' world and social structures influence people's sense-making. This position is about examining how individuals situate their accounts within the conditions they must navigate and manage.

Epistemology positions arose during TA analysis when the research focus shifted to an interest in certain aspects of the data (see Braun & Clarke, 2006). This is far from being exceptional, since data can be investigated on a continuum from the semantic (clear, obvious) to the latent (implicit, underlying) meaning, determining the specific TA approach employed. Analysis of the data in relation to spousal involvement (primary research theme, 1st study) on CSA membership subjects was based on an essentialist/realist epistemological position: semantic content was reflected to articulate the meaning and experience of spousal involvement. The epistemological stance concerning the project on food-related well-being (primary research theme, 2nd study) was centered on both semantic and latent coding. This combination was employed based on the theory of the applied model, and an attempt was made to prioritize semantic coding in the biological part of the bio-psycho-socio-spiritual well-being (BPSS). However, applying the other part of the BPSS theory via deductive TA, both semantic and latent codes were produced when meaningful semantic or latent information was interpreted. The third article (primary research theme, 3rd study), concerning health-related adaptivity and self-management, concentrates predominantly on the latent aspects of the data. It commences by recognizing the foundational concepts of lived health and assumptions linked to the associated processes (Braun & Clarke, 2022a). The latter two studies were approached from a constructionist epistemological standpoint, expanding beyond the study of individual experiences to encompass a collective examination of how meaning is constructed within the context of the CSA.

As my research goals evolved, I had to choose a different qualitative psychological method. When my aim was to comprehend farmers' detailed accounts of their everyday reality (secondary research theme), to grasp a deeper understanding of the phenomenon under investigation, I chose Interpretative Phenomenological Analysis (IPA). In IPA, researchers aim to identify patterns within the data while maintaining theoretical boundaries (Braun & Clarke, 2021a). IPA is firmly rooted in constructivist ontology and phenomenological epistemology (Creswell & Creswell, 2018).

Figure 1. Summary of international peer reviewed studies of the Dissertation



Analysis of the Further Potential Bias of Research

The following factors were examined during the research processes in order to ensure a higher validity by minimizing the possibility of bias (based on Alshenqeeti, 2014):

- Interviewer's Impartiality: none of the individual qualities and qualifications were evaluated, as the data set was handled as a whole with TA methodology (primary research theme). Although with the IPA study of farmers (secondary research theme, 4th study), I analyzed the data case by case (see Smith et al., 2009), by consciously setting aside personal reactions and biases, my focus remained on acknowledging the interviewee's willingness to share their time and personal experiences. This perspective emphasized showing respect for their contribution and recognizing the significance of their individual viewpoint. Each segment of one interview contributed to the illumination and comprehension of the next.
- Interviewer's Misinterpretation and the Misunderstanding by Interviewee: Firstly, interview questions were *a priori* rethought both scientifically (leading to a Hungarian literature review article, see Appendix I.) as well as with a given

member of a solidarity purchasing group. Secondly, techniques and methods for gathering data were carefully analyzed during the data collection process with attention to issues of validity, reliability, and triangulation. Thirdly, moreover, additional time was allocated for data collection for the development of trust and rapport with the participants.

- Confirmation Bias: To avoid preexisting beliefs or ideas potentially influencing the way of interpreting and evaluating the interviewee's answers we have sought out rival or competing themes and explanations (both inductively and logically). That involved looking for other ways of organizing the data, or even other logical possibilities that could be supported by the data.

  Additionally, I went through all data sets several times in order to see the contents from an epistemological viewpoint, to be able to differently perceive the world in which they live from the next dimension of its complexity. Moreover, in order to ensure participants' voices remained in focus I took care to ensure a good balance between participant quotes and their description of the results.

  Peer review (via questions asked by Professor Phil Lyon) or debriefing (via attending a number of conferences, see Appendix 1.) were intended to prevent bias and aid conceptual development of the study, excluding co-authors contribution.

Triangulation

Triangulation operates across various levels, encompassing researcher, data, theory, and methods (Morse, 2015). In the current study, I employed triangulation in the following ways (see Patton, 1999):

- Triangulation in data collection (see Table 2): To ensure the reliability of the outcomes and prolonged engagement, meticulous efforts were exerted throughout the entire interview process. I used purposive sampling in order to identify information-rich cases and to find knowledgeable and experienced interviewees. Sampling based on relevance to the research questions was consistent with the aim of the studies to accumulate a detailed account of human behavior and beliefs within the study contexts. In order to not be influenced by the first information from the first interviewees, the sampling approach was pre-fixed based. I did not determine the sample size *a priori*. During the data collection I focused on data saturation by TA (primary research theme) and homogeneity principles by IPA (secondary research

theme). I supplemented interviews with memos, and Professor József Rácz as well as my supervisors, Professor Attila Oláh and Professor György Bárdos continuously monitored their progress, occasionally aiding in decisions (e.g., sequences, inclusion of pairs).

Table 2. Data collection method and approaches of the studies

Type of the Study	**Data collection method**	**Sample Adequacy Approach**
Members study	recommended by CSA farmers and by other interviewees (snowball technique) and were also contacted via an email list of CSAs	data saturation
Farmers study	two farmers were approached directly after consultation with the Association of Conscious Consumers and others were recommended by the initial farmers (snowball method)	homogeneity principles in data analysis

- Theoretical triangulation: I executed the research design and data interpretation coherently within the possibilities of the qualitative paradigm, incorporating insights from various applied theories and the knowledge of collaborating scholars. The research question was focused on certain lived experiences in the TA studies, while in the farmer study it was on personal experience and sense-making (Braun & Clarke, 2021b). These were based on employed stepwise verification (e.g., the six-phase analytical process of the TA) during the analysis phases (see Braun & Clarke, 2006; Smith et al., 2009) in order to rectify any discrepancies or errors naturally.
- Triangulation of methodological perspectives: Methodological triangulation in my PhD studies incorporated a multifaceted approach involving realist and constructivist epistemological positions, as well as the phenomenological and hermeneutic approach in IPA. This comprehensive blend of methodologies allowed for a more broad and nuanced exploration of the research subject. Coding of the interviews was preceded

by pattern coding with Professor József Rácz, and the development of theoretical categories was finalized through agreement with the current author team.

Dynamics of the Interviews

Informed consent was obtained from all individual participants included in the study. During interviews, various locations (e.g., home environment, pick-up environment, favorite park) were chosen by the interviewees, and these often-represented individual spaces, ensuring they had a comfortable physical environment. I adapted to these places, for example, by participating in family meals, the presence and involvement of member's husbands or respecting children's nap times during interviews. Although I drove and directed the interviews, and I functioned as an interpreter of participants' viewpoints, determining what qualifies as 'valid' information, the power was shared between interviewees and myself (see Alshenqeeti, 2014; Olmos-Vega et al., 2023). The distribution of power dynamics also influenced the development of the research situation and outcomes. This kind of close experience helped them get closer to their own inner world. Consequently, the data collected can be understood as an outcome of this intricate power dynamic that characterizes the interaction between participants and myself.

The aforementioned dynamics also took place in the case of the IPA approach (secondary research theme); therefore, I visited the farmers' farms and adjusted to the scheduling possibilities of the tasks for that day. This involved gathering in-depth, first-person accounts of individual experiences and the process of constructing meaning from them in a more personalized interview environment.

Objectives of the Studies of the Dissertation

The main goal of the PhD studies was to understand the unique set of factors which explain why and how CSA members are often able to accept strict and serious commitments, and to maintain their membership for many years. The 1st study was to address the research gap as to how spousal involvement affects CSA membership. While existing research suggests that CSA has a significant impact on health, little is known about how it affects well-being experiences in relation to the food of CSA participants, which was the 2nd study aim. The 3rd study aimed to investigate how participation in CSA influences construct of health (Huber et al., 2011), focusing specifically on health-related adaptivity and self-management practices. Furthermore, to enhance comprehension of the

factors that shape the experiences of the CSA farmers themselves, my 4th study identified mental health challenges arising within the context of CSA practices.

Structure of the Four Studies of the Dissertation

Two international scientific posters, one Hungarian scientific poster, two international scientific presentations, eleven Hungarian scientific presentations, three Hungarian awareness-raising presentations and one article, three Hungarian scientific articles, one related methodology chapter and four international scientific articles are with the first authorship on this topic (see Appendix I). The four international articles (Q1 and Q2 journals, altogether amounting to an impact factor of more than 12) are the basis of this PhD Dissertation.

With qualitative data collection, one piece of research concentrates on CSA consumers (see Figure 1). Via different qualitative data analysis approaches, there are three different peer-reviewed international journal articles from the consumer's point of view (primary research theme): 1) spousal involvement of members in managing CSA participation (data analysis method: inductive TA), 2) food-related well-being of members from the health psychological bio-psycho-socio-spiritual well-being point of view (data analysis method: deductive TA) and 3) analysis of health-related adaptivity and self-management practices within CSA based on Machteld Huber's dynamic health (Huber et al., 2016) definition (data analysis method: deductive TA).

The secondary research theme concentrates on farmers' mental health and work-related stress (see Figure 1 above). The applied qualitative data collection and the data analysis method was the IPA.

Ethical Considerations

The ethics protocol approval number for the members' study is ELTE PPK KEB (2017/128), and in relation to the farmer study ELTE PPK KEB (2018/202). Approval was obtained from the Research Ethics Committee of the ELTE, Eötvös Loránd University, Faculty of Education and Psychology which led the study. Procedures used in this study adhere to the tenets of the Declaration of Helsinki. Informed consent was obtained from all individual participants included in the study.

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CHAPTER II. THE FOUR PEER-REVIEWED INTERNATIONAL STUDIES

(accepted for publication versions)

Community Supported Agriculture Membership: The Benefits of Spousal Involvement (*Primary Research Theme, 1st Study*)

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Abstract

Fresh vegetables originating from Alternative Food Networks (AFNs) are an increasingly popular choice all over the world. Being part of an AFN frequently redefines consumption and participation of family members in food-related activities. Community Supported Agriculture (CSA) is a type of AFN, providing increased access to produce in a form of risk-sharing model between farmers and consumers, which at the same time influences organization of household resources. Thus, not only the given member of a CSA, but also his/her spousal activities in household processes should be taken in account. It is clear that entering into CSA significantly affects lifestyles and frequently requires a great deal of adaptation, possibly leading to a crisis of whether to stay within the CSA or cease membership. The objective of this study was to reveal how spouses influence CSA membership. Using an explorative design, this study has identified three emerging patterns of spousal influence: coherent, integrative, and neutral/antagonistic. The spousal influence on CSA membership may represent partner activities regarding food issues but also has an effect on food preparation and culinary choices at home. Our findings suggest that membership in CSA presents challenges and thus spousal support is crucial in the long term. As a consequence, spousal influence should be examined in relation to CSA

participation. Inconveniences associated with CSA membership could be avoided by providing more information about the importance of spousal support.
Keywords
alternative food networks, community supported agriculture, consumption, spousal support, spousal influence, local food

1.Introduction

Consumers increasingly desire natural foods (Gagliardi, 2015; Euromonitor, 2017; Malota *et al.,* 2019), and one possible way of achieving this can be found within the rapid growth in sales of Alternative Food Networks (AFNs). Some consumers associate high quality food with the direct consumer-farmer relationship which serves their desires to purchase tasty, healthy, locally-grown food (see Jarosz, 2008; Zoll *et al.,* 2018). Not surprisingly, there is significant interest in relation to the health implications of local foods, social relations uniting producers and consumers, or what activities are behind AFN involvement (Jarosz, 2008; Bingen *et al.,* 2011; Tregear, 2011; Salois, 2012; Pascucci *et al.,* 2016; Sarmiento, 2017).

The consumer-farmer relationship is best characterized by the integration of food production and consumption as a feature of AFN, including such forms as community gardens, farmers' markets, and community supported agriculture (CSA) (Tregear, 2011). These relatively new organizational forms seem to satisfy consumer needs, ensuring direct access to produce: freshly harvested and local products; free of synthetic fertilizers or pesticides or genetically modified seeds. As a growing economic and cultural niche market, this parallel channel to mainstream consumption has been steadily increasing in number both in the US and Europe (Goodman and Goodman, 2009; Low *et al.,* 2015; European CSA Research Group, 2016).

Being part of an AFN frequently redefines consumption and participation of the family members in food-related activities (Uribe *et al.,* 2012, Opitz *et al.,* 2017). Thus, in addition to the involvement of CSA's members, which is largely the focus of the relevant literature, his/her family should also be taken into account (Uribe *et al.,* 2012, Wut and Chou, 2013, Wharton *et al.,* 2015). Choosing CSA as a source of healthy food provides a great deal of information about the consumer's attitude toward food and its source, whilst the consumption of items conveys much more information about the type and extent of the cooperation between household members (see Cone and Myhre, 2000; Thompson and Coskuner-Balli, 2007; Uribe *et al.,* 2012; Wharton *et al.,* 2015; Birtalan *et al.,* 2019).

CSA is one of the AFN possibilities in which the farmers provide freshly harvested vegetables to be shared weekly with the members, and customers buy shares for a season by paying a fee in advance. By increasing access to fresh food produced in organic farming or in horticulture, CSA membership has a role in promoting health (Cohen *et al.,* 2012; Kis, 2014; Wharton *et al.,* 2015; Allen *et al.,* 2017; Rossi *et al.,* 2017). From a consumption point of view, purchasing from CSA can minimize dysfunctional searching or frustration due to information overload, which can occur when shopping for groceries. Firstly, this risk-sharing partnership takes away the purchase-related stimuli and decreases the pressure of decision-making for the primary food shopper, and in addition, because of organic and agro-ecological practices, unknown or uncertain amounts of products can also be considered and handled among participants and family members in practice (Russell and Zepeda, 2008; Landis *et al.,* 2010; Cohen *et al.,* 2012; Galt *et al.,* 2019).

This study is part of a broader effort to understand the unique set of aspects which explain why and how CSA members are often able to accept strict and serious commitments - called CSA inconveniences (Laird, 1998) - and to maintain their membership for many years. The objective of this study has been to reveal how the spouse of the primary food shopper influences CSA membership.

2.Theoretical background

Household consumption relies on spousal decisions which may often conflict with each other as family members often do not share the same purchasing motives, selection criteria or preferences of product. The home food production chain begins with deciding ‘what to eat’, and continues with purchasing, preparation, consumption and cleaning up (disposal) of food, although in the case of alternative sources, ‘what to eat’ may bring changes in family eating habits (Uribe *et al.,* 2012). Choosing an organic, fresh food alternative source from the local environment could consume significant time and also requires a significant amount of attention due to the variety and amount of fresh vegetables, or due to reconsideration of initial consumer dispositions or perceptions (see Scholderer and Grunert, 2005; Bingen et al., 2011). The alternative path from the farm to the consumers’ table is short but could be complex, especially when producers and consumers share farming risks (Hayden and Buck, 2012).

The typical CSA consumer is described in the literature as one with definite motivations for involvement with local food, being able to purchase high quality, healthy products,

and/or with environmental concerns (Cone and Myhre, 2000; Lang, 2010; Shi *et al.,* 2011; Pole and Gray, 2013; Zoll *et al.,* 2018). Members usually have higher levels of education and higher incomes, and women participate more often (e.g. Kane and Lohr, 1996; Cone and Myhre, 2000; Lang, 2010; Cohen *et al.,* 2012; Uribe *et al.,* 2012; Minaker *et al.,* 2014; Samoggia *et al.,* 2019).

CSA provides predetermined boxes of unprocessed and freshly harvested products on a weekly basis, mostly satisfying the needs of a family. This purchasing interaction is fixed for a season by a contract, and actual goods are received by the member almost every week with only yearly influence over the content of the CSA boxes (Balázs *et al.,* 2016). Due to timing members do not know in advance the amount of food they will receive as this depends on organic farming methods, farming practices, weather extremes and other circumstances such as the local workforce (Perez *et al.,* 2003; Cohen *et al.,* 2012; Uribe *et al.,* 2012; Vasquez *et al.,* 2017). Meal planning (usually the first part of the consumption phase) is possible only after the harvested vegetables have been received at the weekly pick-up times and is influenced strongly by the actual CSA box: the type, amount and lifetime of the harvested produce. This therefore increases food preparation time and limits the selection of specific items, although it is more settled versus utilizing a smaller set of staple foods as with conventional market purchases (Goland, 2002; Thompson and Coskuner-Balli, 2007). However, despite the advantages of participation, the turnover is high; it may reach as much as 40 % in its formative year, possibly due to unexpected outcomes, and inconveniences (Goland, 2002; Strohlic and Crispin, 2004; Lang, 2005, 2010; Galt *et al.,* 2019).

The unprocessed CSA produce, and its storage requirements are linked closely to food utilization within the home (Landis *et al.,* 2010). The one-week pick-up period during the CSA season represents a challenge for the handling of harvested produce since their properties influence cooking practices. Joining an AFN - and particularly a CSA - forces members to change their food processing, meal preparation practices, eating or cooking habits (see Russell and Zepeda, 2008; Cohen *et al.,* 2012; Minaker *et al.,* 2014; Wharton *et al.,* 2015; Rossi *et al.,* 2017; Vasquez *et al.,* 2017; Izumi *et al.,* 2018). It seems members develop preferences toward vegetables and experience greater motivation to introduce new food types they had not eaten before (Thompson and Coskuner-Balli, 2007; Hayden and Buck, 2012). Thus, there is a higher fundamental vegetable consumption than they would otherwise attempt (Cohen *et al.,* 2012; Minaker *et al.,* 2014). Since members feel guilty when unprocessed products go to waste, they try to avoid the loss of their own

share and to reduce waste at earlier stages of consumption (Hayden and Buck, 2012; Uribe *et al.,* 2012).

The route from the farm to consumer use is determined by CSA as the farmers' decisions, weather etc., and thus consumers have to cope with a degree of unpredictability in their consumption habits, requiring significant attention, extra work, learning and adaption (see Grunert, 2003; Scholderer and Grunert, 2005; Feagan and Henderson, 2009). Table 1 summarizes the main features regarding CSA membership and consumption stages.

Table 1 CSA membership and consumption stages

	1. Purchase	2. Planning meal	3. Preparation	4. Eating	5. Waste and disposal
Objectives	- contracted seasonal period	- weekly basis	- freshly harvested, unprocessed food	- vegetable in selected box-size	- unpackaged food
Challenge	- pick-up times per week	- actual CSA box - one-week period	- amount and variety of vegetables	- vegetable dishes - home-meal	- avoiding loss of own share

Sources: based on Grunert, 2003; Scholderer and Grunert, 2005

Participation in a CSA community may significantly change the food shopping habits of the primary food shopper of the family, and also often impacts on the food consumption of the whole household (Thompson and Coskuner-Balli, 2007; Russell and Zepeda, 2008; Kis, 2014). It is evident that the family has a strong effect on individuals' healthy eating, sustainable consumption, or eating local (Bingen *et al.,* 2011; Neulinger and Simon, 2011; Salazar *et al.,* 2013). Not surprisingly, family involvement in food preparation, shared approaches in regard to CSA vegetables use among participants, and family members are important elements of experiences of belonging to a CSA (Uribe *et al.,* 2012; Wharton *et al.,* 2015).

As family consumption preferences cannot be predicted by individual family members' buying preferences alone, spousal influence on particular consumption is crucial (see Menasco and Curry, 1989; Webster, 2000; Wut and Chou, 2013; Ashraf, 2009; Grønhøj

and Thøgersen, 2011). Nevertheless, the literature body does not provide comprehensive information on the influence of family members, especially spouses on CSA membership. To address this gap in the research, the objective of this study has been to explore spousal influence on CSA membership, and to discuss whether long-term membership would have been possible without the spouse's active support.

3.Methodology

CSA in Hungary

CSAs were practically unknown in Hungary a decade ago. The first three CSA farms were founded in 2011, and fifteen of the existing sixteen CSAs provide fruits and vegetables as their main products (Tudatos Vásárlók Egyesülete, 2019). The majority of them are primarily concentrated around the largest cities in Hungary (Réthy and Dezsény, 2013). The number of members ranges from a dozen people up to 60 per CSA, who are primarily urban, conscious consumers with higher levels of education and in most cases a family (Réthy and Dezsény, 2013; Balázs *et al.,* 2016; Samoggia *et al.,* 2019). The Hungarian CSAs fed approximately 1,800 people in 2015 based on the first European-wide census of CSA groups (European CSA Research Group, 2016). Although CSAs have had only rudimentary success in Hungary, data shows an approximate 20 percent increase in the market share of food products in Hungary between 2014 and 2017 (Tudatos Vásárlók Egyesülete, 2017, 2018).

Participants and data collection

An explorative research design based on qualitative methods has been applied since little was known about how spouses influence the length of CSA membership (see Sutton and Austin, 2015). In-depth, semi-structured interviews were conducted with 35 (four male, thirty-one female) current or previous members of several CSAs operating in Hungary. Interviewees were recommended by CSA farmers and by other interviewees (snowball technique) and were also contacted via an email list of CSAs. Anyone could apply, but a strong relation to their CSA membership was also considered during recruitment. The length of CSA membership varied amongst them: six were first year (beginners), and twenty-nine had been a CSA member for at least two years (advanced members). Thirty-one participants were in households comprised of couples (see details in Table 2).

Table 2 Type of CSA participation among interviewees

Type of CSA participation	Total	**Household type**	
		couple	single
beginner (first year membership)	6	6	0
advanced member (at least second year experiences)	29	25	4
Total	35	31	4

All semi-structured qualitative interviews used open-ended questions. Interviews took between one and two and a half hours. These took place within the interviewee's own environment. During the interviews the way, timing and circumstances of participation were explored, including a description of their own household and the introduction of the way participants previously organized their shopping and food processing (before joining CSA). The participants' view of the particular CSA and of its members, and of their own membership was also discovered including how CSA looks from the point of view of conventional consumers. Finally, participants were asked about their opinion of farmers, the CSA related inconveniences, and perspectives of CSAs in general. The topics of the interviews are summarized in Table 3. All interviews were audio recorded and transcribed prior to the analysis of the data.

Table 3 Interview Topics

General personal preferences of purchasing and home-meal processing
Circumstances of entry to the particular CSA
Participating in CSA (experiences, associations)
Their own member situation at CSA
Home routines due to membership
Opinion of other members
CSA from outside
Other: The farmer, inconveniences, present, future, etc.

Data analysis

Thematic analysis was used as processing method, which "tends to provide less of a rich description of the data overall, and more of a detailed analysis of certain aspects of the data" (Braun & Clarke, 2006, p. 12). This type of analysis is a widely-used qualitative analytic method within psychology and is usually adopted when existing theory or research literature on a phenomenon is limited: it goes bottom-up from the coded interview data and, in this manner, is helpful in theory-building (Terry *et al.,* 2017). Thematic analysis is a method for identifying, analysing and reporting patterns (themes) within an entire data set (interviews). Codes and analysis should be an accurate reflection of the content of the entire data set, thus patterns were examined, organised, and identified from actual sentences and phrases in the text. Based on this data-driven, descriptive and interpretative coding at the conclusion of the process, specific patterns have clearly emerged related to the primary food shopper's spousal influence on CSA membership. As different codes may be combined to form an overarching pattern, three main spousal influences on CSA membership have emerged.

4.Results

Although CSA provides some enjoyment in the sensory experience of eating such as discovering the taste of fresh seasonal food, or new culinary experiences by offering meals cooked from scratch, it certainly creates pragmatic inconveniences on the consumer experience resulting in an effect on the interactions between spouses in regard to CSA membership.

Even long-term members mentioned that the weekly fixed pick-up time in a season-long contract period, time restraints of preparation processes and increased frequency of home vegetable dishes make CSA membership challenging. In almost all cases the primary food shopper expressed the need for the supportive spouse to take part in CSA (e.g. by picking up vegetables, food preparation), and talked about expectations, activities and interests of his/her spouse in regard to CSA as a part of the interviews.

How can the spouse influence CSA membership?

The results of this study provide an insight into the patterns of spousal influence related to CSA food consumption. Regardless of the form of membership and household type, most of the interviewees have had a large number of CSA experiences regarding the role of their spouses which enabled a detailed understanding of spousal influence on CSA

membership. Throughout the interviews a rich picture of spousal influence emerged, as the role of interactions between spouses is significant during the whole food consumption process. The identified spousal interactions demonstrated an important impact on the maintenance of CSA membership. In order to evaluate and explain patterns of spousal interactions, quotes from the interviews are introduced below to illustrate interpretations. Three patterns of spousal influence on CSA membership have emerged and have been identified relating to the following consumption stages: (1) logistics and purchase within CSA activities, (2) meal selection, (3) food preparation and cooking, or (4) waste and disposal practices as summarized in Table 4.

Table 4 Type of spousal influence patterns in relation to CSA consumption stages

	Coherent pattern	Integrative pattern	Neutral/Antagonistic pattern
CSA logistics, purchase	common task	decision of the primary food shopper and a supportive spouse	decision of the primary food shopper, but spouse cannot reduce the challenges: different food sources and purchase
Meal selection	common creativity and learning	spouse's confidence in the primary food shopper, spouse's preferences taken into account	different food preferences and tastes
Preparation and cooking	common openness including new diets, solutions	proactivity of the primary food shopper for acceptance: combination of flavours, blending, masking vegetables OR social proactivity of the primary food shopper:	parallel preparation, duplicated cooking
Waste and disposal	rare, common guilt		waste and guilt

		sharing vegetables in order to minimize loss, disposal by social events	

Coherent Spousal Influence Pattern

In the pattern of the coherent spousal influence, both members of the couple are committed to taking part in the CSA with common and equal decisions about purchasing and consumption: *"We talked, saying we should have a farmer who works for us all year round"* (Interview 3, beginner). These spouses are concerned about what and where the product is purchased: *"In fact, in relation to our shopping habits we have become more sceptical - my husband and me too"* (Interview 27, advanced member). They support each other mentally and physically throughout the whole consumption process, e.g. while organizing pick-up (even replacing each other) or storing: "*Usually we go for vegetables alternately, so it is also completely shared that when vegetables come who picks it up is the one for whom it is most convenient"* (Interview 27, advanced member). Members of the couple are equally involved and affected: *"We have an established system, we have designed storage boxes for this [CSA vegetables]"* (Interview 24, advanced member).

This kind of involvement maintains common openness and flexibility regarding meal selection. CSA membership adds new common routines to their family life, and also stimulates new habits/behaviours regarding preparation processes or eating practices: *"I guess we do not lead an average household. This applies not only to me, but also to my husband, because we look for something unique in everything, we look for environmentally friendliness and I think it affects every aspect of our lives"* (Interview 13, advanced member). Consumption of raw food or more vegetable dishes (with a decrease of meat consumption) are accepted culinary choices for these couples: "*It is such a major principle in our lives that every day we have fruit and vegetables"* (Interview 6, advanced member). CSA responsibilities are shared as well as experiencing the joy that comes from a shared activity: *"This is very good for us, we like all of this"* (Interview 3, beginner). Furthermore, both members of the couple feel guilty when their vegetables go to waste: *"and we prepare the vegetables even when rotten. Usually we both get annoyed when we see something in the fridge that is …"* (Interview 2*,* advanced member). These members adjust their lives to the demands of CSA and are open to renew their membership in the long run.

Integrative Spousal Influence Pattern

In the integrative spousal influence pattern, one member of the couple is the main motivator and actor for entering the CSA: *"Okay, obviously there are a lot of these green aspects that I'm trying to enforce. I live in a family, we have two kids, I have a wife. My wife is open to these greening experiments to varying degrees, and she has pretty much got used to it"* (Interview 5, advanced member). For the primary food shopper, the CSA provides an alternative to obtain vegetable produce from a reliable source beyond reproach: *"which I know comes from a safe source, or at least I can cook healthily with it"* (Interview 15, beginner). In the case of these couples, the spouse is open to the prepared family meals differing in preparation or differing in ingredients as compared to those consumed earlier: *"My husband is the consumer. And the quality inspector: you can cook this another time as well, or, well, it was not bad, but maybe let's not repeat this too often"* (Interview 10, advanced member). The spouse behaves as a supportive and cooperative partner who supports CSA membership. He/she gives positive feedback: "*When we got the first box, I remember that my husband took a picture. It was so beautiful that he actually took a picture and immediately posted on Facebook that we are already consumers, [and promoted] come on it's beautiful and delicious"* (Interview 33, advanced member) and participates in some consumption stages: *"If there is a party, or if we have to set off and I have to cook, then he helps to clean them [vegetables], but he doesn't cook"* (Interview 29, advanced member).

The position of the primary food shopper is crucial since they may wield significant control over the types of foods eaten (Bove *et al.,* 2003). The preferences of the spouse are taken into account by preparation and cooking at least through sensory acceptance of the practices. Interviewees talked about practices in order to influence the taste of her/his spouse: "*I know what we both love, what I can slip into the meal, what he still eats"* (Interview 9, advanced member) Accordingly, the primary food shopper should be proactive while feeding their spouse/family with CSA food. The most typical methods applied by them relate to the combinations of flavours e.g. vegetable pancakes, smoothies, and blending (blended vegetable soup): *"I do not fight with them: blending, some roasted bread, and bon appétit"* (Interview 19, advanced member) or even to the masking of unknown or non-preferred tastes with other tastes (in order to change perception by the spouse or children): *"And I put the fennel in, and they did not notice it"* (Interview 17, advanced member).

In the integrative spousal influence pattern, participation expands spouses' horizons regarding sharing food, as a number of interviewees reported. If CSA vegetables are not the right fit for the members of the family, or the primary food shopper feels the quantity of vegetables creates too much pressure, they frequently try to reduce the excess amount of the products by giving away food directly: *"Well, I'd rather cook them, and I'm trying to distribute."* (Interview 8, advanced member), or in the form of social events: *"And then we had an idea to invite friends for playing board games and make a dinner. Thus, the pressure [of the amount] is resolved"* (Interview 24, advanced member). It also seems that if the integrative pattern functions properly, it can build up consensus between spouses regarding CSA membership: *"And I think for sure, this has helped a lot in his health. And then we got used to it"* (Interview 33, advanced member). The supporting partner's attitude and behaviour helps to reduce the tension of the new practice in the kitchen including schedules, changing ingredients and new tastes: "*My husband repeatedly voices that this is fine, and that's a good feeling, and I think it [CSA food] has a big role and it has a family role, I think."* (Interview 15, beginner). In integrative spousal influence on CSA membership, both the social support of the spouse and the proactivity of the primary food shopper have been shown to be important.

Neutral/Antagonistic Spousal Influence Pattern

In some cases, especially by members who are uncertain as to whether to renew membership, CSA membership provides only a second food source in addition to the earlier and mostly conventional family food consumption source. There are similarities in this pattern to the integrative spousal influence that one member of the couple is the main motivator of entering the CSA membership, but in this case the spouse cannot reduce the challenges of the new situation coming from the CSA participation and he/she does not want to change his/her food attitude, food habits, or food behaviour: *"Since he was so negative about the whole thing, he said that he did not need it and I think that also contributed to some degree in staying in my comfort zone and exiting [from the CSA]"* (Interview 31, advanced member). Conflicts also enhance uncertainties towards culinary products, thus the initial expectations of the food shopper are lessened (Cong *et al.,* 2013). If the diverse meal preferences cannot be changed into a compromise and the couple are not able to find a common solution, two different food shopping and preparation processes have to be handled in parallel: *"Well, tell this to a man: okay, we eat vegetables every day, and you eat the same vegetables every day, because it's healthy. So, I could not*

manage to keep the system running" (Interview 31, advanced member). Interviewees talked about spouses, who reject the new food source and insist on the earlier habits: "*So if you bring this CSA system home and you don't have a partnership or you don't have enough partnerships or they laugh at you: oh, this stupid thing again …"* (Interview 11, advanced member). Partners' preferences result in conflicts regarding the food and are more influential than the initial desire to take part in CSA. The CSA purchase decision turns into an individual project parallel to the family system of consumption: "I *cannot solve any of them [pick-up times] because of the children, because there the husband cannot, or does not want to help - this alone is difficult to solve"* (Interview 10, advanced member) and the duplication of processes (purchase, preparing, eating) stimulates an exit from the CSA: *"But the girl wanted it, the boy didn't, and the girl didn't want this constant conflict: that is ok, then we should stop [leave CSA]"* (Interview 12, advanced member).

5. Discussion and Conclusion

Growing interest in the origins of food and food sources creates opportunities for short supply chains, such as direct purchases from farmers. Due to the features of a CSA model (pick-up times, organic farming, seasonality, seasonal contract etc.) participation means more than just a single purchasing decision, it has a significant effect on every stage of the food consumption process. According to this study, whereas grocery purchases are perceived to be part of consumers' everyday life, CSA related food consumption practices require spousal interaction, communication, and consensus. Beyond personal factors like attitude, knowledge and behaviour, the influence of the family environment (e.g. spouse's/ household decision making) was shown to be critical for the creation of a stable and fruitful CSA membership. While the majority of the local food systems literature considers AFN membership from the primary food shopper's point of view (see Goland, 2002; Lang, 2005; Zepeda and Li, 2006; Russell and Zepeda, 2008; Landis *et al.,* 2010; Hayden and Buck, 2012; Galt *et al.,* 2019), this study has aimed to provide an insight into the role of spousal influence on CSA.

This qualitative-based research orientation proved to be useful in helping to highlight the depth and variance of the spouse's influence. Our research results show how a spouse has an impact on purchase decision making - particularly in CSA -, and how new domains and forms of cooperation or conflicts may develop in a couple regarding food issues. Although the primary food shopper's purchasing attitude leads to CSA membership, presence or lack of social support of the spouse - time and effort-wise – has an influence

on every consumption stage. The patterns of spousal influence affect food preparation procedures and/or culinary choices, and some partners may cause conflicts while others may be the facilitator of maintaining CSA membership. Different spousal influences have shown different experiences regarding CSA consumption stages.

Results show that spousal interactions regarding CSA membership require increased family time and a change in family efforts or decision-making: picking-up, cooking, preparation and storing CSA vegetables has an impact on the organisation of the family schedule and also influences family interaction. This study shows how and to what extent spouses become involved in the process of taking part in a CSA and how it influences CSA membership. The coherent spousal pattern is characterized by a pleasant social atmosphere; as the integrative pattern on the primary food shopper rearranges her/his preparation/cooking practices or strengthens the social dimensions of food consumption; whereas the neutral/antagonistic spousal pattern frequently means duplication in the overall food consumption processes (using CSA together with earlier, regular food sources).

Even if only one spouse is interested in CSA membership, the support of the partner is required for a successful and long-term participation. The longer the CSA participation lasts, the more spouses tend to tune into each other's norms and to converge regarding food choice, resulting in a possible effect on the level of involvement in CSA (Bove *et al.,* 2003). While the neutral/antagonistic spousal pattern stimulates an exit from the CSA, the coherent spousal influence pattern stimulates long term membership. If the integrative spousal influence pattern on CSA membership works properly, it also can facilitate long-term membership.

These findings mirror those noted by some CSA studies, as the role of family in membership is important (Uribe *et al.,* 2012; Wut and Chou, 2013; Wharton *et al.,* 2015; Birtalan *et al.,* 2019). Overall, these results are fairly consistent with the current literature, as consumers who are committed to eating local require important adaptations, implying conflicting values and attributes and thus eating local is a relevant setting for exploring the issue of insights concerning consumer reactions when facing difficulties (Bingen *et al.,* 2011).

The findings of the study point to specific strategies which can be used by CSA farmers and managers to increase retention rates. The data obtained suggest that many problems associated with involvement and staying in a CSA could be avoided by providing more information about how this way of family life operates. If the family or at least both

members of the couple attend introductory sessions, the information provided may help them to decide on participation, to organize their lifestyle in a more adequate way, and to endure participation for a prolonged period. Results suggest that social- and knowledge-based support related to CSA activities, such as batch cooking, kitchen techniques, storage tips; social techniques such as distribution and sharing could strengthen the relationship with the community and contribute to an active and stable membership. Repeated informative sessions – both offline and online - may also help to solve tensions and to improve cooperation both within the family and between consumers and producers.

Limitations, future studies

This study focused only on CSAs, but the results can also contribute to the understanding of similar short food supply systems like box schemes. Entering a CSA significantly affects lifestyle and frequently requires a great deal of adaptation; thus, it may lead to a crisis of whether to stay or to quit participation. As programs designed to reduce obesity are likely to be effective in a supportive environment, CSA participation is more likely to retain members who reconsider family support for their decision to eat locally (Story *et al.,* 2008; Bingen *et al.,* 2011; Salois, 2012).

Thus, further research on the social environment seems to be worthwhile, including interactions with family, friends or others in the CSA group in AFNs. This study has dealt with the spousal influence on CSA membership and has not addressed the question of those rules and habits which in general describe spousal decision-making, which would be interesting to include in future research.

It is not yet clear how the different types of AFNs can create an extra workload on the family and spouses regarding everyday home practices. This research was only a first step to explore spousal influence in AFNs and should be complemented with other qualitative data collections such as observations of pick-up processes and home food preparations of members of different types of AFNs. Further exploration of the spousal influence on farmers' markets, community gardens etc. could also contribute to a better understanding of healthy food choices (see Feagan and Morris, 2009; Lucke *et al.,* 2019). In addition, quantitative data collection regarding household consumption and family decision-making processes in the context of AFNs would be beneficial for the systematic empirical investigation on the subject.

Further limitation of our study is the relatively small, non-random, convenience sample which restricted the generalization of our results. Nevertheless, the qualitative-based results were informative and may set the course for the future in CSA studies.

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Community Supported Agriculture as a Driver of Food-Related Well-being. (*Primary Research Theme, 2nd Study*)

Article

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Abstract

Background: There is a growing amount of research interested in understanding the role of food in well-being. The demand for community supported agriculture (CSA), bringing people spatially, economically and socially closer to food, is continuously expanding. CSAs play an important role in both sustainable agriculture practices and influencing consumers' food-related practices but as yet have received little attention in well-being research. Methods: This study explores food-related well-being among CSA members by using an exploratory, qualitative research design and a thematic analysis of semi-structured interviews. Results: The findings stress the relevance of psychological, social and spiritual aspects of food-related well-being beyond the nutritional characteristics of food in CSA. Conclusion: The role of sustainable agriculture in contributing to food-related well-being becomes particularly evident based on consumers' experiences. These results are important in convincing people that their food-related experiences belong to their perceived well-being as well as stimulating people to elevate their multidimensional expectations in relation to food.

Keywords: community supported agriculture; food-related well-being; bio-psycho-socio-spiritual model; sustainability; local food; explorative research; qualitative study

1. Introduction

The desire to look and feel one's best is almost universal and most people recognize that what they eat plays an important role in optimal health. At the same time, there has been a shift in agricultural policies from large agri-food systems towards local and sustainable food systems in the name of sustainability and public health [1]. Similarly, consumers seem to be increasingly aware of the sustainability of food production, preferring to eat food which respects these principles [2].

Throughout history food has always been an essential part of living, and in line with this an accumulating body of research suggests that food can contribute to multiple functions in life, such as enjoying the moment, appreciation of authenticity or engaging in pro-environmental behavior [3–5]. Indeed, food is a specific aspect of well-being that affects the subjective evaluation of how people perceive their life [6,7]. In understanding the complex role of food on well-being, Block and colleagues [8] (p. 5) suggest a shift towards a broader, "more positive, holistic" approach.

Studies suggest that the influence of food on well-being is embedded in the sensual, cultural and ecological context of food production and supply [9–11]. Alternative food networks (AFNs), including community-supported agriculture initiatives (CSAs), box schemes, farmers' markets and urban community gardens offer alternative food sources for consumers providing local embeddedness and a connection to nature [12–14]. Although sustainable production to mainstream food manufacturers and retailers continues to expand, the effect of their food products on subjective well-being is still questionable. Som Castellano [15] (p. 448) mentioned several aspects of subjective well-being related to AFNs' practices; namely well-being "inside and outside the home", environmental well-being and community well-being, whilst also acknowledging the consequences of the membership on one's perceived quality of life. Other scholars, such as Neulinger et al. [16] found a high level of life satisfaction among members of different AFNs, particularly in the case of experienced members with high engagement and a strong commitment to alternative food consumption.

CSA constitutes an important AFN strategy with the potential to contribute to greater food system sustainability. It is a risk-sharing form of AFN and, in its base form, a small-scale farm provides week-to-week freshly harvested, organic vegetables to CSA members for a specified period of time [17,18]. CSAs provide a higher intake of vegetables of local origin whilst also emphasizing the social and environmental aspects of farming [19]. Many CSAs aim to enhance the ecological sustainability of the agri-food system through

social inclusion of production and consumption [20]. Not surprisingly, CSAs contribute to a modified production-consumption practice [21]. Consumption in CSAs is unique in several aspects: namely the origin of food, the trust in food quality, the sense of community and the relationship network, all being highly important for consumers in these alternative systems [22].

An accumulating body of research suggests that CSA has a significant impact on health [18,23–25], but very little is understood about how it affects the food-related well-being experiences of CSA participants. This research used an exploratory, qualitative research design and has tried to bridge the gap between the understanding of food-related well-being and CSA research.

2. From the Research Area of Health Psychology to Food-related Well-being in CSA

Well-being and health are key goals for sustainable development in order to achieve a high quality of life for all [26]. Engel's biopsychosocial model [27], in line with the original definition of health by the WHO [28]: "a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity", pointed out that health, as optimal functioning, is the result of interactions under a unifying framework. This model has been broadened to include a spiritual/existential dimension in recent years to become a bio-psycho-socio-spiritual model (BPSS) [29]. This already includes the thoughts or experiences of wider patterns of social influence that can be considered as an ally in healthy behavior [30,31].

2.1. The Bio-Psycho-Socio-Spiritual Model of Health Psychology

The BPSS model reflects a multiparadigmatic view and addresses all health related factors contributing to the level of subjective well-being [32]. This integrated framework between health and well-being better explains the complexity of personal experiences [33]. It forces a focus on all system levels, including individual, close relational (e.g. family-relational), or community levels; recognizing the interrelatedness of these different levels of conditions [34].

In BPSS, the four domains of health are physical (i.e. body functioning), psychological (i.e. personal growth), social (i.e. interpersonal relations), and spiritual (i.e. finding meaning and one's place within the universe), which are the fundamental building-blocks of perceived well-being [29,32]. All domains represent a primary source

and have the potential strength to influence the perceived health and well-being of individuals, and to understand their ability to adapt to and self-manage challenges [35,36]. However, according to its relational approach, each well-being aspect can interfere with and influence other aspects [37]. This integrated model of health and well-being provides various domains of interventions in practice and can be used to understand people's actions and decisions on a daily basis. This research draws upon the BPSS approach as a foundational theoretical perspective.

2.2. Food-Related Well-Being

Taking greater account of the complexity of food and its intricate relations to well-being, much of the work tends to illustrate the potential of food for being bound to health in a variety of ways [38]. In recent years, a specific concept of well-being, food-related well-being, has generated an abundance of literature. In this way, food-related well-being explicitly incorporates subjective aspects of well-being, and thus also physical, psychological or socio-environmental aspects [8,9,39]. In this section, we present these aspects by outlining their relationship to the well-being dimensions of BPSS (main findings are summarized in Table 1).

2.2.1. Food-related Physical Well-being

Food and its effect on bodily functions is inextricably linked to physical well-being. Dietary Guidelines for Americans [40] promote the daily consumption of a wide variety of fruit and vegetables as they are packed with vitamins, minerals, antioxidants and fiber. In line with this, based on fruit and vegetable intake, a large number of studies have taken up the connection between CSA and physical health [24,25,41–43]. Fruit and vegetable consumption helps to reduce the risk of physical health problems including life-threatening diseases such as cancer, cardiovascular disorders, and diabetes [44,45]. Food consumption also influences sleeping patterns, energy levels, and general health [46,47]. An increasing number of studies confirm the possible role of diet and different food-elements in health-related epigenetic processes [48]. Studies investigating the impacts of consuming non-chemical natural food reveal another aspect of physical pleasure: better sensory experiences like taste or smell [49,50].

2.2.2. Food-related Psychological Well-Being

Numerous studies have confirmed that food can influence our emotions and attitude alongside our psychological well-being. The consumption of fruits and vegetables is accompanied by an increase in positive mental state: they are associated with higher levels of positive emotions or improved mood, happiness, mental health and attitude [51–53]. Moreover, Blanchflower and colleagues [54] suggest that a higher intake may help to improve personal life satisfaction. Exploring the relationship between what people eat and how they feel, fruit and vegetable consumption is associated with more intense feelings of curiosity and creativity [55]. Furthermore, increased consumption of fruits and vegetables is associated with reduced odds of depression and of suffering from distress [56,57]. Interestingly, on the basis of an Australian healthy-eating campaign, Mujcic and colleagues [58] suggest that the positive effects of healthy eating on the quality of life (happiness, life satisfaction and well-being) actually grow at a faster rate than the demonstrable beneficial effects on physical health.

2.2.3. Food-related Social Well-being

The positive impact of food consumption on well-being is not limited to what people consume but extends to a broader social environment of food intake [4,11,59,60]. The social environment can influence eating patterns or food choices [1,61,62]. Moreover, food can be a tool for strengthening relationships with others; sharing food brings people together and nurtures a sense of solidarity. How people choose a meal in a family offers an opportunity for caring about other's needs, social responsibilities, or social behavior [63,64].

Interestingly, consuming local food affects social well-being; local products contribute to social cohesion and maintain family-like social ties [19,65]. Buying local food provides space for a sense of community by fostering interaction with producers or other like-minded consumers [66]. Echoing other studies' concerns there are links between social well-being and organic products [67].

2.2.4. Food-related Spiritual Well-being

Spirituality has received many definitions in health research, and one of the most comprehensive is from Puchalski [68] (p. 646) who proposed a definition as "Spirituality is a dynamic and intrinsic aspect of humanity through which persons seek ultimate meaning, purpose, and transcendence, and experience relationship to self, family, others, community, society, nature, and the significant or sacred." The implications of this

definition strongly suggest that spirituality in relation to food is about how a person integrates these relationships into a perspective.

Less is known about the aspects of spiritual dimensions of well-being in relation to food in practice. Although spirituality is routinely part of psychological investigations in food-related well-being studies [69–71], spiritual aspects are not salient in this area [8,11,72]. Some studies concentrating on organic food explore whether organic food purchasing is related to a spiritual lifestyle [73,74]. Other research suggests that eco-labels and ethical marketplaces (fair trade, organic etc.) seek to rate values (e.g. sustainability, human responsibility) by addressing the consumer's spiritual attributes as well [75]. The alternative ways of how food is acquired and resituated re-embeds people to nature and serves to uphold an integral connection to the environment [76]. The close proximity and accountability of the producers of goods attract consumers with ecological concerns or moral imperatives which may reflect social issues, but may also imply a deeper connection to human, nature [77,78].

Although spirituality is often described in terms of religious beliefs and practices, BPSS handle spirituality as a distinct, albeit related construct to religion, which focuses on the essence of a human being contributing to one's overall quality of life [37,79,80]. In practice, food helps to establish rituals and enable practices through which people render meaning and influence the way in which people relate to food consumption as an aspect of life [81].

Table 1. Results of food-related well-being studies.

Well-being dimensions	Results of food-related well-being studies
Physical	fruit and vegetable consumption: reducing life-threatening diseases such as cancer or cardiovascular disorders, higher energy levels organic food: better sensory experiences
Psychological	higher intake of fruits and vegetables: lower odds of depression, improving life satisfaction, more positive emotions, more curiosity and creativity healthy eating: closer to immediate improvements of well-being
Social	sharing food: stronger sense of solidarity

	local origin of food: stronger sense of community belonging
Spiritual	organic food: spiritual sensitivity food with eco-labels, ethical marketplaces: experience of an integral connection to the environment

Source: based on food-related well-being studies.

2.3. Community Supported Agriculture in Hungary

Hungary offers an interesting context for a food-related well-being research. For an Eastern European country it shows relatively high rates of food self-provisioning [82]. In a regional context this has an impact on leisure activities (food provisioning as a hobby) and in addition it serves as a way to access healthy food [83]. As CSAs reconnect consumers with producers and offer insight into production methods, consumers more easily become engaged in consuming both more healthfully and in a more environmentally friendly way, providing a sense of community [82]. Hungary is recognized as a country with a low level of social connections, civic engagement, environmental quality and low in subjective well-being [84], and thus CSAs may facilitate more well-being practices though building communities linked to healthy food.

Little information is available on the situation of CSAs regarding Eastern European countries where CSA is a relative new phenomenon. Regarding the Hungarian setting, although farmers' markets and farm gate sales already play a significant role in the country, CSAs offer a new, noteworthy market alternative, reconnecting consumers with producers [82]. CSAs build an open space for active and direct producer-consumer cooperation and thus offer a new model for the Hungarian food system: it is based upon the idea of being closely related to food in spatial, economic, and social terms; thus enhancing value-laden and trust-based food quality attributes in relation to local farming [85].

The first three Hungarian CSAs began in 2011, starting as a grassroots movement based on a partnership and solidarity between consumers and organic food producers. There are currently sixteen existing vegetable CSAs alongside box schemes or solidarity purchasing groups [86]. All CSAs in Hungary are small-scale farms and vary respectively in their capacity, number of pick-up points and monthly price. The farmer provides mostly organic products in different box sizes, and members can select the size in order to meet household vegetable demand. In their study Samoggia [22] compared Hungarian and American farmers and found that Hungarian farmers in particular emphasize CSA's

positive ability to produce healthy food. These farmers are strongly committed to provide local produce to the community while at the same time maintaining soil quality [22].

In the typical form of a Hungarian CSA, members pay prior to the receipt of goods and, in general, receive harvested vegetables weekly over a whole year on dedicated food distribution days. All of them operate as organic farming or horticulture where members have the possibility to take part in regular farm visits, farm events, etc. The majority have between 12-100 members who are primarily conscious, urban consumers with high levels of education, and, in most cases, having a family [14,82]. Exploring the Hungarian CSA environment is a new and exciting frontier to understand in which ways sustainable agricultural practices can bring benefits.

3. Materials and Methods

3.1. Aim of the study

The principal research question addressed in this article is therefore to understand food-related well-being linked to CSA membership. Due to the fact that little was known about this area, this study used a qualitative approach to explore the experiences of the CSA participants, their personal stories and perspectives, feelings and beliefs about food and food-related experiences (packing, cooking, consuming, etc.). This study is based on the interpretivist research paradigm and follows its assumptions and guidelines [87]. This design has allowed for an exploration of the complexity of the food-related well-being experiences induced by participation in CSAs.

3.2. Study Participants and Data Collection

The data was collected by semi-structured interviews with the members of the particular CSAs. This study used purposeful sampling in order to identify information-rich cases and to find knowledgeable and experienced interviewees. From the numerous purposeful sampling designs we wanted to describe the selected group (CSAs) in depth; therefore, we decided to use homogeneous cases for the purpose of reducing variation [88]. Researchers contacted two of the first CSAs in Hungary started in 2011 (one from the region of the capital, one from a rural metropolis area), as well as, a third CSA (operating in a rural area with pick-up points in the capital region) in order to obtain further data. Interviewees were found through farmer referrals, CSA mail-lists or via snowball techniques eventually leading to five of the existing sixteen CSA communities. Sampling was consistent with the aim of the study and during data collection we focused

on data saturation. The members engaged in CSA participation were interviewed because of their pivotal role as key informants.

Most of the interviewees were females (31 women, 4 men), with the majority holding a college degree or higher (32 higher, 3 secondary education), aged 28 to 62, and were financially secure. Thirty-one participants were from households comprised of couples, and four were single. Sample characteristics are in line with other research data since the average CSA member is described as mainly female, middle-aged, married, well-educated, and with above-average income [23]. The length of CSA membership varied amongst interviewees: six were first year, and twenty-nine had been a CSA member for at least two years. They communicated various levels of integration into their CSA: 25 of them reported to be less involved in community building (only following CSA e-mails), and ten have time to engage in community building (being members of a core group).

The interviews were carried out face-to-face, lasting from an hour to two and a half hours and were conducted by the same interviewers. The semi-structured interview was conducted using a thematic guide and in a conversational, informal tone. Topics concentrated on participants' experiences in relation to healthy food consumption, knowledge, attitude and practices in CSA, meaning and significance of participation, contribution of others regarding CSA, and the future of this food-based community organization. Most of the interviews took place in the interviewee's home.

All interviews were digitally recorded and were transcribed verbatim. The first author conducted all interviews; she was responsible for addressing all topic questions and for clarifying any unclear statements of interviewees. The Research Ethics Committee evaluated ethical aspects of research activity carried out at the Institution where the study was conducted and issued ethical research permission (ELTE PPK KEB 2017/128). All subjects gave their informed consent for inclusion before participating in the study.

3.3. Analysis

As a qualitative analytic data tool, thematic analysis was used in order to describe the phenomenon and focusing patterns associated with the research question. This type of analysis is a commonly used qualitative method in psychology and is generally implemented when current theory or research literature on a phenomenon is limited [89]. Theoretical thematic analysis was used as researchers have attempted primarily to apply analytic interest to food-related well-being. This analysis followed the stages of thematic analysis proposed by Braun and Clarke [89].

In this analysis method, each individual piece of data (interviews) collected together makes up the data set. The entire data set has been analyzed by an iterative process and numerous deep readings through the texts. In the first phase of structuring the material this study used the Atlas.ti software. Relevant transcript passages were initial coded with words (e.g. respect, understanding, reliability, health) or phrases (e.g. having a persistent effort, staying within the comfort zone, handling vegetables) focusing on the food-related well-being features of data. Researchers made comments and notes concerning the data during this process. Codes had not been defined beforehand and were developed during the transcription readings.

After analyzing the content of the entire data set, a preliminary list of themes and patterns was identified from the initial codes (e.g. growth, devotional practice, social coherence). This preliminary list of themes was followed by a meaning interpretation and refined in consultations with the research project team expecting to distinguish structures, associations, and generic relationships between implications that are not expressly conveyed. Finally, themes were compared and organized into different emerging themes concerning BPSS.

The thematic map is the outcome of this refinement process reflecting the meanings evident throughout the entire dataset. The overall description in the results section is produced with selected quotations to capture the essence of the point this study demonstrates.

4. Results

The topic of CSA participation was addressed as a larger conversation to uncover the themes of well-being as to why people can accept CSA's strict commitments (e.g. farmer's risk, logistics challenges). Over the course of the interviews several themes emerged concerning food-related well-being in a CSA. The quotations used to support the results in this paper were chosen from amongst those that provided the best illustration of certain emerging well-being themes. The themes are summarized at the end of the results section: Figure 1 introduces according BPSS and indicates that among aspects of food-related well-being there are both continuing and recurrent relations.

4.1. Physical Well-being: The Experience of Healthy Eating Patterns

Interviewees often described practices to illustrate their health focus or how the nature of the food received in CSA ensured physical well-being. Increased vegetable and

unprocessed food consumption were associated with healthy eating patterns by the interviewees. Since CSA produce is freshly harvested and provides a greater variety determined by seasonality, it has enhanced members' perceived food-experiences from a sensory point of view (including the experiences with earlier unknown vegetables).

4.1.1. Practicing Health Control

Interviewees experienced a feeling of being engaged in healthy behavior and highlighted the central role of CSA food in their health. They also mentioned regular vegetable consumption contributing to their health: *"this kind of positive compulsion that I should eat vegetables is a healthier lifestyle" (Interview 22).* In their view the most substantial health-related changes involved exposure to vegetables in larger quantities: *"Since we started she eats a lot more vegetables" (Interview 7),* or eating more non-processed food: *"We eat greens at least once a day, raw, and we like it" (Interview 9)*. Farming techniques (e.g. organic methods) were often mentioned as an important element of perceived personal health control: *"she can do it in an organic way so that she does not use synthetic fertilizers or pesticides and thus does no wrong to the product" (Interview 1).* Over a long period, consumed organic food was portrayed as being life enhancing or as offering a healthier regimen: *"It is sure that CSA helped to make me more conscious of what we eat, what we drink, what we cook, and how we eat regularly" (Interview 19).* Of particular interest was the discussion with parents who practice health control over their babies via feeding them with CSA vegetables: *"The consciousness that we eat normally and my baby is getting good food [natural pesticides and fertilizers, organic cultivation, biological diversity] - I know that this is more than fantastic food" (Interview 29).*

4.1.2. Sensory Experiences

Senses of vision, taste and smell collaborate to create sensory experiences of food, and interviewees mentioned having increased sensory awareness linked to their improved health. Membership in CSA means that the vegetables are seasonal and freshly harvested and participants expressed how they enjoy tasting the produce: *"And the flavors, not to mention, the flavors one tastes are fantastic, my husband always says "(Interview 7).* Experiences with vegetables evolved as people received new kinds of vegetables and CSA provided the information needed to identify them. Participants recognized new items, new tastes, especially in the first period of membership: *"I now know things and tastes – that I had never heard of before" (Interview 28).* Some participants indicated

conscious evaluation of their own sensory skills, as they enjoy tasting: *"Oh my God, how delicious these vegetables are and our taste has started to return to something normal, when actually these are just the tastes of raw vegetables" (Interview 25).* Visual experiences were also recounted, especially when people receive the whole vegetable box by pick up or when they unload vegetables from the box at home: *"So, I really bring home the vegetables and then I look at it and it makes me so happy that they are so beautiful and they look so good" (Interview 12).* Most interviewees strongly valued the smell of vegetables, when using items: *"I put it in the fridge and used it for weeks, until it had all gone, I always added a little to all my meals and it made a lovely smell throughout the whole house" (Interview 17).*

4.2. Psychological Well-being: The Experiences of Investing in Efforts to Master Food-tasks

Changing the food source seems to be an obvious transition for the members interviewed. Maintaining CSA membership refers to the inner processes that facilitate a member's ability to invest in efforts to master tasks successfully and to reduce inconveniences. CSA provides space for ongoing psychological growth and integrity as a support for psychological well-being.

4.2.1. Personal Learning

Among the interviewees, a variety of developments were described. Many interviewees have reported some sort of change in their practices: *"It was then I learned pretty much what to do and when, and if I already had some knowledge, it was deepened" (Interview 29).* A number of interviewees commented that participation empowered them to learn new abilities in managing food consumption: "*I learned the way of processing Swiss chard, but I also learned how to process many others. .... I'm sure it all contributed to me becoming more aware of what we eat, what we drink, what we cook..." (Interview 19).* Through participation in CSA, they were able to learn to make new food choices: "*I wouldn't have thought that Brussels sprouts were delicious raw, I never would have thought that*" *(Interview 24).* Interviewees living in families mentioned that CSA allowed their family to learn about how they get their food as well as how it is grown: "*our children ... know where everything comes from. That knowledge is sure to have come from here. This is part of life how we get these things" (Interview 31).* Interestingly, interviewees mentioned that they have become more aware of agricultural issues and

organic farming: "*I also learned a lot from them about how to grow vegetables organically" (Interview 10).*

4.2.2. Prospering due to Food-related Challenges

Many interviewees indicated that consuming CSA vegetables sometimes seems to be a challenge (e.g. cooking food from scratch successfully). Accordingly, food consumption associated with CSA implied dealing with food processes: "*I'm really sorry to throw things out, I use every last piece" (Interview 9)* and dealing with concrete challenges: *"It's a challenge, yes, this inconvenience is there, and I will not let CSA vegetables get damaged in the fridge "(Interview 1)*. Incorporating CSA items into the diet, in contrast to earlier consumption practices, related to personal capacity: *"I've totally decided that it is what I eat. Now I'm really at that point that I do not eat from other food sources and I can manage it. The contrast is pretty big" (Interview 18).* Personal hurdles could be overcome where interviewees had confidence in their ability to consume CSA food: *"There are always flour and onions at home, and finally you can always eat something [cooking from scratch]" (Interview 3)*. They expressed effectiveness in different food related tasks, as e.g. storage: *"I squeeze the air out of the boxes and then I could store them in fresh form for 4-5 days" (Interview 20),* or that home-cooking is even explicitly loaded with positive emotions: *"And I managed it too. I baked it... I can change and revive every CSA vegetable, and then it's pretty fine to eat" (Interview 35).*

Effectively dealing with CSA difficulties is crucial to continued membership: *"I am persistent, I have carried out CSA well - from the beginning" (Interview 11).* Interviewees mentioned that they had to adjust their personal behavior but highlighted they need capacity to engage consistently without becoming distracted: *"I have no problem with that, and I can accept it this way" (Interview 33).* Self-efficacy provides an important feeling of presence and stability regarding CSA: *"Obviously, there are moments when you think about whether it's worth being here every week [to take part in CSA], or when you do not know what to do with vegetables. But whatever happened, I never considered leaving it" (Interview 17).*

4.3. Social Well-being: The Experience of Closer Interactions Related to Food

CSA food is strongly embedded in a community-based environment involving interactions and social relationships. CSA provided venues for pick-ups or farm visits

where community members could come together. Interviewees mentioned that CSA widened their social realities through the very different modes of the production/consumption relationship and expanded their horizons regarding social connections in consumption. To belong to a CSA from a social well-being point of view implies the social tasks encountered: experiencing relatedness and connections with other members.

4.3.1. Sense of Community Belonging

Interviewees reported they have the feeling of being part of a larger stable structure, and CSA encouraged them to encompass a broad range of activities, interests and emotions through group belonging. For interviewees, participation provided valuable social patterns they highlighted: *"from both participants and farmers ... so they show this openness and the friendship and helpfulness" (Interview 4).* As participants all receive the same vegetable boxes on the same day of the week it generated a point of group belonging: *"There is a sense of community belonging thing here. This means that not the whole world gets these vegetables, but these 60 people get them here: they take them out of the box, and they all have the same item such as chickweed" (Interview 8).* They realized that other members might think similarly to them in relation to local food consumption: *"And when I go on Thursdays ... I meet a lot of the same faces who I feel close to. We don't meet very often, but we think the same way" (Interview 17).* Community events, such as farm visits, pick-up times or decisions regarding seasonal planning gave an opportunity for them to feel recognized on behalf of the CSA community. This sense of belonging provided them with possibilities to shape their decision making: *"This is an open and interactive system, even if somebody does not want to speak" (Interview 11).* CSA prompted and initiated personal investment into how to be active in a community as well: *"I'm going to try to organize a Vác pick-up point but it's really hard. I need to figure out a way for me to be more active in this. Now it's more of a problem that, for example, somebody forgets to come for vegetables, or can't come for it, or knows he can't come. I should find common solutions for it" (Interview 5).* Moreover, interviewees expressed that the way they use CSA vegetables at home increases a sense of belonging in the family. Cooking and sharing CSA food influenced their family-related food consumption, their connection to the family: *"and become even more aware of how this [CSA vegetables] builds up the family community" (Interview 23).*

4.3.2. Expanding Social Relations

CSA facilitates people to build new social connections. Participation further strengthens relations among consumers: *"I have a friendly relationship with fifteen people - say 5-10 mostly women - in our CSA. We call each other; we go to a concert together or meet in other ways. The relationships built a network…. There are very strong relationships" (Interview 26).* Social relations can also be formed within CSA through increased interaction between farmers and participants. CSA members often feel very close to farmers: *"I always ask her [farmer] what difficulty she is in or what I can do for her now*" (Interview 20). Interestingly, interviewees made a number of comments that CSA facilitates relationships with acquaintances in order to avoid food waste: *"There's so much [vegetables] to eat and I just cannot eat that much. I've already realized that I am inviting guests to social events and dinner parties just to use up all the vegetables" (Interview 24)* or shrink surpluses etc.: *"I got a box of vegetables and I saw that I didn't have time to do anything with them. I went to Tai Chi and after the training I said: you can pick them, take them, take them home. I said this is from CSA and it's organic" (Interview 8).*

4.4. Spiritual Well-being: Widened Sense of Food-related Experiences

Participants' descriptions highlighted that CSA creates a space where they can live with a spiritual perspective. Their experiences centered on the opportunity given to CSA participation in "fronting up" on the issue of local, organic farming, or the care CSA participation provided for them. Spiritual well-being focuses on aspects of a wider life orientation towards noticing or appreciating aspects of CSA membership.

4.4.1. Devotion to Food Consumption

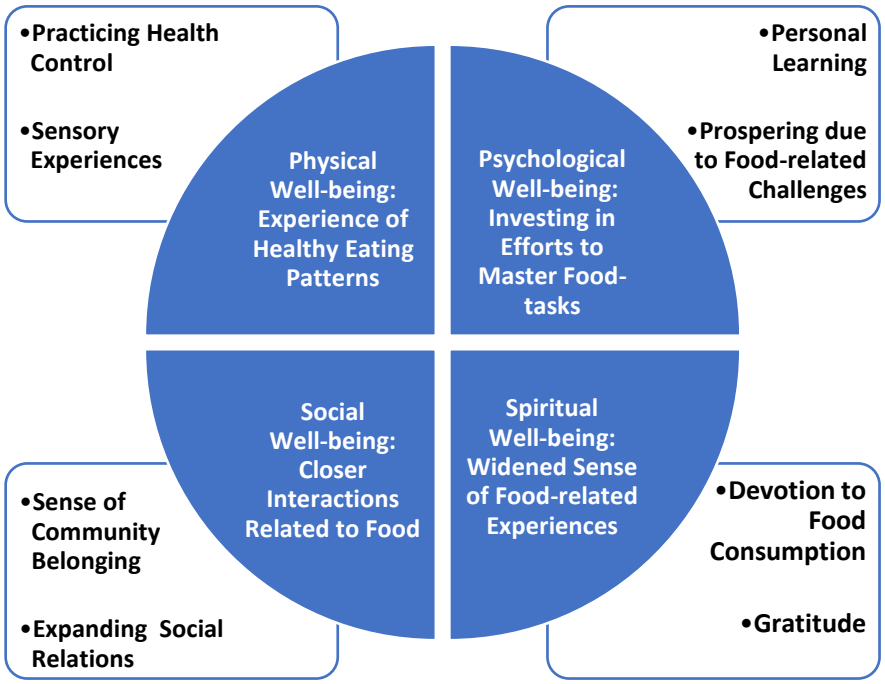
Devotion to Food Consumption emerged as a theme referring to food relations which are more than pure market-based consumption. Due to the proximity between farmland and participants, growing, distributing, and consuming local food became both accessible and understandable for interviewees. They highlighted the shift away from the pure utility of food consumption: "*It is a promotion of a philosophy that does not just buy these vegetables; it is coupled with other buying habits and attitudes" (Interview 27).* CSA participants engaged with seasons, nature and the land directly in a tactile form to which they attribute a form of meaning: *"Even so, with the seasons the seasonality somehow changed what I experienced. Yes, what I experienced as a member through vegetables is*

kind of like the rhythm of nature, harmony" (Interview 4). Interviewees expressed the attachment to small scale producers also implied spiritual closeness to nature and the planet. This was vital for them; it was about "fronting up" on the issue of local food origin, organic farming and farmers: *"They're working with vegetables and I know there's a lot of work behind it. For some reason, this task has been given to them in order to help people here on Earth" (Interview 21).* Moreover they mentioned several sets of fixed actions, as rituals, when they even celebrate food: *"The pick-up day is Thursday. ... So, every Thursday night everyone gathers around the table and rub their hands with their mouth watering at all the wonderful delicacies there" (Interview 14).*

4.4.2. Gratitude

Gratitude emerged as interviewees highlighted that they are blessed. This theme reveals participants' appreciation and recognition of the personal attention CSA participation provided for them: *"We received a gift from nature that this is available" (Interview 2).* The direct connection between farmer and members is an important source to allow for noticing and appreciating the positivity in CSA food: *"so I used to talk to the farmer, and I am very grateful that she brought me such fantastic vegetables" (Interview 28).* They emphasized the importance to express gratitude in particular situations: *"I sent a letter [via the CSA email-list] with the topic: CSA participation is about our common delight. Then we got peppers, green peppers for the first time. I really did taste it, the taste of my childhood and the taste of summer. Then I wrote a poem: Ode to Green Peppers. With this I strengthened our enjoyment of it, how much goodness we have [here in CSA]" (Interview 23).* In addition, enjoyment of benefits in relation to CSA food might be experienced from having access to quality food: *"Non-chemical vegetables are certainly a more viable alternative" (Interview 26)* to spiritual fulfillment: "*Maybe there is a vegetable spirit .... a kind of heart and soul in relation to CSA ". (Interview 21).*

Figure 1. Emerging themes of food-related well-being in CSA



5. Discussion

Sustainability is a combination of economic, and social aspects of food supply chains, which can enable new food consumption models in AFNs [2,90]. Indeed, promoting local economic solutions and addressing certain sustainability issues shapes agriculture in order to preserve or renew interactions between consumers and producers. Not only are these important options for building sustainable community economic development [91] but they can affect the experiential relationships between consumers and their food. Trust and cooperation manifested in transparent farm operations and farming are fundamental in relationships between consumers and producers who are "disconnected from food production and processes associated with food moving from farm to plate" [92] (p. 8). CSA provides an opportunity to improve sustainable consumption patterns and this research discovered how consumers establish a pleasurable relationship with the food they buy.

Beyond a relation to healthy nutrition, the effect of food on well-being has been a growing topic of research interest [39]. This paper examined food-related well-being in CSAs and explored the extent to which participants' experiences and outcomes relate to it. In this context however, there is a need for a multiparadigmatic view containing all the aspects of a person's life that may contribute to their perceived well-being.

Many of the positive outcomes of how the physical, psychological, social, and spiritual domains of the BPSS model help maintain CSA participation corroborated previous findings. People enjoy the physical aspects of food, such as flavor, variety, freshness, and improved nutrition. Other personal benefits that can be linked to the well-being of individuals are the committed nature of CSA farm deliveries helping to enforce healthy dietary choices and improve health outcomes of participating individuals [18,93,94]. From a psychological aspect, belonging to a CSA offers people opportunities to prove their efficacy; facilitating behaviors and habits in line with the needs of the maintenance of healthy eating, and inspiring them to learn about agriculture and food cultivation practices. CSA empowers people to pursue activities such as food preparation and new ways of cooking or storing food [59], which might result in a more holistic relationship to food.

As Rossi et al. [25] (p. 17) suggest, "The CSA experience entangles food related behavior in a broader array of social relationships". From a social perspective CSA increases contact between members (farmers, participants) and belonging to a small consumer group facilitates the flourishing of interpersonal resources. Moreover, sharing recipes or even food with friends and neighbors, which is frequent in CSA, is a pleasant time to socially interact with other people. In this way, CSA promotes a sense of relatedness and strengthens the consumer-producer and urban-rural relationship, offering people more enjoyment in their lives.

From the results it appears that components that were not previously highlighted in the food-related well-being literature have been identified, such as consumers' spiritual concerns. Food related- spiritual experiences map the significant connection with food as well as the greater relational understanding of food. CSA food consumption holds potential benefits when it comes to spirituality. CSA participants with their environmentally-friendly product choice are concerned about the environment and nature, and show appreciation for food which is in line with their actions [81,91,95,96].

This study stresses the relevance of psychological, social, and spiritual aspects of food-related well-being beyond the nutritional characteristics of food. Clearly, CSA

participation does not provide individuals with the ability to constantly feel good. There are various arguments both in favor and against CSA participation from a personal perspective as CSA consumption may underlie a broad range of experiences. At the same time, it is possible that members may be encouraged to accept CSAs due to the emerging well-being benefits. Consideration of how consumers perceive the effects of food on their well-being can lead to a better understanding of consumers' food choices and to the creation of effective strategies to improve the food patterns of consumers or to map the background of healthy eating patterns. Our study contributes to a better understanding of the world of CSAs and consumers in these alternative systems. As Savarese et al. [2] emphasized in their similar study focusing on CSA practices in New Zealand, the recognition of alternative agricultural methods may lead to a better promotion of sustainable food practices. The understanding of food-related well-being in this context can add to knowledge generation in this field.

Limitations, future studies

Outcomes of the present work provide an insight into consumers' experience of well-being in a food-related context. Despite the contributions of this study, some limitations are worth mentioning for future research. One limitation is that neither the individuals' prior characteristics of well-being, nor the baseline stage of a CSA diet have been controlled for in the present study. A further limitation is that this research has been conducted in a specific (Eastern-European) region and results might be bound to the socio-cultural background of that region.

Therefore, future studies should focus on samples from other countries including using a larger sample, valuable for conducting cross-cultural comparisons. Future research should include longitudinal examinations of where the changes of well-being – from the very beginning of CSA membership - can be analyzed.

This study is novel in its inclusion of CSA members in relation to food-related well-being; however, it would be valuable to examine whether these results are unique to CSA or if they could be applied to any form of AFN or farm market setting. In line with this there is a need for more comparative food system values - within CSA across cultures and across CSA/non-CSA consumers. In further studies, it would be worthwhile investigating the role of different AFN environments, the motivational background of the members, and the individual characteristics (including age and gender) that maintain different aspects of health. It would be appropriate to suggest that constructs and measures for the

spirituality aspects of the BPSS model merit further development and could potentially reveal interesting contrasts - especially in the context where comparative consumer groups could be studied. An interesting question which could be part of further studies is how religiousness (a close construct to spirituality) might relate to all four well-being aspects of BPSS in connection to alternative consumption.

Another topic for possible investigation could be what happens when the CSA framework is no longer in place in a person's life: it is a question of how food-related well-being changes and influences individuals' further consumption. Further qualitative research focusing more on the producer side could help provide a more complete picture of the CSA experience —particularly in relation to the concept of sustainable well-being.

6. Conclusions

This research specifies the importance and the centrality of the consumer related approach established in food-related well-being. Sustainable agricultural practices provide a fresh perspective, inviting reflection on opportunities to improve economic, environmental, and social well-being and adding to the quality of life in relation to food. This might strengthen a new axis of reflection on what is acceptable for individuals in their food environment. These results are important in convincing people that their food-related experiences belong to their perceived well-being as well as stimulating people to elevate their multidimensional expectations in relation to food.

It seems that food-related well-being is firmly linked to locally produced food consumption [97]. In this view, food-related well-being is seen as value-laden and socially determined. Maintaining a valuable set of relationships regarding a person's relation to food and agriculture practices might contribute to sustainability and perceived well-being.

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Local Food Communities: exploring health-related adaptivity and self-management practices (*Primary Research Theme, 3rd Study*)

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Abstract

Purpose – While many characteristics of food consumption have been examined, little attention has been given to the health potential of consuming from local food communities. Local food communities, including Community Supported Agriculture (CSA) are food initiatives, which try to respond to the healthy food, environmental or socio-economic challenges of the food system. As a step towards understanding local food communities, this study sets out to examine the health-related adaptivity and self-management practices of CSA participation.

Design/methodology/approach – The qualitative research approach, which included semi-structured interviews (n = 35), was designed to discover the potential for being healthy: the ability to adapt and to self-manage amongst CSA participants. The data were analyzed using thematic analysis.

Findings – The results suggest that local food communities can influence health-related adaptivity and self-management in the following themes: awareness of product origins; enhanced food-management capability; expanding applicability and usability of the food environment; and strengthening one's food-related self-image.

Practical implications – Increasing the presence of local food communities might be part of developing strategies to evaluate the health effects of the local food environment and to encourage consumers to take responsibility for their own health.

Originality/value – This study extends the food consumption literature to include new knowledge about how local food communities facilitate individual efforts to enhance their own potential for health as well as improving understanding of the mechanisms that underpin a healthy diet.

Keywords: local food community; community supported agriculture; food consumption; dynamic concept of health; health-related adaptivity and self-management practices; healthy diet

1. Introduction

Over recent decades, public health research and practice have become increasingly interested in comprehending the influence of food consumption on health-related outcomes. Understanding the characteristics of both the environment which constrains one's ability to make healthy food choices as well as the food consumption strategies consumers develop is an important factor in the promotion of health (Arroyo *et al.*, 2020; Dhaoui *et al.*, 2020; Story *et al.*, 2008). In line with this, scholars have begun to recognize distinct trends in relation to food's impact on life, as the local food environment proved to play an essential role in illness prevention (Salois, 2012); or how we might understand consumer perceptions of certain food products in context (Sumaedi and Sumardjo, 2020; Szegedyné Fricz *et al.*, 2020).

From an academic standpoint, consideration of the environment in relation to food in operational and working terms – whether local or global – is essential to explain or even understand dietary behavior (Downs *et al.*, 2020). Although definitions of the food environment are plentiful and varied, inter-related factors, such as the surrounding

community, provision of a space to meet, or consumption-related shared activities, are almost always articulated. Not surprisingly, studies related to food consumption based on local food systems have proved an important arena for introducing the significance of local food in a healthy diet (Birtalan *et al.*, 2020; Rossi, 2017).

The local food environment can be described as directly accessible producers who can improve the availability of healthy food (Díez *et al.*, 2017; Glanz *et al.*, 2005). This may also result in educating local community members about healthy eating behaviors (Nakandala *et al.*, 2020). Moreover, local communities organized around food through which consumers are participating in local food systems can also make a positive contribution to public health, emphasizing social and environmental benefits (Buckley *et al.*, 2013; Discetti, 2020). These benefits might include: access to high quality locally produced food for low-income populations, economic viability of production or reduced distance of food distribution, and an increased sense of social connectivity (Lucke *et al.*, 2019; Ong *et al.*, 2019; Zoll *et al.*, 2018).

The research issue underpinning this study concerns the social and environmental benefits of local food initiatives that frame and influence consumers' health-linkages in a complex manner (Dhaoui *et al.*, 2020). Healthy behaviors can be achieved if consumers use, interpret, and adapt to access this affordable and healthy food: therefore, individuals need skills to read the food environment decisively and navigate it safely. It seems both exposure to healthier foods, and reduced exposure to less healthy products, improve the ability to exercise food choices (McGuirt *et al.*, 2020). Studies suggest personal responsibility and the food environment as convergent forces to aid in the understanding of health-related outcomes (Moore, 1999; Rose, 2011). Modern concepts recognize health as more than a static state, implying that a set of dynamic features and interaction with the environment need to be understood. The aim of this study has been to understand the influence of CSA participation on health with a specific focus on health-related adaptivity and self-management practices. In line with the modern concept of health, a dynamic and interactive approach was introduced in this study to reveal potentials for being healthy.

2. Context and theoretical background

2.1 Local Food Communities

Although numerous features of food consumption have been examined, little attention has been given to a health-related adaptivity and self-management understanding of local

food communities. Local food communities are a relatively new phenomenon worldwide: community gardens, box schemes, rooftop gardens or solidarity purchasing groups have become increasingly available over the last few decades (European CSA Research Group, 2016; Low *et al.*, 2015, Orsini *et al*., 2014). Each of them serves a unique local community, uses a production mode or product selection tailored to specific populations, and can attempt to reduce the distance between producers and consumers, between consumers and their food. They provide a way to both obtain healthy food and increase consumption of vegetables, thus enabling individuals to improve their nutrition and live a healthier lifestyle (O'Kane, 2016; Poulos *et al.*, 2020). It is important to emphasize that the physical environment in which people live has an effect on the food that is available to consume along with the other obstacles and resources that help or impede healthy eating (Story *et al.,* 2014). Based on a comprehensive analysis by Salois (2012), better dietary choices and healthier eating can be explained by the characteristics of the local food environment, namely the availability of farm products. Not surprisingly, Schnell (2013, p. 616/p. 626) suggests that local is a "more multifaceted concept of place" and, as a result, people are "eating locally in a particular context, embedded in their relations with particular producers, particular markets, particular environments, and particular people".

Local food communities also represent a way to access healthy food in which shortening the food supply chain promotes consumer awareness for purchasing locally grown products (Pascucci *et al.*, 2016). One type, community supported agriculture (CSA), is a strategy used by farmers searching for a niche by going "beyond organic" in the local food economy and community (Goodman and Goodman, 2009, p. 7).

This system integrates local production with the food environment, providing proximity between consumers and food, and between agriculture and the home environment, while increasing the availability of nutritious foods such as vegetables (see Dixon and Richards, 2016; Zoll et al., 2018). Participants receive a wide variety of products influenced by farming methods and environmental conditions (Cohen *et al.*, 2012). The pre-paid and pre-determined size box of seasonal, freshly harvested vegetables is obtained at a pick-up location each week during the contracted season, often serving the needs of a family. This purchasing interaction is fixed for a season by a contract and actual goods are received with the option of influencing the content of CSA boxes on a yearly basis. As such, local consumers can establish a link with local producers. The CSA experience influences consumer attitudes: making them more aware of environmental

issues, forcing them to pay more attention to food and its production, and enhancing their commitment to local food resources (Birtalan *et al.*, 2020; Hayden and Buck, 2012). Not surprisingly, consumers who are familiar with local food communities have registered a high degree of life satisfaction and happiness (Neulinger *et al.*, 2020).

2.2. Dynamic Concept of Health in Local Food Communities

Research focusing on CSAs indicates that participation provides positive dietary changes and a healthy lifestyle (Allen IV *et al.*, 2017; Perez *et al.*, 2003; Rossi *et al.*, 2017). Some studies have included a focus on physical health and suggest CSAs promote a higher consumption of fresh produce or participants consuming more nutritious food compared to non-CSA members (Cohen *et al.*, 2012; Minaker *et al.*, 2014), whilst others highlighted the broader aspects of health-relatedness including social or mental impacts (Harmon, 2014; Rossi *et al.*, 2017). Since CSA provides households with a weekly stock of fresh products, it eliminates an aspect of preference from the decision-saturated lives of the participants and can thus enable them to follow healthy dietary routines (Birtalan, Neulinger, *et al.*, 2020). Collectively, these perspectives actuate the need to consider the mechanisms by which CSA food consumption shapes individual health.

This study uses a dynamic and interactive health concept focusing on the influences of food consumption. Huber and colleagues (Huber *et al.*, 2011) provide an approach to health that suits an examination of CSA food consumption related experiences in connection to health, focusing on an individual's potential for being healthy. According to this concept, human health is an "ability to adapt and to self-manage" (Huber et al., 2011, p. 1). It is then not only seen as a physical state, but a process depending on and influenced by complex interactions between the environment and the person, or their lifestyle (Velimirov et al., 2010). Although the form of adaptivity and self-management taken in its practical applications varied among people according to their own individual skills and available resources, the interplay between the person and their environment is important to reveal the potential for being healthy. Given this, a person must not only *be able to* perform but must also *actually* perform in the face of challenges (Huber *et al.*, 2016).

2.3. An overview of study context

This research examines CSAs in Hungary, a country offering an interesting context for several reasons. Previous work in this field has described how in Central-

Eastern European countries there is a strong local food culture with sustainable agriculture in traditional agricultural family households (Jehlička *et al.*, 2020; Moellers and Birhala, 2014). Addressing this issue, Jehlička et al. (2013) highlight the value of healthy food provisioning through household food production in this region. In line with this, general agricultural production systems providing local food are receiving growing attention in Hungary (Balázs *et al.*, 2016; Benedek and Balázs, 2016).

The first pioneer projects of CSAs emerged in the early 2000s, and a series of CSAs appeared in Hungary in 2011 (Balázs *et al.*, 2016). Samoggia and colleagues (2019) in their study suggest that CSAs provide opportunities for networking and reconnecting with the rural life as opposed to the purely economic dimension of farming, this being particularly relevant for Hungarian farmers. In particular, these farmers should be aware of the benefits that CSA farming brings to consumers and their families (especially children) (Samoggia *et al.*, 2019). All CSAs are small-scale farms with varying capacities, the number of pick-up points, and monthly prices. Many of them practice organic farming or horticulture. Although the literature on the growth of local food communities in Central-Eastern European countries is comprehensive (European CSA Research Group, 2016), little is known about how these local food environments influence participants' potential for being healthy.

3. Methods

3.1. Study design

An explorative research design was developed to discover and understand the potential for being healthy: the ability to adapt and to self-manage in relation to food consumption through CSAs. A semi-structured, guided interview study was conducted with CSA participants to collect data on this.

3.2. Data Collection

Thirty-five in-person individual interviews were conducted with consumers who participated directly in a CSA. All participants provided voluntary written consent prior to initiating the research. The study was approved by the Research Ethics Committee of the host Faculty (research permission: KEB 2017/128). To protect the identities of the informants, the degree of information about the respondents is minimized.

Two of the most long-standing CSAs in Hungary (founded in 2011) and one from the later establishment wave (founded in 2013) were contacted by the first author.

Interviewees were located through the suggestions of CSA farmers, by individual applications through CSA e-mail groups and by a snowball technique via interviewees. Interested people made contact through email or phone and were sent the participant information sheet and consent form. Purposive sampling was used to recruit participants who were over 18 years of age, belonged to a CSA and self-identified themselves as a CSA consumer.

Interviews lasted between one hour and two and a half hours and were undertaken within the interviewee's own environment. A question guide was developed to assure consistency of data across interviewees. The interviews were designed to document home food consumption practices, motivation in joining CSA, health-related habits in relation to food, individual involvement and opinions regarding CSA participation, social experiences in relation to the CSA consumption, and perceived impacts of CSA on the broader food environment (see interview topics listed in Appendix)[1]. The questions aimed to be open and personal, directly related to the lives of the CSA consumers. Data from these interviews were pooled to generate the final dataset. All interviews were digitally recorded (with consent from the respondents), and transcribed verbatim.

3.3. Data Analysis

This study carried out a thematic analysis to assess multiple hierarchical levels and different scientific approaches (Terry *et al.*, 2017). This type of analysis is a widely-used qualitative analytic method within psychology and the deductive approach was applied as the themes that emerged are strongly linked to the dynamic concept of health (Braun and Clarke, 2006).

In this analysis method each individual piece of data (interviews) collected makes up the data set. All coding, sorting, and comparing of the data set during the analysis process took place using Atlas.ti software. Meaning units related to the research question (What possibilities and potentials are experienced in relation to being healthy in relation to the CSA food consumption?) were identified and systematically coded on the basis of their manifest content (what was said). Finally, a preliminary list of codes was grouped under main codes (e.g. storage-based practices, earlier experiences), with sorting based on similarities.

[1] Interview guideline is available upon request.

In the next step, the main codes were read and re-read for themes by classification reasoning as well as practical insight to determine which data are coherent when grouped together (Lincoln and Guba, 1985). In this phase, the first author defined themes on the basis of interviewees' relation to food environments delineated by a CSA (e.g. relationship to the healthy consumption), referring back to the interview context to deepen the understanding of these themes and patterns. Through the processes of clarification, final themes were identified and mutually agreed within the research team.

4. Findings

4.1. Description of Participants

A wide age range of volunteer participants of both genders from Hungary were sampled. The sample consisted of 31 women and four men, with ages ranging from 26 to 62 years, the mean age being 40.7 years. Participant experience in CSAs ranged from 4 months to 5 years; 5 of them had upper secondary education and 30 had a higher educational degree; 17 of them lived in larger cities and 18 in regions that were located near to these cities.

It was noteworthy how interviewees used grocery stores around their place of residence in addition to CSA. Nearly all respondents reported regularly purchasing local food (bought directly from farmers). The majority indicated a clear preference for shopping from other types of local food communities: solidarity purchasing groups (7 interviewees), other CSAs providing meat (6 interviewees), while two participated in a community garden. In order to contribute to fulfilling their own or family vegetable requirements, 7 of the 35 interviewees described diets comprised of home-grown foods and had started growing produce at home.

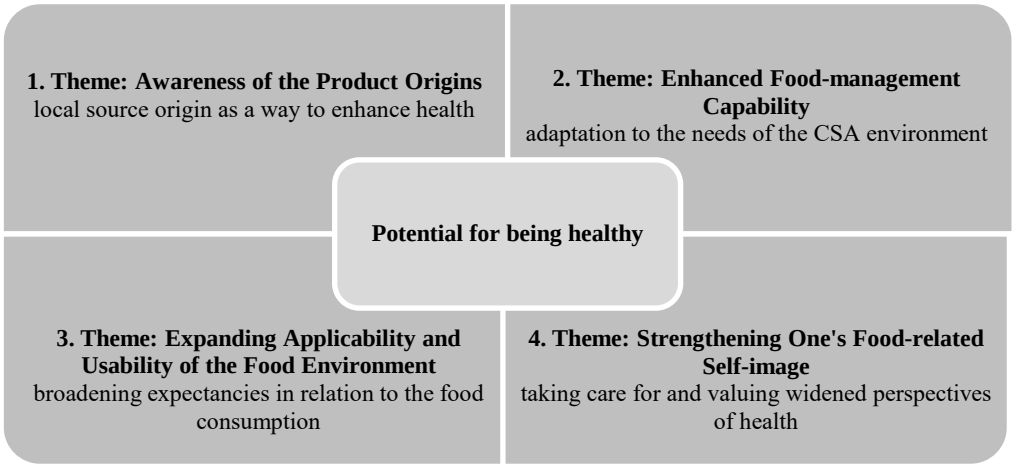
Furthermore, almost half of the respondents reported that they tried to be loyal to local food outlets and shopped in local shops (9 interviewees), bodegas (8 interviewees), and a number who consciously avoided supermarkets (5 interviewees). A significant number expressed a strong commitment to natural food and preferred to shop from organic food stores (10 interviewees), farmers' markets (16 interviewees), or farm-to-table foods as direct sales from other small-scale farmers (11 interviewees).

4.2. Themes identified in relation to the dynamic concept of health in CSAs

Four themes (see summary in Figure 1) exploring the issues and concerns of interviewed CSA participants have emerged from the study data, namely: (1) Awareness of product

origins, (2) Enhanced food-management capabilities, (3) Expanding applicability and usability of the food environment, (4) Strengthening one's food-related self-image. Themes below include direct quotations from certain participants to demonstrate common points-of-view of the interviewees.

Figure 1. Themes that emerged in relation to the potential for being healthy in CSA



4.2.1. Theme one: Awareness of Product Origins

CSA consumers frequently talked about CSA as a food source they had specifically sought out. Although food outlets (supermarkets, grocery stores) provide a wide range of healthful foods, interviewees were highly motivated to use local food sources. In addition to this, participants assigned great importance to health features perceived through consumption of CSA origin products.

The first theme supports the importance of 'product origins', as the origin of food is a way to control for the health of participants (since they know where it has been grown or know the food safety context). Interviewees tended to be concerned about how their health is threatened by modernity and artificial environmental contaminants such as synthetic fertilizers, chemicals, pesticides, or uncertain transport conditions. They wanted to avoid food additives in vegetable products, preferring local, fresh, and seasonal food. In addition, personal health problems in the family, or a new child, tended to push people toward seeking nutritious food. For them, CSA ensured associations between natural food and a healthy diet, confirming their decision to move towards this food source. *Interviewee 7,* for example, expressively explained joining CSA solely in terms of health considerations.

"We wanted to look for healthy nutrition. I could no longer eat cucumbers, radishes, onions; I had constant abdominal cramps from vegetables. … It was always a problem to find chemical-free, to obtain products that are healthier for me… And as a mother, I think it's important to value my family highly enough that I should try to provide them with what is, to the best of my knowledge, the healthiest food… I have reached this point through my own experience."

In addition, earlier experiences had contributed to considering local sources as healthier: locally-sourced foods were more strongly associated with a healthy diet for these participants. Some interviewees connected the local origin with agrarian roots (taking part in food-provisioning in childhood; growing up on a family farm) and, for them, a local food source was tied to a memory of food from the past. Other participants realized similar tastes in CSA food as they remembered from their early childhood family dinners. For most, seasonal, nutritious, familiar vegetables from a past food environment were understood and acknowledged as a predecessor to their current vegetables from the CSA. *Interviewee 15* alluded to this shared sense that food originating from the CSA tastes as natural as they remembered:

"I'm sure it comes from my childhood. In Transylvania, my grandparents - and of course my parents - always paid a lot of attention to meals. I visited them a lot and they always cared about food… It's interesting, that was my first thought when I received the very first box of vegetables. I will never forget when I cooked the first vegetable soup, I really felt like my grandma would have felt cooking: it smelled so delicious like back then at home …It takes me back to when I was child, we would have lunch at noon and then run around for hours and of course get hungry again. "

4.2.2. Theme two: Enhanced Food-management Capability

Adaptation to CSA is the second theme, it shows participants start to organize food-related processes according to both their own capabilities and the needs of the CSA environment. Most of the interviewees recounted that they are able to regulate their emotions, thoughts, and behavior effectively in the face of a number of challenges related to 'consumer–producer partnerships'.

At first, participants had to learn about the availability and accessibility of local seasonal vegetables, the exposure to new types, and an unexpected amount of food in the

home environment, all demanding a number of adaptations and facilitating individual learning related to the food environment. *Interviewee 7* highlighted the importance of abilities required to manage in CSA:

"It needs lots of creativity to be able to bring together a meal from the actual vegetables that may not be in the recipe book: to make something from them. And not everyone is cut out for that."

Self-management in CSA refers to enforcing local dietary choices and habits such as home food preparation and vegetable consumption. Participants reflected on the food-related practices indicating the changes in daily activities driven by joining a CSA. A number of them displayed reactive patterns of food-related tasks, requiring new preparation methods. Cooking skills to practice came into play through 'forced creativity'. Other interviewees frequently described new time-schedules influenced by exposure to food and for some of them the array of items opened the door to binge-preparation or binge-cooking (greater sizes of meal in the same duration of time than earlier). *Interviewee 1* described how she cooked due to the quantity of vegetables:

"Well, I try to be practical. I usually cook a large amount and I make the whole family get used to eating the same soup - in a large bowl - for two days or, if necessary, three days."

Overwhelmingly, participant explanations for utilizing vegetables eliminating product choices meant substantial changes in people's eating routines. Some participants mentioned how they incorporated new foods into their diets as a result. *Interviewer 12*'s quotation below helps to understand these experiences:

"I think it's very good and I'm very happy to learn how to process vegetables. I throw them away as rarely as possible now but at first it happened to me a lot: oh my God, a huge amount of Savoy cabbage had been coming for three weeks and I had no skills to process them, no ideas, no knowledge what to do with them. Finally, I learned what I like and do not like. And whatever I get now there are no big surprises that will happen with vegetables in the kitchen, or how to preserve them if needed. I think I have become more professional in this."

In addition, the weekly delivery of produce encourages the development of skills to renew practicalities for kitchen storage or even trying new food preservation techniques. As an example, *Interviewee 2* stressed how they store CSA products via drying:

"They can always be preserved, for example, I always dry and store the aromatic herbs. It means I won't run out of them and we don't throw them out."

Absorbing new food-management practices from other consumers of the community was also echoed as a significant consequence of participation. Helping to manage CSA-related challenges; participants shared their surplus with other consumers as well as family and friends: social interactions in CSA also bolstered the capacity to consume food. Reflecting on her improving skills through facilitating social connections, *Interviewee 24* expressed her expanded functioning:

"I've already decided to invite guests to a games party and prepare them dinner, just to use up the CSA vegetables."

Moreover, CSA participation identified challenges in relation to the physical dimensions of food procurement. Interviewees mainly referred to how food accessibility encouraged physical activity, especially carrying full vegetable boxes on pick-up days during a rich growing season. There were other examples of physical activities such as brushing soil and insects/snails off vegetables which required effort to complete. *Interviewee 26* was entirely absorbed in the activity of food pick-up and in taking vegetable boxes through the city to home, something that focused on her physical capacities:

"Something that has stuck with me was when I took the pumpkins or the harvested, fresh melon home in the bottom of the stroller, or the time when I rode my bike, balancing my child on the back with a full basket and even some products in my arms too. These are eternal [moving] experiences".

4.2.3. Theme three: Expanding Applicability and Usability of the Food Environment

CSA food environments provide opportunities for participants to re-envision their relationship to food supply chains in general. Participants gained a deeper perspective of what really matters when they 'buy or consume' food and realize how it can influence their well-being. This theme reveals the extent to which a person is able to reflect on CSA consumption experiences and widen their attitudes and expectancies in relation to consumption (e.g. reflecting on vendor or product properties). For example, several mentioned how the CSA can lead to new and important trajectories of participants' food-related lives: new eating or shopping behaviors. *Interviewee 10* reflected on the CSA-related experience of how to prepare food properly for herself in her home food consumption:

"I tried to get acquainted with the vegetables ... For example, I did not like broccoli at all earlier, now I do. I realized I had a problem with a lot of vegetables because they were prepared in a way …that wasn't right for me."

Others highlighted how information exchange in relation to people's satisfaction with the experience of obtaining food widened consumer-knowledge and influenced new food buying habits towards a healthier diet. The connection to farmers and farming has educated consumers about agricultural processes, the agricultural environment and organic farming techniques or even the nature of farming itself. Perceptions related to CSA food consumption (perceived quality and variety of vegetables available) including the perceived quality of consumer-farmer, and consumer-consumer relations led to an expanded understanding of food choices. For example, *Interviewee 11* described CSA as an environment with perfect information which provided him the opportunity to react:

"You can give feedback here. So, you can say that you have too many potatoes and you can't handle them; or you are happy to have peas, and it's a shame there are so few, there could be more next year ... You can do it somehow differently; you can create a different set of conditions for yourself when you start such a pattern via interactions… If you are connected to this it provides something significant for a consumer... "

CSA food consumption broadened the participant's approach to comparisons with different food environments. Most of them started to consider their consumer behavior

more generally and interviewees defined CSA consumption as having to take responsibility for personal choices and their health, indicating a commitment by selecting or modifying food situations. CSA experiences create a model for life or social interaction for these people, with an influence on their diet. For example, *Interviewee 22* outlined the packaging-free lifestyle experienced in CSAs prioritized their consumer choices in relation to consumption:

"We're very concerned about generating unnecessary waste which also has an impact on our nutrition. We try to get everything without packaging - essentially impossible in stores -... we realized in our everyday life how much trash is generated...We try to find food sources that don't generate garbage"

4.2.4. Theme 4: Strengthening One's Food-related Self-image

Participants shared their view that consuming in the CSA makes people believe they are a person who is involved in health. Strengthening the food-related self-image theme is woven throughout the responses, as 'participation in CSA' is a way of producing a positive outlook by healthy practices.

In general, people portrayed their participation in a CSA as integrating local production with caring about the health of the community they are connected to. Supporting local food sources, local farmers, local agriculture or protecting the local environment through reducing transportation stimulated new local economic activities, leading to further enjoyment. As an example, for *Interviewee 33*, CSA tended to be an urban environment where she felt she could take action for the well-being of the local community.

"Two or three times we organized a social Green Day, Green Eating Day, when we exhibited local products and then cooked something from them together... We really have to consume for the local community... Let's go and do it… I figured it out here in the Village Hall."

Participants expressively highlighted the sense of belonging to a local food community. Although the extent of this varied, consumers in CSAs pointed out the significance of the social side of CSA food in their thoughts about it. For example, *Interviewee 25* emphasized, she was ready to input substantial personal resources to

encourage consumption of kale in her community, a food she maintains to be desirable for the healthiest diet possible:

"I am the kind of person who researches absolutely all the American sites... Finally, I figured out the 'Friends of the kale' movement in our CSA. I shared with the group its anti-cancer properties and I told them that a lot of doctors in the U.S encourage people to consume as much as possible."

Not only did some interviewees express a connection between the food they eat and how they see themselves, but they also identified who they were through their food decisions. They revealed that participants' CSA experiences are linked to forming opinions about healthiness. In line with this, for most of the interviewees, CSA meals provided a basis of self-communication, a base for maintaining a positive self-image based on selected healthy food. Interestingly, *Interviewee 14* mentioned that CSA participation was the catalyst in creating family time or meal rituals around healthy food that improved her self-esteem:

"And we were able to accomplish how to manage boxes. However, at the same time we wanted our kids to get used to this. I think I am what I eat, and that's about me. I have to pay close attention to my children too… The evening is so good; there is everything on the table, all kinds of wonderful vegetables."

Some respondents were explicitly proud of themselves and felt that they were successful in achieving what they had intended to do and sticking to their decisions in relation to health. Moreover, community relationships became sources of information from which to garner widening perspectives on their health. In general, participants experienced confidence in their self-capacity to be able to categorize healthy or unhealthy foods. For example, *Interviewee 12* approached healthy eating in a CSA as a positive way to identify herself:

"I like this regularity… And I think that's great. It is good for me…. For whom healthy eating is important, I don't think there's a better system than this, it is sure… So, I think it adds a lot to my life... by doing this, you are somebody who represents something.

5. Discussion

As illustrated by Story and colleagues (2008), the environmental context of food choice can influence consumers to become more involved in their relation to food, which could be a keystone to promoting health. To understand health in local food communities this study investigated the dynamic concept of health, focusing on people's potential for being healthy. More practically, the themes that emerged provide insights into how CSA food consumption may influence health-related adaptivity and self-management.

CSA, a type of local food community, is a risk-sharing partnership between farmers and consumers, integrating production with food consumption and providing direct interaction between food and the immediate environment (farming, producer, land). This represents healthy food in a local context. In practice, interviewees described how CSA initially seemed only to be a new food source in metropolitan areas; however, it finally triggered new health-related experiences in relation to the food environment.

The first, 'Awareness of Product Origins' theme represents health relatedness based on the meaningful relationship with what is the actual origin of food. For many, the CSA food environment provides an adaptive food-related response to health worries or to appropriate family nourishment (especially feeding a baby). Moreover, others also linked CSA experiences via integrated traditional production methods (those products they enjoyed in their earlier years) to natural, nutritious food. These results are in line with other Central-Eastern European studies which analyze social imaginaries in relation to local food communities, highlighting the fact that rural origin implies 'healthy' for most respondents (Goszczyński and Wróblewski, 2020). However, health associations were strengthened towards local food sources, which is a positive aspect for improving attention to food origins in general.

The second theme, 'Enhanced Food-management Capability', is related to the skill-gaining opportunities via reflexivity to challenges in the CSA food consumption. Participants must change their habits of processing or eating to adapt to the production and distribution constraints of the CSA. These day-to-day practices enable participants to experience intense moments, influencing them to become more concerned with the skills, competencies, and techniques of the personal food-related lifestyle (preparing, cooking, creating new recipes, etc.). The weekly vegetable supplies, which eliminate product choice or the *number* and type of activities managed in CSA, call for significant changes in patterns of daily functioning and self-management. There is potential to build up an (adapted) healthy diet. This theme also shows how CSA can be strongly embedded in

everyday practices due to historical and cultural reasons (as suggested by Goszczyński and Wróblewski, 2020) while at the same time stimulating adaptation skills.

Farmer-to-consumer and consumer-to-consumer face-to-face interactions experienced weekly in CSA seem to be important in valuing both the vendor and the product properties that influence health. The third theme includes items related to the importance of the context of consumption. This enriches our understanding of the relationship between consumer attitudes towards CSAs and the perceived quality of food products through the process of expectation formation in relation to the food system (Tonkin *et al.*, 2020). CSA related consumer experiences, e.g. dealing with lifecycles of food and appreciation of agricultural practices predisposes participants to pay more attention to food effects on well-being. Practically, it can affect other food purchases beyond the CSA bundle. The 'Expanding Applicability and Usability of the Food Environment' theme highlights that CSA, as a food environment, results in vivid experiences for people to become much more aware of consumption and the overall food supply chain. This might lead to an improved consumer knowledge or even individual purchasing and consumption behavior.

CSAs can broaden or build self-image connected to health. The fourth theme, 'Strengthening One's Food-related Self-image' emerged via realization of the experienced use of personal resources through belonging to a healthy food based local community. Participants managed their food-related practices for health while developing improved confidence in their food decisions. This confidence is about trusting in their health-related decisions about food as part of their self-image. This theme suggests that health might be not only more holistic (health of local environment, local food community, family, physical or psychological health) but may refer to personal responsibility, too.

In the CSA consumers meet directly with features of the local agricultural landscape, farming, and producers, encompassing the availability, production, quality, and quantity of foods. These characteristics of the CSA environment open up opportunities for consumers to strengthen their commitment to health via food. Thus, the notion of CSA participation goes beyond its physical health-related nature and widens CSA participants' perspectives in relation to health: they can create the meaning of food within the CSA environment and they are able to identify and connect with the food and the food system improving health-related outcomes (see Bentsen and Pedersen, 2020). From this point of view, CSA food consumption addresses food-consumption-related

personal capabilities, to develop and apply strategies for use of their resources carrying greater significance for food in relation to their own health (see Chinea *et al.*, 2020). Whereas earlier studies suggest CSAs promote positive dietary changes and a healthy food consumption, results of this study serve as a vivid illustration as to how a food consumption provides varied potentials for being healthy. Proximity to food from local sources and the strength of interactions among participants within local food communities (particularly with a sustainability focus), whether weak or solid, enable them to gain intimate experiences of health in a local context.

6. Conclusion

The results of this study can support the shaping and implementation of agricultural and food policy as they contribute to a better understanding of the importance and complexity of the local food environment. It seems CSAs promote not only healthy food choices (e.g. large quantities of vegetables) but might also connect to fulfilling one's potential in relation to health, which is relevant to its public health outcomes. Increasing the presence of CSAs might be part of developing strategies to evaluate the health effects of the local food environment: to encourage consumer responsibility for their health maintenance/improvement.

In addition, research results help to recognize the relevance of health-related adaptivity and self-management in food consumption and, as such, give additional insights about participation in urban local food systems. This study merely focused on CSAs, but lessons learned can add to the knowledge of any local food communities as themes emerging from the data can also be applicable for similar initiatives (e.g. community gardens, rooftop agriculture). Society, more generally, can also benefit from this study as any contribution to a more complete recognition of health behavior helps to cultivate positive eating habits. In practice, health professionals are encouraged to consider utilization of local food communities which can have an effect on health from the ability perspective.

However, there are several limitations with the present research that should be noted. Limiting this analysis to Hungary may also limit the applicability of this research to other countries and cultures. We expect there to be differences between urban and rural residents in relation to local food and health relations, thus this is also recommended for future research. In this study, there has not been a focus on the time factor: all evidence of health experiences was self-reported and, in this research, there were no interviews of

participants before they became involved in CSA. Thus, future research should use longitudinal designs to test different time variables in individuals. Although this study has not focused on the challenging aspects of CSA participation, they were interesting from a mental health point of view and thus require further exploration. Further topics that require attention relate to the drivers of a healthy diet in the context of sustainable, local food choices for a better understanding of consumers' acceptance of, and loyalty to, these food options. Additionally, there is a clear need for research into how health-related aspects of a CSA may affect dietary health outcomes, such as obesity, in the long run.

Appendix

Interview Topics

General personal preferences of purchasing and home-meal processing
Environment of entry to the particular CSA
Living in CSA (experiences, associations)
Member's situations at CSA
Home routines due to membership
Opinion about other members
Other: Present, future, the farmer, inconveniences etc.

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The wellbeing paradox in Hungarian local sustainable agriculture: a health psychology approach. (*Secondary Research Theme, 4th Study*)

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Abstract

Background: The literature suggests that farmers' work involves a number of operational difficulties. Although alternative food networks address the majority of their problems, they can potentially generate new hardships. The aim of this study is to examine the situational and engagement-related work difficulties associated with the everyday world of Community Supported Agriculture (CSA) farmers.

Methods: This study used the health psychology approach, namely interpretive phenomenology, to understand the social determinants of farmers' working lives in CSA and to explore mental health challenges within the practices of local sustainable farming. To collect data, semi-structured, in-person interviews were conducted with CSA farmers in Hungary.

Results: Our study shows that new modes of consumer-producer connectivity create novel situations and issues which farmers are forced to address. Three personal experiential themes emerge from the data to describe CSA farmers' work difficulties: (1) Conflicted autonomy; (2) The pressure of boxes; (3) Social overload. The difficulties for CSA farmers seem to be rooted in the economic characteristics of alternative agriculture where farmers organize food production for the satisfaction of consumer needs. In addition, structural conditions require several different CSA farmer roles, which could even be conflicting.

Conclusions: This study provides participants' perspectives on the health and wellbeing costs of sustainable farming. Newer producer-consumer connections require both time and experience and involve extra effort or skills, but farmers often lack these abilities. The results show how perceptions of work processes relate to the general framework of CSA, which necessitates a distinct strategy for farm management.

Keywords: farmers; mental health; work engagement; work-related stress; consumer-producer connectivity; interpretative phenomenology analysis

Declarations

Ethics approval and consent to participate

Approval was obtained from the ethics committee of the University which led the study. Procedures used in this study adhere to the tenets of the Declaration of Helsinki. Informed consent was obtained from all individual participants included in the study.

Consent for publication

Not applicable.

Availability of data and materials

The data that support the findings of this study are available from the corresponding author upon reasonable request.

Competing interests

There are no conflicts of interest.

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Authors' contributions

All authors contributed to the study. The material preparation, data collection and analysis were performed by I.L.B.. J.R. validated the data analysis. The first draft of the manuscript was written by I.L.B.. Changes and modifications were based on the remarks and suggestions of I.F., A.N, J.R., A.O.. All authors read and approved the final manuscript.

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Introduction

Interactions among the environmental, social and individual circumstances of farmers have been investigated by a number of academic studies [1–3] and have featured in newspaper articles [4, 5]. Reports and studies from Ghana [6], India [7], Australia [8, 9], France [10], Japan [11] and the U.S. [12, 13] draw attention to the uncertainties of agriculture which are linked to mental health issues. The work of farmers is different from other occupational groups as they have autonomy over their specific work tasks while also being influenced by economic and environmental uncertainty [6, 8, 12]. Such contextual variations can lead to greater stress, increased suicide risk [3, 13]. The relevant

literature on the general farming community warns readers that there are concerning levels of physical and mental health problems overall among farmers, which poses a serious risk for the stability of the public food system [14].

To date, numerous studies have described the challenging circumstances farmers work under; namely, the demanding work environment; occupational exposures associated with long working hours as well as the varying weather conditions, climate-change issues [12, 15, 16]. Several pieces of research have emphasized the significance of isolation, stoicism in the face of adversity, family-related conflicts, and the financial hardship farmers may have to deal with [17, 18]. In addition to the mental, emotional, or stress-related problems, farmers' limited capacity to admit and express mental health difficulties worsens the situation [19]. As farming is a demanding and unpredictable occupation with various risk factors, it can potentially influence individual attributes, perceptions or well-being.

As a response to such dilemmas, some farming has gone through a transition in recent years, with a change in the ownership and management of farms: alternative types of food networks have appeared, offering space for new types of consumer–producer relationships in the food system [20]. This approach to the food system conveys a simple and positive message which provides a pathway for action and advocacy. These alternative food networks (AFN), including community-supported agriculture initiatives (CSAs), farmers' markets and solidarity purchasing groups, offer alternative food sources for consumers in a local context [21]. Their models, where consumers and farmers are in near proximity to each other, as compared to commodity agriculture, are important as they provide localized opportunities for people to create alternatives to the modern, multinational food system and to exercise their food-related principles [22]. The small-scale farms in AFN, as CSAs, have direct connections between producers and consumers via diversity-based, ecological or alternative food production. That is to say, CSA farmers face a new consumer environment; they take on new work-role demands which need handling, even though there are usually positive features associated with this type of farming at least from the consumer's point of view [23–25].

CSAs typically produce healthy, organic food and meet the requirements of sustainability by improving the general well-being and overall health of consumers within their own communities. Although a key element for the consolidation of these small-scale food communities is the stable motivation and mental well-being of the producers, AFNs do not automatically provide long term comprehensive, trouble-free solutions to a

farmer's problems [26–28]. Although CSA resulted in a more predictable income flow, it also generated formal and informal duties for the farmer. Our research aimed to explore producer experiences of CSA farming affecting their mental health and work engagement. More specifically, the aim of this study was to understand the working difficulties for farmers which might be encountered in the new modes of consumer-producer connectivity. Our intended contributions to the literature are twofold. First, to better understand the social determinants of farmers' working lives in new modes of consumer-producer connectivity such as CSA, this study builds on individual stories of farmers and evaluates their realities or 'lived experiences' with the help of Interpretative Phenomenological Analysis (IPA). Second, and in relation to the first aim, to identify mental health challenges within the CSA practices of the framework of local sustainable farming.

Working environment and CSA modes of consumer-producer connectivity

The basis of CSA is that a group of consumers pay in advance to receive a share of healthy, freshly-harvested food every week. Primarily contract-based, CSA usually frames a one-year risk-sharing partnership between farmers and consumers, called members. Food is produced in an agroecological way, and all production and harvesting work is done on the farmer's land, then put together for the members [24, 29]. To provide a diverse array of local produce, farmers aim to harvest several different types of local produce each week (per box) and, altogether, more than 100 different types of vegetables per year. Vegetables are shared with members each week on particular pick-up days and aim to satisfy the needs of an entire household.

Members range from a dozen people up to a hundred per CSA, and are mostly urban, conscious consumers with a high level of education and in most cases with a family [30, 31]. Moreover, CSA farmers are integrated into the community with the intent of supporting it. Not surprisingly, over the past 30 years, interdisciplinary literature has concentrated on the numerous social benefits of CSA, including its contributions to food security, health, well-being, economic growth, and the transformation of food systems [24, 25, 32, 33].

CSA provides local food, meaning different domains of proximity [34–38]. In this environment, farmers and consumers live relatively close to each other, and all the food is sourced and grown within the region [38, 39]. Moreover, proximity also expresses the direct exchange between producer and consumer, creating direct communication and

availability for contact with each other [40]. CSA is based on a direct exchange of plants for money, creating the sense of connectedness and personal belongingness, although high-quality, healthy food is a more important factor for members joining CSA [41].

In addition, proximity is a basis for common values, such as moral economy around the relationships of solidarity between farmers and consumers or ethical concern for the land [42]. Not surprisingly, farmers who are actively involved in a local food environment show commitment to food quality, environmental, and social benefits [15, 33, 43].

Whereas alternative management approaches have significant environmental benefits both on and off farms, working conditions and labour requirements are recognized as suboptimal [44, 45]. Moreover, the increased labour demands of organic agriculture, and the need to negotiate price premiums as well as the relational closeness between consumers and farmers can cause additional stress. Not surprisingly, various research reports call attention to the fact that CSA farmers suffer from their own self-exploitation [46]. These research insights prompt questions about the way new work-related stresses are manifest and approached. Therefore, this study aims to understand the social determinants of farmers' working lives in CSA and to explore mental health challenges within the practices of local sustainable farming.

Methods

Study context

Agriculture plays an important role in Hungary with its share of GDP being the third highest in the European Union. The first three CSA farms were founded around 2010, and fourteen of the existing fifteen CSAs provide fruit and vegetables as their main products [47]. Primarily young, and new farmers take part in CSA initiatives in Hungary. The majority are concentrated around the largest cities. These farmers are primarily skilled organic growers with higher educational backgrounds and these CSAs fed approximately 1,800 people in 2015 based on the first European-wide census on CSA groups [48]. CSAs in Hungary provide predetermined boxes of unprocessed and freshly-harvested products on a weekly basis, mostly satisfying the needs of a household.

Although CSAs have had only rudimentary success in Hungary, the overall data show an approximate 20% increase in turnover for the Hungarian CSA market between 2014-2016 and 2015-2017 [49, 50]. While there is no lengthy tradition of CSAs in the

country, decisive steps have been taken for their expansion. However, while there are reasons to expect that CSA production and retailing experiences are beneficial for the work situation of individual farmers, there are scant data on the meanings farmers bestow on these CSA experiences.

Interpretative Phenomenological Analysis

This study used Interpretative Phenomenological Analysis (IPA) for understanding farmers' experiences. This is a qualitative methodology originating from, and best known in, health psychology: IPA's philosophical underpinnings are within phenomenology, hermeneutics and idiography [51, 52]. That is to say, IPA provides a proven, systematic, and phenomenology-based approach to understanding a first-person viewpoint from a third-person perspective.

The limited sample size of most IPA studies allows a micro-level reading of the participant accounts which provides an opportunity for others to gain awareness of these individual experiences. As Miller et al. [53] argue, IPA encourages the development of phenomena and prioritizes diversity linked to lived experience; freedom to explore context; and connection with life narratives. Not surprisingly, IPA requires a combination of empathic engagement and being prepared to probe further into interesting and important aspects of those narratives. In line with it, in IPA investigations, researchers emphasize each participant's unique idiosyncrasies within shared higher order concepts rather than using the saturation strategy.

Being suitable for the exploration of farmers' own perceptions, i.e., issues that are continuously relevant, emotionally charged, and a potential cause of dilemma, IPA was appropriate for a deeper understanding of CSA farmers' work experiences. Personal experiential themes speak to the psychological essence of the whole data set and are illustrated with particular examples taken from individuals [54]. In line with it, the transcript extracts are supplemented with the researchers' analytic interpretations of the text: giving an account of the data, communicating a sense of what the data are like, and offering an interpretation of the data (to make a case for what they all mean).

Participants

The study focuses on CSA farmers in Hungary. To collect data, semi-structured, in-person interviews were conducted with six CSA farmers throughout Hungary. To

recruit study participants, we used a purposive sampling strategy supplemented by the snowball method based on their relevance to the research questions in order to achieve a detailed, contextual interpretation of people's personal experiences. Researchers did not determine the sample size a priori, given that sample size is often adaptive and emergent in IPA studies. Two farmers were approached directly – via e-mail or telephone – by the first author after consultation with the Association of Conscious Consumers, which facilitates cooperation and the exchange of best practices between CSA farmers. There were no dropout participants after the authors had obtained the consent.

Participants were required to have been engaged with CSA farming for at least 3 years (the mean was 5.5 years). This enabled us to potentially capture the wider experiences of CSA farmers. The six participants were sufficient to fulfill the idiographic pledge of the IPA and to clarify the common themes among CSA farmers. All the farmers had been involved in both organic farming (and with direct marketing channels, such as farmer's markets or direct selling) and CSA. Four of them earned their entire household income through CSA, while two of them had other jobs outside CSA (horticulture, direct selling of a special fruit). They had no other jobs outside agriculture. The mean age of participants was 42 years (range from 38 to 47 years), there were three males and three females. All had completed secondary school and two of them had an agriculture-related degree (see Table 1).

Table 1.: Descriptive data on farmers

	Sex	Age group	Education	Family status	Farming experience	CSA experience (years)	Size of farm	Avg. number of boxes/ week
F 1	female	40-45	secondary	married	from childhood	3	5 ha	ca. 70
F 2	male	40-45	secondary	married	from childhood	3	5 ha	ca. 70
F 3	male	40-45	higher education	relationship	since 2005	7	5.5 ha	ca. 120

F 4	femal e	40-45	secondary	relationshi p	from childhood	6	2 ha	ca. 40
F 5	male	35-40	higher education	married	since 2010	7	2 ha	ca. 120
F 6	femal e	45-50	higher education	single	since 2005	7	1.5 ha	ca. 60

Procedure

The study design was approved prior to data collection period (2018-2020) by the Institutional Review Board of the University (Ethics protocol approval number: ELTE KEB 2018/202). The first author, as a researcher of this field in Hungary, having earlier focused on CSA consumer experiences, had a prior relationship with some participants and with the Association of Conscious Consumers. These experiences (combined with her health psychologist sensitivity) ensured her ability to closely engage with the research topic.

Farmers were informed of the study aims, that their participation was voluntary, the confidentiality of their information would be ensured, and they could quit at any time without any implications. Interviews were conducted by the first author in the participant's home so that they might feel comfortable and speak freely. Each interview lasted between 90 and 137 minutes.

Measures

The semi-structured interview schedule was designed to elicit farmers' thoughts, feelings and personal experiences associated with CSA farming. Topic areas were broad so that participants could expand on their responses and include issues they felt to be important. The areas were: becoming a CSA farmer; relating to CSA farming and the community; managing the social environment (CSA family, community, rural community); the meaning of membership; experiences during the course of the CSA season(s) (see the full version of the interview guide in Appendix I.). This interview schedule was used flexibly, with participants largely directing the course of the narrative in order to better explain the issues most salient to them [55].

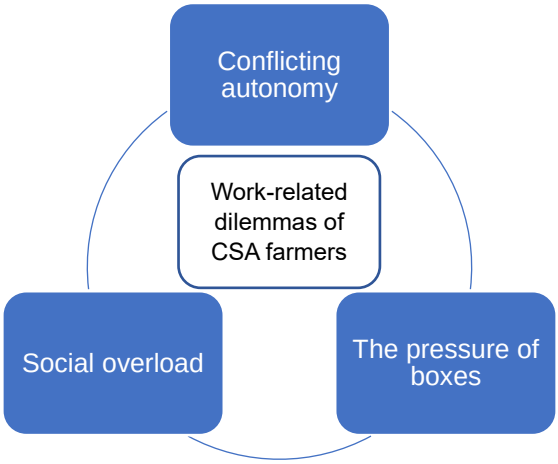
Data Analysis

Audio recordings were transcribed and subsequently analyzed using Atlas.ti, a qualitative data analysis software. Transcribed interviews were annotated and analyzed by the first author in line with the principles of IPA [52]. Each transcript was read and re-read: exploratory notes were initially evaluated individually, then across multiple cases. Emergent experiential statements were developed by compiling any exploratory notes that seemed to capture the essence of the experience: this was performed on a case-by-case basis and the initial experiential themes (e.g., agricultural heritage; profession and mind) were arranged and grouped into cohesive, broader superordinate personal experiential themes. Quality control of the data analysis was enhanced through regular supervision by the fourth author. Credibility checks were completed by the second and fourth author which involved cross-checking personal experiential themes. All identifying information was excluded or changed in order to protect participant confidentiality.

Results

When CSA farmers were discussing their experiences, the following three personal experiential themes emerged (see summarized in Figure 1): (1) Conflicting autonomy; (2) The pressure of boxes; (3) Social overload. There was considerable variation in how these were presented, and while there is a certain level of selectivity in choosing illustrative extracts, we sought to present characteristic interview evidence to highlight each theme.

Figure 1. Personal experiential themes for CSA farmers



Conflicting autonomy

Experience of taking part in an alternative food network system had a significant impact on farmers' work and allowed them to exercise their rights to ethical, balanced, and responsible uses of land and, as well as contributing to a healthy food environment. In practice, farmers' autonomy takes many forms including agri-environmental schemes, prioritization of non-economic goals in farm strategies, risk-sharing with consumers or not having to commit to a commodity market. This theme of conflicting autonomy emerged across the interviews as participants explained their CSA farm management in relation to the authenticity of their work.

Unfortunately, there is no standard-setting process for farming methods in CSAs. For participants, commitment to excellence encompassed a strong dedication to both one's work and to high standards (e.g., to grow a variety of crops, increase biodiversity, have a positive impact on the landscape) but it also enhanced their sense of obligation. As an example, Farmer 6 illustrated how CSA operations determined her duties:

> This [CSA] is important. I do a good thing, which I like to do, even when I have to break the ice from the water barrel, it's cold, it's windy, and I hate it, so despite the physical discomfort, I do because I know how important it is.

Striving to sometimes reach difficult-to-attain outcomes led farmers to become dissatisfied. In fact, participants attempted to set a responsible example. For instance, Farmer 3 experienced disappointments when the harvested vegetables did not meet his own healthy food standards:

> It is a professional question - could I manage it …professionally… better? So, these are questions. I do not know, I have demands of myself that I would like to meet. Well, I should probably reconsider my standards, but if I don't care at all about quality, then why am I doing it?

As farmers became more involved in their own CSA community, possibly taking on leadership roles, they tended to concentrate more on decisions to produce food with the aim of maximizing the size of food boxes for CSA consumers instead of their own rules and norms for good farm management. That is to say, there is a need to monitor the planting calendar to determine what and when to plant, whilst gardening calendars (containing a variety of vegetables) must be followed in order to plan for the harvest. Not surprisingly, Farmer 5 explained how he could not live up to his professional ambitions through CSA as his personal agricultural preferences lay elsewhere:

And even though I also want to improve, the CSA really takes all my energy, and that's why I am not able to do everything that interests me. Even professionally…

In addition to professional concerns, farmers have to cope with the diversification of vegetables aiming to fulfill the preferences and dietary needs of the members. Yet consumers often cannot appreciate these efforts. On top of that, farmers also experienced the requirement of communicational and educational skills as a tool for influencing members' attitudes toward a healthy food supply. Farmer 3 illustrated how he attempted to influence his member's relationship to sweetcorn:

I asked him what he had done, where he had stored it. "Well, I kept it in the pantry" or something similar. I said, Oh My Gosh, this is sweetcorn, it can only be stored for a maximum of one or two days, after which the sugar content degrades. Did you know that? "Well, I had never even heard of that." was the response.

It appears the CSA environment also creates tension between the financial security of the farmer and customer's budget. Market logic often constrains the farmer's room for maneuver causing economic instability of the CSA farm. It serves as a major distress factor for the farmers. As an example, Farmer 3 had to keep opposing financial considerations in her mind:

Honestly, I do try as much as possible financially but vainly. I am stuck in the middle. Members can't be told to pay fifty thousand HUF [155 US Dollars] a month because they simply can't pay that much.

Moreover, it seems, it is difficult to balance the competing demands of work and personal projects: changing plans for farming activities or processes to accommodate work demands could challenge work-life boundaries. Farmer 5 categorically pointed out how he delimited his daily farming activities in order to ensure his own free time:

You're not fair to yourself either, because you shouldn't work fifteen hours/per day giving you less time for other activities. If you have to grow vegetables every week for thirty-eight weeks, it simply won't fit in your schedule.

This personal dilemma could be very difficult as farming often requires immediate or sustained action. Sharing risks does not always alleviate the cognitive burden on the

individual farmer, but it makes difficult to think about task delegation. Farmer 2 pointed out that he sometimes felt isolated and had to manage a one-man-show:

> If you ruin something, you are the only one responsible for it. If you're not doing something right, for instance watering the radish - if you overwater them, two-thirds of them will crack. That is to say we have to pay so much attention. Nevertheless, we run into totally impossible situations sometimes, which we created for ourselves.

Being their own boss, they aimed to prioritize and represent a better food system, calling for greater clarity and constraints on the use of the land or farming operations. In relation to this, and reflecting the work of Weiler and colleagues, the CSA environment encourages the demonstration of morally-laden behavior (responsibility, fair working environment for employees etc.) during work processes [56]. As an example, Farmer 5 paid attention to those he was actually working with despite the difficulties of finding a likeable workforce in the small-scale agricultural sector:

> It's such a process, that you produce quality organic vegetables for like-minded people who are happy to support this system, and your workers are spending their salary on alcohol? I know it shouldn't be part of a business approach, but you feel deep down in your bones that you shouldn't be giving money to people who waste it. It's not good for a successful business to create this moral approach in you.

The pressure of boxes

Farmers had to adjust their schedule to the needs of production, to the season and CSA-box numbers, to more intensive work periods because of vegetable quantities or to meet the exact appointments for pick-up days. Additionally, they felt that providing high-quality, compassionate care to consumers was critical, as it is important to match the pre-paid CSA food boxes with members' expectations. This personal experiential theme is about the pressure of CSA boxes. Farmers described pick-up times as an important dynamic in their farming life: they frequently experienced emotional waves in relation to delivery.

First, precise timekeeping, as a working time characteristic, provides the basis for the CSA farmer-consumer agreement. In addition, as Farmer 6 shared, the non-material part of the agreement also defines the role of a farmer in the CSA model, influencing what level of service they expect to provide:

There was a period when I felt it [CSA] was just a service, because the community did not develop in such a manner. It was better than producing for the farmer's market, but we only operated as a service provider.

The planning begins with the number of vegetables committed to each box and continues to the finally-harvested vegetables. Observance of what to harvest weekly (in the appropriate box numbers) occasions the need for reliable time measurement. Their weekly harvest duties imply an almost continuously high-level of decision-making, especially in summer. Farmer 2 described how he always has to have a deep understanding of his land and the products he plans to grow:

It's in the foil tunnel and I think it stays there too. Because on the one hand it grows even in winter, on the other hand, it is always out there, as we also choose varieties that can withstand the cold down to minus twenty degrees [-4^0 F], and then we bring it into the box from there. Yes, we still produce around five thousand leeks! … And many times, I can't tell the members why the vegetables are smaller in the box, just talking about the 'why', the background behind it... We planted a huge number of vegetables – for example we share three hundred lettuces for a delivery. Now we planted three hundred lettuces, but only about two hundred or two hundred and twenty grew to maturity. We're really stressed now! I've just told X that maybe we should sow ASAP another two or three hundred again because of that. But this is true for anything. You buy and sow the seed, which is not guaranteed to be harvestable, especially not in organic farming.

A CSA's capacity to produce the appropriate number of vegetables at the right time using environmentally-friendly methods while investing the least amount of time and money is critical to its success. Not surprisingly, Farmer 1 expressed his fears about the variety of foods per box:

You can't do it… it's like it's a huge shame. Let's say, for example, if there are only three types of veg in the box it is almost as if there is nothing!

In line with the above, meeting consumers often required extra attention, while also triggering revisions in relation to "simplify" farming activities. Furthermore, they had to be aware of the number of empty boxes, returns, bags needed, vehicle condition,

as well as the road conditions for transportation. Farmer 4 described how this repetitive pressure begins and influences his day-by-day life:

> I'm coming in the evening, so the plan now is that when we get home tomorrow, I'll water this and that quickly, but then there are seeds to be sown, and then on Monday this and that, and then there is the sowing calendar, right? It restricts me.

Along with the increasing focus on boxes, their experiences were associated with emotions, co-occurrences of both positive (e.g., pride, satisfaction, inspiration, sense of connectedness) and negative effects (e.g., sadness, anger, embarrassment). On the one hand, feedback from CSA members was perceived as useful consumer communication, on the other hand it influenced their emotional life. Farmer 2 stated how personal reactions ensured a direct effect on subjective well-being:

> You give them something they have never had before, a new flavour, and you recommend how to prepare this or that vegetable. And then they come back in two weeks to "Wow!" They want another vegetable box because it was so good that the family ate it like it was something incredible!

Moreover, this feedback contributed to their own evaluation of their performance. The members' responses were bound up with being successful in the way of working the land in a small-scale/organic mode rather than separated from it. Farmer 4 talked about how positive emotions were instrumental for reinforcing his CSA farming activity:

> Sometimes I don't like doing it, but it certainly fills me with a lot of energy. Especially if there is a little positive feedback I receive, then definitely.

Unfortunately, negative emotional responses to farmers were also relevant factors influencing their general mood, determining their psychological state. Farmer 3 described how negative feedback wore him down over time or was, at the very least, a temporary distraction:

> If there are only two criticisms in a day then it doesn't matter that ten people have praised me before them, those two will stay and run around in my head.

Social overload

Engaging in CSA farming, many farmers experienced a different kind of relatedness including interactions with members, relations with CSA or the rural

community, and familial connectedness. Such networks often formed active conduits towards achievement of work satisfaction or amplified dilemmas. Personal, community and even professional relationships were described not only as helping people to feel a sense of belonging or giving meaning, but as reasons for many of the challenges experienced by farmers. This theme emerged as CSA farming impacts on farmers' social relations.

Farmers wanted to ensure that the benefits of their work accrued to the CSA communities, and they wanted to see the social benefits from cultivating food. The quality of a CSA community is often dictated by the degree of engagement and is affected by community interactions. As Farmer 2 pointed out, the common ground in a CSA is that consumers are like-minded:

> I can speak firsthand about mine [members]. I think that anyone who gets into such a community, or wants to get into it, represents a specific perspective.

However, all of the interviewees had certain dilemmas as to what social responsibility they have. As an example, Farmer 6 worried that she was not able to reach a higher level of community engagement via CSA:

> It is interesting that the open days often disappoint me … but because of myself, not because of the community. You know, on the open days .. I always realise how much more I should be open-minded, or I should be able to control, guide and moderate such get-togethers.

A good community, just as a CSA community, should be cohesive, safe and confident, and farmers should be able to influence the value systems of members around them. Personally knowing members well serves the goal of building social relationships, but it also increases farmers' awareness of commitments. Farmers explained how they have to manage the mood of their members, occasionally stepping outside their comfort zone. As an example, Farmer 4 reflected on she had to allow a member to leave the CSA (despite the financial loss of losing a member and a fixed one-year contract) so as to protect the social well-being of the community:

> She really doesn't belong to this community; this situation can't continue like this. If I were her, I would choose that too. And she must be allowed to leave in order to go free with a good feeling on all sides.

Further, participants' accounts revealed the importance placed on interaction with members. The appropriate psychological distance between farmers and members of their community remains undefined in the CSA framework so that farmers need to set boundaries as to what they are able to manage. But above all, as Farmer 6 commented, it may be that a farmer does not like a member of the community:

> There are antipathetic members. It's hard to say, because they can still be really good member…
>
> Maybe it is not really their fault, maybe they just said something or made a comment that made me feel that way about them, but anyway, what can we do?

Interviewees talked about how they would have preferred to prioritize their own needs, whereas members put their own welfare first, leading to incongruousness. Farmer 1 explained how she grew to hate a customer due to his demands:

> He wanted vegetables at unrealistic times that had nothing to do with production and harvesting periods. I was not able explain to him until finally I had to say "NO" to [G]! And I have blocked his phone number and NO - - there are some people I simply don't want to have any connection with.

Along with a personal desire to "do better by" their CSA management, participants also expressed certain social dilemmas within the rural community. All of them were committed to CSA membership and the CSA community and were contacted regularly by their urban, conscious consumers. Farmer 4 emphasized the growing social distance in their rural community owing to the CSA social environment:

> I love to talk, but I haven got any time for it. I enjoy it maybe too much – so I cannot allow myself to go into the village except one time per week at most. I have no time to chat for hours. But here! This is the CSA community - and how can I express this nicely: there are intelligent people around me here.

Moreover, their production and decision-making processes were influenced by their CSA-related thinking. Such thinking is supported primarily by urban consumers but, in their rural community, perceptions can vary. Not surprisingly, spatial concentration itself creates a favorable environment for CSA [57]. That was emphasized by Farmer 5 who had moved from his home environment into a new area of the country in order to find a more inclusive rural environment:

We saw at a local level … if a young family wants to break out from what's been going on here for decades, his environment, his family, his neighbours, everyone will pull him down. He will be shouted down… For us, there was no one here next door to say that you are completely out of your mind.

Additionally, all of them were motivated both to become reliable CSA producers and to take care of their families. Unfortunately, there was no model for them to find the work-family life balance between how to engage in and satisfy CSA and family commitments. Continuous availability for consumers along with the specific demands of CSA-related tasks left farmers vulnerable to conflicts between family and work. Farmer 1 illustrated her struggle to switch off from work life:

It is possible that … I will have more foil tunnels… Maybe two people would be enough if I had nothing else to do. ... But the fact is that it is still at the expense of the children and at the expense of the family home.

Not surprisingly, family members were a factor that increased their stress. Participation in the family role is made more difficult by virtue of participation in the work role, and the participation in the work role is made more difficult by virtue of participation in the family role. Farmer 5 became a family man, children were born, but he felt that the CSA would not allow him to pay attention to his family:

Because whoever has a family knows how much energy the family needs, and how much attention it needs. At the beginning of a CSA when somebody is doing it alone (as a single man), he has completely different possibilities at the level of daily work; and your personal development is quite different.

Discussion

Our results harmonize with the literature in many respects. Even organic farmers need to choose between the economic, societal, and ecological aspects of their market [45]. Balancing non-economic and economic benefits for the CSA farmers is a huge challenge, which might influence their sense of personal achievement [33]. While the relationship between consumers and producers is in the very nature of these systems: it is both a requirement and conversely a source of unforeseen challenges for farmers [43, 58]. Moreover, realizing the criteria for economic success, without minimizing social stress and conflicts in relation to farming, could lead to frustration [59].

We are in line with Fraser and colleagues [2], that the stressors of the farming are compounded by the specific framework and economic dynamics of the farm management. The results of this study show how perceptions of work processes relate to the general framework of CSA, which necessitates a distinct strategy for farm management. Doan and colleagues [60] highlighted the importance of investigating the mental health effects of work intensity. In addition, structural conditions require several different CSA farmer roles, which could even be conflicting: agricultural specialist, community organizer, manager and service employee.

We have identified three personal experiential themes: (1) Conflicting autonomy (2) The pressure of boxes; and (3) Social overload in relation to farmer's experiences from CSA operations affecting their mental health and work engagement. The first personal experiential theme shows how participation contributes to the formation of farmers' autonomy. On the one hand, farmers in new modes of consumer-producer connectivity can enjoy influencing healthy local food consumption as well as having an impact on the food system as, in effect, being their own manager. On the other hand, operating a CSA farm has a situational influence on how they decide their personal work schedules and procedures limiting the autonomy of their farming operations. Examples of the positive traits accepted by a farming way of life include being near to healthy food, feeling independent in decision-making, and belonging to the respected CSA community of like-minded people; however, sustaining the duties of local sustainable farming intertwined with the everyday obligations to self are obvious sources of stress. The conflicted autonomy theme seems to represent more than the time pressures involved in meeting consumer demands. There is no standard-setting process for farming methods in CSAs and this can cause several work-related stresses in connection with farmers' work scheduling and decision-making autonomy, also influencing their psychological empowerment [61–63].

Connectedness through ensuring access to food for members is in the very nature of these systems: it is both a requirement and conversely a source of unforeseen challenges for farmers as service providers. Farmers felt that providing a high level of care for consumers is critical. Further, their perceived duties with the diverse weekly harvest might imply the extensive effort to manage the economic dynamics of the CSA in spite of the predictable income flow. This second personal experiential theme indicated that, while farmers were engaged in the weekly box performance, they needed to develop new skills (e.g., communication, education) encapsulating connectedness and efficacy

[64]. Moreover, it turned out that very positive feedback or negative responses of consumers on the important pick-up day can lead to significant emotional turmoil [65]. It seems that the meaningfulness of their work combined with their role of social identification unfortunately adds another layer of complexity to their stressors [66].

The last personal experiential theme was that of 'social overload'. Farming in a CSA has impacts on a farmer's social connectedness; on their interactions. Farmers' relationships with consumers require confidence and trust; however, this is based on unequal power and unequal responsibility [67]. Sharing, developing and sustaining relationships with members, or handling them as a community, might suggest a new role requirements – being socially assertive – that is potentially in conflict with being a service employee. This poses a further challenge for the social well-being of farmers. Moreover, connecting to urban members via farmers' production and decision-making often incurred tensions with those closest in their immediate social environment – defending their uniqueness with CSA, or taking care of their economic and social significance in and with the CSA community. In line with this, interviewees indicated that connectedness conflicts also derived from other relationships such as those with the rural community as well as both work-to-family conflicts and family-to-work conflicts.

New modes of consumer-producer connectivity could strengthen farmers' sense of mission in various ways, such as grassroot efforts to care about sustainable, healthy, local food and promoting their focus on farming. However, how they experience their work characteristics (as demands or as resources), and what expectations they have as to how they are supposed to behave, provides a basis for further consideration of rural programs in order to maintain health and wellbeing of farmers, which in turn is of paramount importance to the long term food health and food security in the communities [27, 28]. Unfortunately, some of these issues are simply irrelevant within the consumer-farmer relationship and are bound to those areas of production which are hidden from the view of consumers.

Limitations and future research

Several limitations apply to this study. Firstly, participant recruitment was based upon purposeful and snow-ball sampling which might have introduced a selection bias. Secondly, CSAs working in Central and Eastern Europe were involved, and circumstances could be different in other regions. Future research should investigate in more depth the connections between the CSA framework and farmers' job characteristics,

as these may differ where there are different modes of consumer-producer connectivity. Ecological determinants and their impacts on farmers' working lives and mental health should also be examined. Another interesting question would be how gender identity shapes values and understanding of self in relation to CSA farming. Probably, the sense of belonging and connectedness to a local community, could improve CSA farmers' mental health outcomes [64, 69]. This could be compared to conventional farmers. It would also be interesting in future research to compare the time and effort needed to manage a CSA farm with that of a non-organic industrial farm, and to understand the differences between the mindset of farmers at each location.

Conclusion

New modes of consumer-producer connectivity arrangements are often seen as a better way of producing healthier and more sustainable food supplies [23, 25, 29]. However, while they may actually be better in supporting urban regeneration or providing benefit via increased product margins for famers, they do have consequences for farmers' subjective well-being and health [15, 70] via development of cooperative and conflicting roles. Most of the findings in farmer mental health related studies are referring to critical factors like: physical problems; remoteness; loneliness and social isolation; rural community attitudes [3, 8, 11, 12]. Our qualitative findings indicate social determinants of mental health are re-established rather than eliminated in the ostensibly transformative CSA context. New modes of consumer-producer connectivity present a new set of work-related discomfort, work-related strain [45, 28, 67]. CSA farmers are constantly caught up, unselfconsciously, in the everyday flow of organic production, community experience, etc.. These multiple roles seem to be a barrier in their systematic reflections on the CSA and to be the root of distress.

The difficulties for CSA farmers seem to be rooted in the economic characteristics of alternative agriculture where farmers organize food production for the satisfaction of consumers' wants, as DeLind [71] warned almost twenty years ago. It seems providing the value-adding basis of farming-centered initiatives vs. conventional food chains does not actually solve the operational problems and the very real pressures of CSA operation in terms of what goods can be produced at a reasonable cost. Farmers' job satisfaction connects to both the economic challenges and psychological issues, and the solution lies in bringing together knowledge-based considerations with physical capabilities and wider emotional support structures in the CSA model. Moreover in line with Vaderna and

colleagues [28] understanding alternative farming subjectivities (and selves) would be particularly beneficial for their long-term existence.

Furthermore, our conclusion also relates to Ge and colleagues [72] findings, namely that high job demands can contribute to lower intrinsic job satisfaction. Accordingly, specific training and development programs could help farmers to improve the skills that would enable them to better demonstrate a sustainable farming role, and work scheduling or decision-making autonomy. It would be recommended on the one hand, to initiate, special educational/skill-development programs to learn about the mental, financial and physical stresses of CSA farming and how to deal with them. On the other hand, a professional exchange program among farmers would be needed to sharpen and add to the skills required, in a CSA. However, it would be important to recognize, that due to the lack of an arbitrator or middleman, the farmer has to deal with the consumer directly. Farmers should learn how to identify patterns of decision-making, or emotional experiences, interpersonal relations, and community settings in relation to CSA farming and, as a result, they could become more self-aware and also realize an improved sense of job involvement.

The positive side of this is that farmers have a chance to inform consumers about the difficulties of farming. The three personal experiential themes identified as inducing stress and requiring coping mechanisms all involve the lack of a buffer between the farmer and the consumer. It might be that in order to make a profit, more consumer commitment is required to ensure a level of income. There are likely to be conflicts between what it costs to produce, what consumers are willing to pay, and these are affected by what is available in the grocery store at a particular price. Maximizing profit would be a matter of optimizing the number of consumers with what products can be affordably grown. Moreover, consumers might be educated about these relationships and the potential supply of products in order to better understand sustainable farming. An educational program could be offered to all those considering joining a CSA.

Methodologically speaking, we argue that first-person perspective qualitative health research [73] should play a significant role within larger contextual debates on health as well as decisions related to farming systems. Better understanding farmers' perceptions of their everyday work must address the patterns and determinants of their subjective well-being. Using a more interpretive approach aligns with Perceval and colleagues [3] as relevant and contextually-sensitive understanding of farmers' situations

provides a basis for further consideration of agriculture-related health programs and policy supports.

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Appendix I. Full version of the interview guide

AT HOME
- How would you describe your household?
- How specialized is your diet?
- Where else do you like to shop? What foods do you like? How do you cook?
- Tell me about your shopping habits?

EARLIER (before CSA)
- Which of your previous activities can be linked to CSA?
- What's your story, earlier career?

HERE (CSA)
- How did you start with this community?
- Why did you join CSA?
- What attracted you to this opportunity?

HERE (CSA)
- Tell us about your experiences with community farming, be it the very first, later or current one. How have they changed and why?
- What was community farming for you at the beginning of your membership, and what is it now?
- What have you learnt through it, what difficulties have you experienced?

AGRICULTURE

- What does the term ‘community farming difficulties’ (inconveniences) mean to you?
- What is difficult in this field?
- How does production work?
- How do you farm?
- How do you hand over the product?
- What do you pay attention to when handing over?
- What do you pay attention to when planning?
- What do you pay attention to when harvesting?

CHANGE

- What has changed in your life, lifestyle, and views as a result of community farming?
- How has your relationship with farming, the land, crops and members changed?

YOU

- What are you like as a member?
- What are you like as a farmer?
- What helped you to better understand what CSA is all about?
- What does it provide you personally in your life?
- What are your experiences with the CSA community?
- What is a good farmer and why?

OTHERS (inside of the CSA)

- Do you have favorite members?
- Who is the ideal member?
- What is a "normal" member like?

OTHERS (outside of the CSA)

- Who do you meet as new members? Is there anyone who is absolutely amazed by this possibility? How did you inform them and describe the process to them?
- How do people from outside CSA, for whom this is all very "different", see it? Why would it be "different"?
- Who do you accept as members?
- Who should enter into the CSA?

FUTURE

- How do you envisage your future?
- What do you think about the present and future of the CSA?

CHAPTER III. SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Introduction

The decision-making process within CSAs is influenced by cultural, physical, and social factors, leading to adaptations that undergo transformations over time (see Tesser, 2002). By joining, and during the CSA participation, individuals often make compromises to meet various concurrent needs, desires, or constraints, the process of which is further influenced by multifaceted aspects of functioning. It seems, CSA participation reflects not only one's relationship with food, land, and agriculture or consumption but also includes factors such as spousal influence, food-related well-being, members' self-management and adaptability, and the well-being of CSA farmers.

Summary of the Studies

Main Results

All the main points of the studies are summarized in Table 1. Our first findings suggest that unconventional marketplace practices and relationships present challenges via CSA, thus, spousal support is crucial in long-term membership. This 1st study points out that even if only the participant is interested in CSA membership, the support of the partner is required for successful and long-term participation. The influence of the spouse on CSA participation may be shown through a couple’s activities involving food issues, but it also affects food preparation and culinary preferences at home. This study recognized coherent, integrative and neutral/antagonistic spousal influence, with different behavioral features.

The 2nd study emphasizes the significance and centrality of the consumer-oriented approach in understanding food-related well-being, as local food communities introduce a novel perspective, encouraging contemplation on ways to enhance economic, environmental and social well-being, ultimately enriching the quality of life concerning food. The accessibility of physical, psychological, social, and spiritual well-being aspects of food results in a more holistic relationship with food, thus enhancing enjoyment in people's lives. The second study explored the complexity of food-related experiences that can be present in CSA, so this specific local food environment provides an opportunity for the members to realize their complex expectations of food in general.

The 3rd study focuses attention on health abilities as specific adaptivity and self-management experienced in relation to managing healthy, local foods in CSAs.

Participation encourages consumers to take responsibility for their own health, enhancing the mechanisms that underpin a healthy diet. These are: awareness of product origins; enhanced food-management capability; expanding applicability and usability of the food environment; and strengthening one's food-related self-image. This study demonstrates that the CSA environment is linked to a deeper realization of one's health potential that goes beyond physical well-being. It highlights how CSA experiences facilitate significant connections between health and personal identity.

The occupation of farming is fraught with a range of operational difficulties. Extensive literature on conventional farming has highlighted the mental and physical health issues within this community. In response to these challenges, certain shifts in farming practices have been witnessed. Despite its intention to address some of the existing problems, it seems that the adoption of CSA can potentially give rise to new sets of difficulties and challenges via farmers' commitment to promoting sustainable and healthy local food. This interpretative phenomenological study (secondary research theme, 4th study) points out the intricate challenges arising, as farmers experience conflicting autonomy, and as they embrace a dual role of promoting healthy consumption while navigating constraints that limit their operational independence. Simultaneously, the pressure of managing weekly harvest boxes exposes them to emotional strain, while the intricate web of social interactions underscores the challenges of balancing assertiveness with service provision within both urban and rural communities.

Table 1. The main points of the studies

Topic of the Study	**Summary of the main points from the studies**
Spousal involvement	• Unconventional marketplace practices and relationships pose challenges in CSA • Long-term membership benefits from spousal support • Even if only one spouse is interested, partner support is crucial • Spousal influence is seen through shared activities and culinary preferences • Different types of spousal influence with varying behaviors are recognized
Food-related well-being	• Local food communities bring a fresh perspective in consumers' understanding from a food-related well-being point of view

	• Accessible physical, psychological, social, and spiritual aspects of food contribute to a holistic food relationship • In the CSA environment, members might develop complex expectations of food quality and experiences
Health-related adaptivity and self-management practices	• CSA participation encourages health responsibility and self-management • Awareness of product origins, improved food management skills, and enhanced self-image contributes to a healthy diet • The CSA environment fosters a deeper understanding of health potential beyond physical health • CSA experiences establish meaningful links between health and personal identity
CSA farmers' work	• Farmers face operational difficulties impacting mental and physical health • CSA adoption, aimed at addressing certain problems, may introduce new challenges related to farmers' commitment to sustainability and healthy local food • Farmers navigate conflicting autonomy, juggle dual roles, manage emotional pressures of weekly boxes, and navigate intricate social interactions within urban and rural contexts

The findings underscore the importance of considering both the benefits and challenges associated with CSA participation and its implications for individuals and communities.

Limitations

The limitations include the geographical focus on Central and Eastern Europe, potentially limiting the applicability of findings to other regions with different cultural contexts. Additionally, the research did not control for important factors such as the psychological characteristics of CSA members and farmers' stress coping mechanisms, which could introduce confounding variables.

The use of purposive and snowball sampling methods for participant recruitment may have introduced selection bias, potentially making the sample unrepresentative of CSA participants and farmers in general. Furthermore, the study's relatively small, non-random convenience sample restricts its generalizability. However, all sampling strategies can be problematic in some way, particularly where the extent and characteristics of the population is unknown. Despite the limitations identified, the qualitative results

illustrated in the four-peer-reviewed articles, provide a deeper understanding of the way that CSA ideas operate imperfectly in practice. In this, these studies provide insights from lived experience to inform future CSA research designs as well as those with a focus on food and well-being.

Significance of the Studies of the Dissertation

The four studies are focused on one type of local food community. In total, these studies explore the importance of understanding the local food environment and its impact on health. Table 2 summarizes the significance of the PhD studies.

The consumer studies (primary research theme) suggest that local food communities ensure a food environment where healthy dietary behavior and fulfilling one's potential in relation to health could be an adaptive solution. As Martos and colleagues (2021) highlighted, individuals often pursue personal goals that align with the goals of significant others in their lives: this can lead to both personal satisfaction and stress. Stress often arises during goal pursuit, and when experienced within relationships, it necessitates collaborative stress management, dyadic coping processes (Donato et al., 2023). It seems, while some food preferences can be pursued alone in a family, CSA participation may lead to more spousal coordination on a day-to-day basis. When CSA members face challenging situations, positive dyadic coping may have specific significance for them: CSA-related health outcomes are influenced by how they are available for each other, they can communicate and coordinate actions under the pressure of the CSA. In line with this, choosing CSA as a source of healthy foods provides a great deal of information about the food shopper’s attitude toward food and its origins (as a personal project), whilst CSA participation in a long-term membership conveys much more information about the type and extent of the coping mechanism (dyadic coping) between the partners.

All participants in the CSA study demonstrated a compelling impetus to engage, primarily motivated by the prospect of accessing locally-sourced, healthy food and a positive engagement experience. This motivation and approach engender a multifaceted environment for varying forms of interaction to flourish within the CSA context. When examined through the ecopsychological framework, the natural milieu and the farm emerge as pivotal factors shaping the well-being of CSA members. Exposure to nature within this context can evoke self-transcendent emotional states, and the profound connection to the farm can foster a sense of place attachment, yielding positive emotional

outcomes (Arbuthnott, 2023). Consequently, their explorations encompass dimensions such as their relationship with healthy food, social interplays, interconnections between farmers and members, and the reciprocal bond between members and the farm, all while being exposed to the natural environment in alignment with their decision. These newfound insights, interwoven with the physical surroundings, collectively contribute to the cultivation and assessment of a diverse spectrum of well-being manifestations.

Joining a CSA can have a significant impact on lifestyle, but it may also require an adjustment that can lead to a potential crisis of continuing or dropping out, as Zepeda et al. reported (2013, p. 611) through the lens of Self-Determination Theory (Ryan & Deci, 2000) of psychology: “CSA diminished their autonomy, competence, and relatedness”. Members do not passively adapt to conditions in the CSA, and via Huber’s (2016) theory, we could recognize how consumers are encouraged to take responsibility for their own health and which mechanisms can underpin a healthy diet. These are: awareness of product origins; enhanced food-management capability; expanding applicability and usability of the food environment; and strengthening one's food-related self-image in the CSAs. The significance of a supportive food environment in members functioning lies in the active role members play in shaping their surroundings, choosing or modifying them to suit their needs and preferences, and which fit experiences linked to the sense of autonomy, competence and relatedness (see Martos & Sallay, 2017b).

The first three studies (primary research theme: consumers) are focused on members who were motivated to take part in the CSAs, thus actively contributing to their food environment conditions by selecting and altering it (Martos & Sallay, 2017b). Aligned with the Social Niche Construction Theory (Laland et al., 2016), participation in a CSA is likely to become integrated into members' lives, not solely due to personal factors (as discussed in Zepeda et al., 2013). Rather, it is when their individual traits in their interactions with the social, natural, place-related features of a CSA environment (including the pressures they experience, and the presented opportunities) contribute to a positive adaptation within that environment.

The shift from a purely economic perspective to a more holistic ecological and cultural understanding of farmers provides profound insights into their work and the intricacies of their lives. The 4th study (secondary research theme) is the first in Hungary to focus on the work difficulties of farmers. CSA systems, which are voluntarily chosen by farmers, may initially appear as adaptive responses to their needs. Despite concerted efforts from CSA members and farmers to adapt, the prevailing dynamic often maintains

position, shaping farmers' diverse and sometimes conflicting expectations of the CSA's capabilities. Consequently, participation in CSA necessitates the development of novel coping mechanisms and requires a distinct strategy for farm management. Neglecting this aspect can contribute to work difficulties among farmers. Results show that from the lens of Social Niche Construction Theory linked to Self-Determination Theory the relationship between farmers and members may prioritize relatedness at the expense of farmers' autonomy, and may create unequal potential to influence the CSA as a working environment (see Martos & Sallay, 2017b).

Table 2. Significance of the PhD studies

Understanding a local food environment and its impact on health	exploring type and extent of the type of dyadic collaboration between the members and their spouses
	exploring how motivation and approach create room for diverse forms of well-being
	understanding how members adapt their experience and the impact of this on their health
	first study in Hungary which focuses on mental health issues of farmers
	examining mental health challenges of farmers and their pivotal associations in the CSA as a working environment

The four studies in the Dissertation have explored several layers as to how a conspicuous alteration in the consumer food environment possesses the capability to initiate a variety of behavioral shifts by members and producers. These shifts may encompass slight adaptive modifications, a sequence of minor adjustments within the interrelated factors and extend to more noteworthy, possibly transformative (see farmers lived experiences, members well-being experiences in relation to the CSA food, or ways of health-related adaptivity and self-management in this environment), or even non-manageable alterations (e.g., antagonistic spousal involvement). Behind all this, a feedback loop is also at work (see Martos & Sallay, 2017a): for example, members' vegetable preferences affect farmers' crop choices, which feedback to farmers' work or members' adaptability, well-being, which has an effect on farmer's mood etc.

Suggestions for Further Studies

These Dissertation studies have not focused on the time factor, so future research should use longitudinal designs to explore different time variables. In line with this, it would also be worthwhile investigating how well-being sources change when CSA participation is no longer in place, and how different dimensions of well-being may compensate for each other in the context of CSA consumption. It would also be worthwhile to examine in the long term what effects CSA participation has on dyadic coping mechanisms, family formation and family cohesion.

Additionally, research is needed to understand the drivers of a healthy diet in the context of sustainable, local food choices, and how health-related aspects of CSA may affect dietary health outcomes such as obesity in the long run. Future research should prospectively explore associations between AFN (CSA) engagement and orthorexia nervosa, disordered eating behaviors.

Additionally, exploring how gender identity shapes values and understanding of self in relation to CSA farming could provide valuable insights, as well as comparing mental health outcomes and the sense of belonging between CSA, or other forms of AFN and conventional farming. Comparative studies within CSA and between CSA and non-CSA consumers, as well as investigations into the role of different AFNs, motivational backgrounds of members, and individual characteristics such as age and personal history, could provide a more comprehensive understanding of the relationship between food involvement and these factors.

Additionally, this research was conducted in a specific Eastern-European region, therefore, future studies should aim to include samples from other countries and cultures, with larger sample sizes to allow for cross-cultural comparisons.

It would be interesting to form such a local food environment where the interested members can fulfill their basic psychological needs via active interactions. In such a local food context where external pressures encourage consumers to adopt healthier habits and norms, utilizing participatory research methods could prove highly beneficial. In general, from a decision-making context it would be useful to open up our perspective and explore all the geographic backgrounds (urban, suburban, rural), where healthy behaviors become the natural choices.

Implications of Findings for Public Health

Local Food Communities

The research outputs highlight the importance of CSAs and their impact on health. While the studies focused on CSAs, the lessons learned can be applied to other similar local food organization initiatives, such as community gardens or box schemes.

Health professionals are encouraged to consider utilizing local food communities to improve public health outcomes. Increasing the availability of CSAs could be part of developing strategies to evaluate the health effects of the local food environment and encourage consumers to take responsibility for their health maintenance and improvement. Participants in CSAs often develop a more holistic relationship with food, and for individuals interested in dietary changes and for those who start from a position of less healthy dietary patterns (as well as considering the utility of incorporating AFN engagement into existing disordered eating prevention programs), the impact of CSA may be particularly significant. For instance, programs designed to reduce obesity or promote healthy food may be effective in relation to a CSA environment. At the same time, it should be a priority for health professionals to prioritize the establishment of healthy food and eating environments by encouraging and supporting local food communities, such as CSAs.

The results of the studies also highlight that the challenges faced by farmers may not be visible even to CSA members and may require further attention in rural programs. Training and development programs could help farmers improve their skills and demonstrate sustainable farming practices, including decision-making autonomy and work scheduling. Moreover, generally educating consumers about the relationships between agricultural production costs and agricultural product availability could lead to a better understanding of sustainable farming.

From a decision-making standpoint, it would be beneficial to investigate at a policy level those food environment settings where adopting healthy behaviors is a mode of adapting (see Martos & Sallay, 2017b).

Future Prospects of the CSAs

From a practical point of view, CSA is not a food procurement system that suits the lifestyle of every individual. Interestingly, Rossi and colleagues' (2017) data indicate that the use of vouchers effectively encouraged individuals who were not familiar with or found the CSA approach too intimidating to try. By lowering the entry barriers, vouchers

could promote wider awareness and engagement with these programs, introducing more people to the concept and benefits of locally sourced, sustainable, community-oriented food options. As a result, individuals who join a CSA for reasons other than health benefits could still experience its potential health advantages.

However, numerous factors could limit present and future CSA initiatives. These factors encompass the limited demographic scope of participants, the availability of organic produce from other alternative food sources, a general societal emphasis on healthy diet or convenience, or the requirement of focusing on food preparation while consuming a variety of items that are seasonally accessible. Moreover, in these complex relationships, mutual support of autonomy and competence of members and farmers remains essential for their proper functioning. This would ensure that both farmers and consumers can benefit from CSA while maintaining a healthy balance of power and responsibilities.

Further Thoughts of Qualitative Reflexivity

Processes of Interdisciplinarity

The interdisciplinary nature of this Dissertation was evident through the continual comparison of four components: the qualitative paradigm (the 'Big Q'), interviewee narratives themselves, the diverse disciplines of newer co-authors and through my reflexivity (to different perspectives and to develop them). As an economist and health psychologist, and an active citizen, I have been accustomed to collaboration across the boundaries of different occupational knowledge domains. This means that Dissertation inherently embodies an interdisciplinary approach. The collaborative combinations naturally arose as solutions to the practical need for comprehending factual information. Consequently, a secondary discipline aspect emerged, taking the form of amalgamations facilitated by the active concentration of the knowledge of the newer co-authors (see summarized in Table 3).

The 1st study (primary research theme: consumers) was strongly linked to the data themselves (inductive TA). Inductive TA, in this regard, would not be guided by a specific theoretical inclination. In line with this, and to avoid an epistemological vacuum, I decided to code at a semantic level and outputs were introduced with the logic of the discipline of consumer behavior coming from my co-author, Ágnes Neulinger.

The 2nd study (primary research theme: consumers) was related to my new co-author, Attila Bartha, and his unique perspective on the concept of welfare. Following a

series of discussions, it became evident that a cohesive well-being terminology, comprehensible and even interpretable to the entire research team, needed to be established within the study. The question arose regarding which well-being model to select; however, it swiftly became clear that the methodology itself would define the choice, given its association with health psychology. Consequently, this article features a comprehensive literature review of the BPSS model of well-being, complemented by the input of my health psychologist colleague, Adrien Rigó. This research is clearly guided by the analyst's direction, employing deductive TA to ensure a more comprehensive examination of a specific aspect of the data.

The 3rd study (primary research theme: consumers) topic was also theory driven. My expanding clinical health psychological approach, delving into the meaning of health, was developed within established disciplinary confines. Concurrently, Szilvia Boros's insights as a nutrition specialist and physician aided me in further exploration, prompting the pursuit of a dynamic health perspective for exploration. In this research, the technique of perspective taking emerges as indispensable for interdisciplinary endeavors, necessitating practitioners to fluidly transition between diverse viewpoints.

In the 4th article (secondary research theme: farmers), I initially aimed to stay within the framework of qualitative psychology. However, the analysis of the farmer's interview data displayed abstraction deficiencies, levels of explanation were not adequately defined, and it became clear to me that the data were not interpretable within the realm of psychology. I understood the responses provided with psychological sensitivity, but I couldn't interpret their true meaning in their real context. The nearest field to my knowledge raising similar topics was agricultural economics, so I reached out to my next co-author. The first step towards interdisciplinarity with the fourth research topic occurred when after some consultations, and developing a strong understanding, a number of related articles were sent by the new co-author, Professor Imre Fertő in order to show the potential analytical contexts and disciplinary terms. This enabled me to more deeply understand my aims, study context and provide an epistemological point of view. When the common language was born, the results of the analysis became comprehensible to both disciplines.

Table 3. Processes of interdisciplinarity by studies

Transformations that incorporate different scientific knowledge	**Tools of interdisciplinarity**	**The evaluated study within the interdisciplinary framework**
No compelling disciplinary basis (inductive qualitative approach, consumer behavior)	Inductive approach	Spousal involvement (primary research theme, 1st study)
Informed by the other disciplines (health psychology and welfare system)	Deductive approach	Food-related well-being (primary research theme, 2nd study)
Linking disciplines (health psychology to nutrition science)	Deductive approach	Health-related adaptivity and self-management (primary research theme, 3rd study)
Crossed disciplines (health psychology crossed agricultural economic)	Phenomenological approach	Farmer's mental health (secondary research theme, 4th study)

Source: Based on Lattuca et al. (2004) theory

The results of the data analysis in the different topics do not affect each other, which was guaranteed not only by new methodological approaches but the scientific approaches as well, the latter of which were guaranteed by the new co-authors (see Table 4). All of the studies were based on several debates, theoretical discussions and a methodological introduction of the possibilities of applied methods. Moreover, when each evaluator from various disciplines interpreted the data in a consistent manner, I consulted with my colleague Professor Phil Lyon about the nuances of the scientific explanations and the submitted article. He monitored the good communication of understanding between scientific languages with advice on both small and large matters.

Table 4. Co-authors of the PhD studies

Co-authors	**Discipline**
Professor Oláh Attila, Thesis leader, Co-author	Positive Psychology; Positive Mental Health
Professor György Bárdos, Supervisor, Co-author	Biology, Psychophysiology; Health Promotion
Professor József Rácz, Co-author	Psychiatry, Qualitative Psychology Methodology
Dr Ágnes Neulinger, Co-author	Marketing, Consumer Behavior, Sustainable Consumption
Dr Attila Bartha, Co-author	Public Policy, Welfare Systems and Policies
Dr Adrien Rigó, Co-author	Health Psychology, Clinical Health Psychology
Dr Szilvia Boros, Co-author	Sports Physician, Specialist in Nutrition Science, Health Promotion
Professor Imre Fertő, Co-author	Agricultural Economy, Rural Development
Consultant of the Review Process	**Discipline**
Professor Phil Lyon	Scientific Communication, Food & Social Change

Personal Impressions of the PhD process

The start of this specific research work was preceded by approximately a half year of literature review, which allowed me to formulate appropriate questions for exploration of many aspects of the topic. Work by Laura DeLind (DeLind, 2002), an anthropologist and food system activist, a senior academic specialist at Michigan State University, who wrote so richly about the food system in her academic works, was highly influential, and my health psychology orientation also dovetailed perfectly as an interpretative framework.

I thoroughly enjoyed the work of interviews, not only how to evaluate myself from interview to interview but because of the interviewees who were actively participating in the study. Moreover, they represented diverse academic backgrounds such

as medicine, psychology, economics, mathematics, English, graphics, and law, and during the research period, they were engaged in various professional pursuits, including roles within universities, entrepreneurship, multinational corporations, or taking care of their children at home. This diversity not only enriched the content of the research but also represented a constantly changing and vibrant process for me, which kept my professional curiosity invigorated throughout the qualitative research journey itself.

Interestingly, during the course of the research, numerous interviewees recommended others to take part in the study, indicating the relevance and interest of the topic. It was felt during the interviews that we were talking on several planes at once, with myriad themes emerging from the research. Surprisingly, the study of the spousal involvement was inspired by the interviewees, the 2nd study was inspired by my knowledge of the literature itself, and the 3rd study was inspired by my increasing knowledge of clinical health psychology. The 4th study was derived from scientific curiosity of my part: how can I, in effect, put the producers on 'speakerphone'? However, for me, perhaps the biggest and most difficult leap was to better understand farmer experiences. For this, I carried out a great deal of preparation to be able to ask interview questions authentically.

At several points it was difficult to believe that this whole doctoral research, or even the individual, stand-alone research ventures, were moving in the right direction. It was an empowering researcher experience when it became clear that the interview questions 'worked in the field', and indeed, the interviewees expertise and experience, or the real world ('field') could provide a theme that the researcher, entirely unexpectedly, could then unfold. It was a similarly surprising but profoundly liberating insight that systematic criticisms from a quantitative perspective can be countered by the richness of what is said by interviewees in the qualitative research process, and the research understanding that provides.

Despite my attempts to employ quantitative methods in my research, they did not feature prominently in my research reports. This was not primarily due to a small sample size but rather because the questions posed through this approach did not provide the necessary support for the main questions of the study, neither in a positive nor negative direction.

The biggest challenge in my work has been to think about something that is not based on an existing doctrine but to initiate an entirely new narrative. It was extremely encouraging to read the insightful comments and criticisms from the editors and reviewers

of prestigious international journals, even in the case of negative responses: one could sense that the topic is relevant to a responsible and socially health-conscious public in more developed countries. I hope that I can contribute, if only a little, to the scientific enrichment of the community spaces that are being created.

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APPENDIX I. Full List of Articles, Papers, Publications Related to the Dissertation (ordered according to the date of publication)

I. L. Birtalan, & G. Bárdos. (2017a). A közösség által támogatott mezőgazdaság aspektusai. In Z. B. Nagy (Ed.), *LIX. Georgikon Napok. A múlt mérföldkövei és a jövő kihívásai: 220 éves a Georgikon. Kivonatkötet* (pp. 57–57). Pannon Egyetem Georgikon Kar.

I. L. Birtalan, & G. Bárdos. (2017b). Fogyasztás és jóllét kapcsolata: Szisztematikus áttekintés. In E. Lippai (Ed.), *Személyes Tér—Közös Világ* (pp. 41–42). Magyar Pszichológiai Társaság.

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I. L. Birtalan, & G. Bárdos. (2017d). Közösségben fogyasztás – meghatározott táplálkozás. In F. Bódog, B. Csiszár, D. Hegyi, & R. Pónusz (Eds.), *DKK17-Doktoranduszok a Klinikai Kutatásokban absztraktkötet* (pp. 55–55). Pécsi Tudományegyetem Doktorandusz Önkormányzat.

I. L. Birtalan, & G. Bárdos. (2017e). The Phenomena of Community Supported Agriculture: Membership Mechanisms. In Program and Abstracts: V. AGRIMBA-AVA Congress Debrecen, Hungary, Debrecen, Magyarország (pp. 28-28). University of Debrecen.

I. L. Birtalan. (2018). CSA, mint komplex tér. 5. Corvinus Kutatási hét: hazai előadás

I. L. Birtalan, M. Pénzes, J. Rácz, & G. Bárdos. (2018). Szülői fogyasztás – gyermeki tanulás. In A. Fehérvári, K. Széll, & H. Misley (Eds.), *Kutatási sokszínűség, oktatási gyakorlat és együttműködések* (pp. 303–303). MTA Pedagógiai Tudományos Bizottság.

I. L. Birtalan, A. Pigniczkiné Rigó, G. Bárdos, J. Rácz, & A. Oláh. (2018). Participation

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I. L. Birtalan, J. Rácz, & G. Bárdos. (2018a). *A család étkezése*. Magyar Családterápiás Egyesület XXXII. Vándorgyűlés, Szeged, 2018. április 13–15.,

I. L. Birtalan, J. Rácz, & G. Bárdos. (2018b). AFN, as common business. In G. Pintér, H. Zsiborács, & S. Csányi (Eds.), *Arccal vagy háttal a jövőnek?* (pp. 35–35). Pannon Egyetem Georgikon Kar.

I. L. Birtalan. (2019a). *Szatyor Science Cafe—Utazás a fogyasztás körül 2.. Hogyan befolyásolja az élelmiszer választásunk a boldogságunkat?*

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I. L. Birtalan. (2019c). *Utazás a fogyasztás körül 1. - Science Cafe a Szatyorban. Mit takar az egészség fogalma, mit tud ehhez hozzáadni helyi élelmiszerkörnyezet?*

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I. L. Birtalan, B. Kis, G. Bárdos, J. Rácz, A. Oláh, & A. Pigniczkiné Rigó. (2019). Egészség a közösség által támogatott mezőgazdálkodásban. *ALKALMAZOTT PSZICHOLÓGIA*, *19*(3), 81–100. https://doi.org/10.17627/AlkPszich.2019.3.81

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I. L. Birtalan, B. Kis, & G. Bárdos. (2020). A közösség által támogatott mezőgazdálkodás szubjektív aspektusai. *MAGYAR PSZICHOLÓGIAI SZEMLE*, *75*(2), 271–288. https://doi.org/10.1556/0016.2020.00016

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I. L. Birtalan. (2021). Pető Áron kertészmérnök, biogazda, a Biokert Szigetmonostor zöldségközösség gazdálkodója, a 2020-as év biogazdája. *BIOKULTÚRA*, *2021*(2–3).

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I. L. Birtalan, I. Fertő, Á. Neulinger, J. Rácz, & A. Oláh. (2022). The wellbeing paradox in Hungarian local sustainable agriculture. A health psychology approach. *BMC PUBLIC HEALTH*, *22*. https://doi.org/10.1186/s12889-022-14643-2

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I. L. Birtalan, I. Fertő, Á. Neulinger, J. Rácz, & A. Oláh. (2023b). The paradox of well-being in sustainable agriculture from a mental health perspective. In: *Qualitative Research in Mental Health Conference 9 Abstract book*. pp. 55

APPENDIX II. Declaration Form for Disclosure of the Doctoral Dissertation

EÖTVÖS LORÁND UNIVERSITY

DECLARATION FORM for disclosure of a doctoral dissertation

I. **The data of the doctoral dissertation:**

Name of the author: Birtalan Ilona Liliána

MTMT-identifier: 10063442

Title and subtitle of the doctoral dissertation: Food Consumption and Psychological Wellbeing

DOI-identifier[87]:

Name of the doctoral school: DOCTORAL SCHOOL OF PSYCHOLOGY

Name of the doctoral programme: Personality and Health Psychology Program

Name and scientific degree of the supervisor:
Dr. Attila Oláh, professor emeritus and Dr. György Bárdos, professor emeritus

Workplace of the supervisor:
Institute of Psychology, ELTE and Institute of Health Promotion and Sport Sciences, ELTE

II. Declarations

1. As the author of the doctoral dissertation,[88]

a) I agree to public disclosure of my doctoral dissertation after obtaining a doctoral degree in the storage of ELTE Digital Institutional Repository. I authorize ……Ildikó Barna……., the administrator of the …Educational Management……..…… Office of the Doctoral School to upload the dissertation and the abstract to ELTE Digital Institutional Repository, and I authorize the administrator to fill all the declarations that are required in this procedure.

b) I request to defer public disclosure to the University Library and the ELTE Digital Institutional Repository until the date of announcement of the patent or protection. For details, see the attached application form;[89]

c) I request in case the doctoral dissertation contains qualified data pertaining to national security, to disclose the doctoral dissertation publicly to the University Library and the ELTE Digital
Institutional Repository ensuing the lapse of the period of the qualification process.;[90]

[87] Filled by the administrator of the faculty offices.
[88] The relevant part shall be underlined.
[89] Submitting the doctoral dissertation to the Disciplinary Doctoral Council, the patent or protection application form and the request for deferment of public disclosure shall also be attached.
[90] Submitting the doctoral dissertation, the notarial deed pertaining to the qualified data shall also be attached.

d) I request to defer public disclosure to the University Library and the ELTE Digital Institutional Repository, in case there is a publishing contract concluded during the doctoral procedure or up until the award of the degree. However, the bibliographical data of the work shall be accessible to the public. If the publication of the doctoral dissertation will not be carried out within a year from the award of the degree subject to the publishing contract, I agree to the public disclosure of the doctoral dissertation and abstract to the University Library and the ELTE Digital Institutional Repository.[91]

2. As the author of the doctoral dissertation, I declare that
a) the doctoral dissertation and abstract uploaded to the ELTE Digital Institutional Repository are entirely the result of my own intellectual work and as far as I know, I did not infringe anyone's intellectual property rights.;
b) the printed version of the doctoral dissertation and the abstract are identical with the doctoral dissertation files (texts and diagrams) submitted on electronic device.

3. As the author of the doctoral dissertation, I agree to the inspection of the dissertation and the abstract by uploading them to a plagiarism checker software.

Budapest, 07. 09. 2023

Birtalan Ilona Liliána

Signature of dissertation author

[91] Submitting the doctoral dissertation, the publishing contract shall also be attached.