

Research Brief

From the Okanagan Bioregion Food System Project

2021



Photo credit: Jean - Philippe Marquis

Assessing the Impact of Local Food Systems on Social Capital in the Okanagan Bioregion

Authors

Chea Elton¹
 Donna Senese¹
 Kent Mullinix^{2*}

¹ Faculty of Arts and Social Sciences, University of British Columbia, Kelowna, BC, Canada

² Institute for Sustainable Food Systems, Kwantlen Polytechnic University, Richmond, BC Canada

* Corresponding author:
 kent.mullinix@kpu.ca

Abstract

This research brief presents findings from our investigation into the impact of local food systems on community level social capital in the Okanagan bioregion. Social capital refers to features of social life such as social networks, norms, and trust which facilitate cooperation between individuals and groups (Putnam, 1995). Community level social capital influences many aspects of community quality of life (Peters, 2017) but the connection between local food systems and social capital is not well elucidated and is, therefore, worthy of investigation. Included in this report is a description of our research methods, highlights from our results, and a discussion of the relationships between participating in local food systems and indicators of social capital in the Okanagan bioregion.

Our findings revealed that the local food system in the Okanagan does positively promote social capital, indicated by the connection between participation in local food systems and development of social networks among local food system actors. A key insight from our study is that meaningful 'places' in the local food system facilitate these social connections. Therefore, the idea of 'placemaking,' where local food system actors create important places within the local food system through social connection and sense of place, is strongly reinforced. The sense of place attributed to these community local food system assets further encourages social connection and social capital development, constituting a self-reinforcing, positive feedback loop. These results provide guidance for how the local food system can be used as a tool for community development.

Introduction

What is social capital and how does it relate to local food systems?

Environmental and social issues associated with the current food system have propelled the local food movement (Norberg-Hodge, Merrifield and Gorelick, 2002) and 'local food' has become increasingly recognized and important to people in Canada and around the world (Stickel and Deller, 2014; Winfree and Watson, 2017). Participation in local food movements is largely driven by a resistance to the current food system (Clendenning et al., 2016; Starr, 2010) and is motivated by consumer comprehension, beliefs and values (Zepeda and Leviten-Reid, 2004), as well as their desire to connect to place, feel sense of community and have social interaction (Carson et al., 2016; Feagan and Morris, 2009).

Demand for local food and community investment in local food systems, including specific projects such as farmers markets, Community Supported Agriculture (CSA), and urban gardens, continues to grow (Aucoin and Fry, 2015; Brown and Miller, 2008; LaTrobe and Alcott, 2000). However, the potential benefits of local food systems for community members are not fully understood (Born and Purcell, 2006; Deller et al., 2017; Martinez et al., 2010; Stickel and Deller, 2014). Specifically, little is known about the potential benefit for social capital development via development of and community engagement in local food systems (Deller et al., 2017). Social capital refers to features of social life such as social networks, norms, and trust; those attributes that facilitate cooperation and collaboration between individuals and groups (Putnam, 1995). Local food systems can facilitate social capital development and expression (e.g. networks, trust and cooperation between community members) and in this regard are considered far superior to the globalized food system (Bauermeister, 2016; Deller et al., 2017; Glowacki-Dudka et al., 2013).

Social capital is considered the veritable glue that holds society together (Putnam, 2000). Further, community level social capital has been directly associated with positive community benefit, including: health status (Folland, 2007); collective action and community adaptive capacity (Adger, 2003); declining crime rates (Lederman et al., 2002); quality of life (Peters, 2017); and individual well-being (Yetim and Yetim, 2014). As such, exploration to better understand the relationship between local food systems and social capital expression and community development potential is merited.

Thus, our research focused on an examination of how participation in local food systems impacts social capital at the individual level for local food system actors in the Okanagan bioregion¹. By elucidating the impact local food systems have on social capital in the Okanagan bioregion, we add to our overall understanding of social capital relative to the localization of food systems.

Methods

To explore local food system impact on social capital in the Okanagan bioregion, we employed a three-phase exploratory, sequential, mixed methods, case study approach. We focused our study on four representative Okanagan bioregion communities, each with developed local food system attributes. The four case study communities, Vernon, Kelowna, Osoyoos and Keremeos, were chosen as representative of the different geographic areas of the Okanagan bioregion (North, Central, South and West), their community centers, and their associated social networks.

There is a long history of agriculture in the Okanagan bioregion. Vernon is the largest community at the northern end of the Okanagan bioregion and it has a long history of agriculture, beginning more than 100 years ago with cattle ranching (Regional District of the North Okanagan, 2015). Kelowna, located in the central part of the Okanagan bioregion is a city with a unique agricultural landscape as 40% of the city's total land area is within the ALR (BC Ministry of Agriculture, 2014). Osoyoos, at the southern reaches of the bioregion, borders the United States. It is surrounded by very productive agricultural land with orchards and vineyards dominating the landscape (Town of Osoyoos, 2013). Keremeos is a village located in the south east reaches of the Okanagan

What is Social Capital?

Social capital is the collection of social networks, norms, and trust that facilitate cooperation and collaboration between individuals and groups.

¹ Delineation of the Okanagan bioregion can be found in Robert et. al. (2018)

bioregion, within the Similkameen Valley, 48 kilometers northwest of Osoyoos. The Similkameen Valley is the 'organic farming capital of Canada' with over 40% of farms in the area certified organic (Similkameen Valley Planning Society, 2018).

Study Phases

Phase I of the study is constituted by an extensive academic literature review of existing definitions, indicators and measurement techniques of social capital from which we created a framework for assessing social capital (Table 1). Additionally, a baseline assessment of community level social capital in the case study communities, via review of available secondary data was conducted to establish context and provide a basis for comparison. Secondary data sources included regional and municipal government documents and databases, publicly available survey data, community websites and Statistics Canada survey data. A content analysis was conducted by organizing the secondary data according to themes derived from the social capital indicators framework developed earlier in the study. These data were then interpreted by comparing them to our framework of social capital indicators and used to estimate the levels of social capital found in the case study communities.

In Phase II we created and administered an online survey designed to expound local food system actor perspectives with regard to the impact of local food systems on social capital in their communities, and to assess perceived individual levels of social capital in relation to participation in the local food system. Our survey design was adapted from social capital assessment surveys used in other community level studies (Chazdon et al., 2013; Kitchen et al., 2012; Lui and Besser, 2003). The survey gathered data on the place-based understanding of local food systems, including information about community perspectives on the impact of local food systems, the relationship between local food and social capital, and opinions on the future of the local food system in the Okanagan bioregion. Using exploratory descriptive statistics, local food system themes reflective of community interest, and key indicators of social capital were identified (Babbie, 1995). The survey instrument consisted of 18 questions. It was distributed through email to our inventory of local food system actors and further distributed through third party email listservs and postings.

In order to further delineate the relationship between local food systems and social capital and reveal key indicators of social capital of most interest to community members, we conducted 22 semi-structured interviews in Phase III of the project. Interviewees were recruited through the online survey and included a range of local food system actors. They were selected based on criteria used for similar studies on local food systems and community social capital (Bauermeister, 2016; Glowacki-Dudka et al., 2013; Merriam and Tisdell, 2015). The criteria were that the participants must have experience with or connection to a local food system in the Okanagan Bioregion. As such, participants were involved in local food-oriented production, distribution, processing, buying and consuming, community groups, activism, and education. Interview questions were informed by the overall research question and based on the results of the survey. NVivo software was used to code interview data and identify themes. Coding was used to create descriptive categories and themes for subsequent analysis².

Results and Discussion

Robert Putnam proffers that social capital constitutes aspects of social organization which facilitate coordinated action (Fulkerson and Thompson, 2008; Putnam, 1995; Putnam, Leonardi, and Nanetti 1993). The ultimate outcome of social capital is effective societal function through social connectivity (Fulkerson and Thompson, 2008; Putnam, Leonardi, and Nanetti 1993). This perspective coupled with the most common indicators of social capital elucidated by Fulkerson and Thompson (2008) guided our review of the literature regarding social capital measurement. We determined networks, trust, reciprocity, and engagement the most common indicators used to measure social capital, from national to individual scale (Table 1).

Social Capital and Local Food Systems

There is a strong relationship between participation in local food systems and indicators of social capital, particularly social networks and the meaningful degrees of trust and reciprocity.

² In-depth information on methodology, and survey and interview questions can be found in Elton (2020) "[Does it grow here? The Impact of Local food systems on social capital in the Okanagan and Similkameen Valleys](#)"

Table 1: Framework for measuring social capital

| Indicators of Social Capital | Source | Variables of Indicator |
|------------------------------|--|--|
| Social Networks | Stanley et al, 2012 Chazdon et al., 2013 Grootaert et al., 2004 Ferragina 2016 Glowacki-Dudka et al., 2012 Bauermeister 2016 The World Bank, 2002 Lui and Besser, 2003 Kitchen et al., 2012 Campbell et al., 2010 Sseguya et al., 2018 | <ul style="list-style-type: none"> • frequency of contact with network • size of network • if network provides aid when needed • importance attributed to social network |
| Trust | Kitchen et al., 2012 Chazdon et al, 2013 Petzold, 2016 Lui and Besser, 2003 Ferragina, 2016 Grootaert et al., 2004 Bauermeister 2016 The World Bank, 2002 Pelling and High, 2005 | <ul style="list-style-type: none"> • level of trust in general • trust in community members • trust in local institutions • trust in people of different backgrounds |
| Reciprocity | Bauermeister et al., 2016 Chazdon et al., 2013 | <ul style="list-style-type: none"> • do favours for one another • seeks information from one another |
| Engagement | Ferragina 2016 Thompson and Slaper 2016 Chazdon et al., 2013 Lui and Besser, 2003 | <ul style="list-style-type: none"> • involvement of people in formal and informal associations • volunteerism intensity • voter turnout • number of times joined together with others in community to address an issue |

Our review of secondary sources undertaken to ascertain a baseline level of social capital for Okanagan Bioregion communities was guided by the indicators of social capital we identified from the literature (Table 1). Secondary source review revealed that community level and individual level social capital analysis had not been comprehensively done at either municipal or regional scales. Several of the secondary sources reported a measure of quality of life, which can certainly be reflective of social capital (Putnam et al., 2004). However, for these sources, the measures of ‘quality of life’ were either not based on usual indicators of social capital or not identified. As such, their usefulness was limited. Overall, the information identified and reviewed failed to provide sufficient information to constitute a baseline assessment of social capital for the case study communities. There simply was not enough data, or data at an appropriate scale, to confer understanding of existing levels of social capital. To fully extract a baseline level of social capital would require conducting a social capital survey with an appropriately sized, randomly selected sample of community members.

One hundred and five local food system actors participated in our online survey (Phase II). This phase of research provided a breadth of information about participant’s perspectives regarding their local food systems and their individual level of social capital derived from their participation in it. Results from this phase also clarified key indicators of social capital most relevant to local food system actors. These indicators, social networks and trust, were further explored in the interview phase of research.

Survey responses revealed that individual participants in the local food system play multiple roles in it, with over half of respondents identifying as local food consumers. The vast majority of respondents (97%) rated the effect of local food systems on their community as positive. Respondents identified local producers, farmers’ markets, and retail stores that sell local food the top three most important elements of the local food system.

Most survey respondents perceive moderate to high levels of social capital resulting from their participation in the local food system. For example, a majority of participants (81%) agreed (strongly agreed and agreed) that there is a relationship between participating in local food systems creates relationships and connection between community members and groups (Figure 1). Seventy-two percent of respondents indicated having established fairly large social networks through their participation, 65% of respondents indicated they are in frequent contact with members of their local food system social network, and 82% indicated that they could count on someone in their network to help them if needed. Additionally, a substantial majority of respondents (87%) affirmed that most people in their local food system network can be trusted and three quarters of respondents agreed that they and others in their local food system community do favors for each other.

Several prominent themes emerged from our interviews in Phase III (Table 2). First, many local food system actors established social relationships within their local food systems attributable to their participation in it. Second, there are important places in the local food system where these social relationships are established and cultivated. These included farmer’s markets, co-operatives (co-ops), CSA subscription box pick up locations and community gardens. Third, there exists a sense of trust between local food consumers and local food producers. Lastly, a high level of reciprocity (i.e. mutualistic support) exists between local food producers in the Okanagan bioregion.

When compared to other studies, our results strongly suggest that participation in local food systems does indeed contribute substantively to social capital development. It was revealed that for local food system actors in the Okanagan bioregion, there exists a strong relationship between participation in local food systems and indicators of social capital, particularly social networks and the meaningful degrees of trust and reciprocity that exist between local food system actors. A high level of trust in general, and trusting other members of your community, reflects an individual’s level of social capital and collectively insinuates a community level of social capital (Chazdon et al, 2013; Ferragina, 2016; Kitchen et al., 2012; Lui and Besser, 2003; Petzold, 2016). A sense of reciprocity is demonstrated when community members do favours for each other or

Participating in local food systems and indicators of social capital

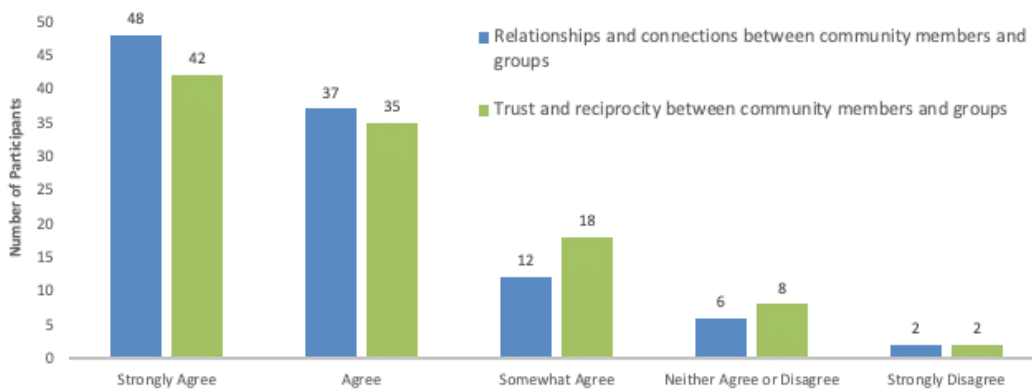


Figure 1: Survey participants response on the relationship between participating in local food systems and indicators of social capital.

Survey question: Please indicate if you agree or disagree with the following statements. “Participating in local/regional food systems (e.g. farming, producing, processing, distributing, buying, advocating for, or educating about local food) creates: ... “ Relationships between community member and trust and reciprocity.

if they seek information from each other (Bauermeister, 2016; Chazdon et al., 2013). This study clearly revealed that there is a degree of trust and reciprocity between local food system actors reflective of individual levels of social capital. However, it should be noted that this study did not intend to establish that participating in local food systems would necessarily build an individual's degree of trust or reciprocity, or that there is a direct relationship between the two. To do so would require far more extensive and sophisticated methodology but would certainly be worthy of pursuit.

Our study did not, however, find a particularly strong connection between participation in local food systems and promotion of volunteerism although several participants did indicate that they significant engagement in volunteerism. This suggests that some participants realize a level of social capital predicated on their volunteerism and engagement in community associations (Ferragina, 2016; Lui and Besser, 2003; Thompson and Slaper, 2013). However, it is unclear if participants attribute their volunteerism directly or exclusively to their activity in their local

| | North Okanagan (7) | Central Okanagan (12) | South Okanagan (2) | Similkameen (1) | Total (22) |
|---|--------------------|-----------------------|--------------------|-----------------|------------|
| Local Food and Social Connection | | | | | |
| Farmers markets, co-ops, community gardens and CSA pickup locations are important sites for social connection | 5 | 7 | 1 | - | 13 |
| Participants have built social connections in the local food system | 5 | 11 | 2 | 1 | 18 |
| Participants connect other people to the local food system | 2 | 4 | 1 | - | 7 |
| Local food brings people together | 5 | 7 | 2 | - | 14 |
| Total times category was mentioned | | | | | 52 |
| Trust and Reciprocity in the Local Food System Community | | | | | |
| A sense of trust exists between consumer and producer | 4 | 8 | 2 | - | 14 |
| There is reciprocity among community members in the local food system | 1 | 6 | 2 | - | 9 |
| Producers support and help each other | 4 | 6 | 2 | 1 | 13 |
| Total times category was mentioned | | | | | 36 |
| Volunteerism and Engagement | | | | | |
| Volunteerism does relate to being involved in local food system | 1 | 1 | 2 | - | 4 |
| Participants are engaged in their communities | 2 | 5 | 1 | - | 8 |
| Total times category was mentioned | | | | | 12 |

Table 2: Emergent Themes from Participant Interviews by case study communities in the Okanagan Bioregion. Shaded areas indicate the most prominent themes that emerged.

food system. While it is unclear if there is a direct relationship between participation in local food systems and volunteerism, study findings are consistent with the literature that contends volunteerism is not a particularly useful indicator of social capital.

Our findings do strongly support the notion that there is a connection between participating in local food systems and building social networks - a strong indicator of social capital. Local food system actors said they established social relationships and social networks through participating in the local food system. For some participants, these social networks are large, and good quality (members of an individual's social network help them if they need it) and there is fairly frequent contact between actors. Having a substantial social network, comprising frequent associations, can result in support when an individual is in need. Overall, this indicates a high level of individual social capital (Chazdon et al., 2013; Ferragina et al., 2016; Grootaert et al., 2004; Kitchen et al., 2012; Sseguya et al., 2018; Stanley et al., 2012).

For local food producers their social network comprising other local food system producers serves a functional purpose and is highly meaningful and greatly valued by them. Food producers indicated that networking facilitates critical support and assistance and plays a vital role in business success. Therefore, producer to producer networks are extensive and thus an important dimension of the Okanagan bioregions local food system where nurturing development and function of such networks seems strategic.

Our findings also suggest social networks to be the most prominent, tangible, powerful and relevant indicator of social capital for local food system actors. This corroborates other studies (Campbell et al., 2010; Stanley et al., 2012) and suggests that social networks alone may indeed be a sufficient indicator of social capital and social capital development potential. The conclusion that social networks are a valuable, accurate indicator of social capital in local food systems further substantiates recent research arguing that evaluating social networks is an appropriate proxy to measure the overall community impact of local food systems (Goldenberg and Meter, 2019).

Putnam (2000), offered that social networks are based on trust, and that increasing social connection can foster norms of trust and reciprocity. Although a direct connection between participating in local food system and building trust and reciprocity between actors was not strongly indicated in this study, there is thinking that trust, reciprocity and social networks go hand in hand (Bauermeister, 2016; Putnam, 2000).

Overall, local food system actors in the Okanagan attribute the creation of social networks directly to their participation in the local food system, which contributes to their individual level of social capital. Therefore, our findings substantiate the notion that local food systems indeed impact the level of social capital in communities through social connection (Bauermeister, 2016; Webb Farley and Bush Blancard, 2016; Glowacki-Dudka et al., 2013; Glover, 2004) and this is certainly the case in the Okanagan bioregion.

Conclusion

It is clear from our study that local food systems facilitate building social networks for those that regularly participate in them. However, whether or not local food systems in and of themselves will lead to building social networks (social capital) likely depends on a number of compounding factors. For example, a high level of individual social capital is related to being extroverted (Stanley et al., 2012) so it may be that local food system actors who build extensive social networks exhibit this characteristic. It must also be noted that building social networks through the local food systems may very well be reserved for those that have access and means to frequent the sites where local food is either produced or sold. Numerous studies have argued that predominant spaces in the local food system, such as farmers markets, are exclusionary and the typical customer is of Anglo ethnicity, relatively affluent and well educated (Alkon and McCullen, 2010; Dodds et al., 2014; Farmer, 2014; Rice, 2014). Therefore, creating social capital via participation in local food systems, may, at this time be largely only available to a subset of the community. Mitigating this dynamic is something comprehensive policy should address (Farmer et al., 2014; Rice, 2014).

Importantly, our findings support the geo-sociological concept of ‘placemaking,’ and sense of place creation through social connection (Cresswell, 2008, 2009). Participants in this study attributed high levels of significance to features of their local food system, such as farmers markets, considering them key spaces for social networking. This suggests that meaningful places are created by the local food system and reciprocally, participation in the local food system creates meaningful places. Both result in a sense of place, whereby the act of frequenting spaces where people are brought together by a common interest, and sharing place-specific experiences, creates a sense of place that facilitates one’s sense of community (Foote and Azaryahu, 2009). Thus local food system spaces and places, such as a farmer’s markets, the local butcher, or farm stand down the road creates sense of place, and a sense of place further facilitates social networking and social connection (Foote and Azaryahu, 2009).

It can be easily argued that the sense of place created by local food systems is unique compared to other places where sense of place can be created, like a community centre, pub, or curling club, largely because of the human-nature connection associated with participating in the local food system. There is an acknowledged benefit to human health and well-being from connection to nature (Frances, 2013). However, urbanized lifestyles have made the human-nature connection more difficult and as a result, many adults and children lack meaningful exposure to nature (Louv, 2008, Warber, 2015). Limited opportunities to encounter nature and connect to the environment in meaningful ways results in “nature deficit disorder,” a disconnection from nature with adverse consequence for human physical and emotional health (Grimwood, 2017; Louv, 2008). Participation in local food systems is one means to overcome this ‘disorder’. Even a small dose of an ‘everyday’ form of nature, such as being at farmer’s market, can have benefits for human health and well-being (Frances, 2013; Faber Taylor and Kuo, 2011). Therefore, places created in local food systems are doubly valuable because they can be a daily conduit for human-nature/land interaction to satiate need to connect to creation.

This study confirms that local food systems promote social capital, a conclusion strongly supported by the connection between participation in local food systems and building of social networks among local food system actors in the Okanagan bioregion. Observing social capital in this way can inform community development policy and we hope this study provides valuable information for local food movement activists, policy makers and community leaders.

This study also confirms that meaningful places in the local food system foster social networks that subsequently result in community social capital. Local food system venues such as farmers markets, community farms, community gardens, food hubs, farm gate sales venues, etc., are places instrumental for creating sense of place, and which in turn substantially facilitates and reinforces social connections.

Social capital is the lifeblood of any community, it is the glue that holds society together, and it is at the heart of community development. Through this study, it is hoped, that Okanagan bioregion residents and leaders will regard the community development value inherent in advancing a bioregional food system via enabling initiatives and policies, and be confidently aware that citizen participation in local food systems fosters social capital development through social connection. The potential of local food systems to increase individual level of social capital, and overall community social capital, via the social networks promoted by local food systems is substantial.

Suggested Citation

Elton, C., D. Senese, & K. Mullinix. (2021). Assessing the Impacts of Local Food Systems on Social Capital in the Okanagan Bioregion. Richmond, British Columbia: Institute for Sustainable Food Systems, Kwantlen Polytechnic University.

Social Capital and Sense of Place

Meaningful places, such as farmer’s markets, local butcher shops or farm stand down the road in the local food system foster social networks, which subsequently build community social capital.

References

- Adger, W. N. (2003). Social Capital, Collective Action, and Adaptation to Climate Change. *Economic Geography*, 79(4), 387–404
- Alkon, A. H., & McCullen, C. G. (2011). Whiteness and farmers markets: Performances, perpetuations ... contestations? *Antipode*, 43(4), 937-959.
- Aucoin, M., & Fry, M. (2015). Growing Local Food Movements: Farmers' Markets as Nodes for Products and Community. *Geographical Bulletin*, 56(2), 61–78. Retrieved from <http://ezproxy.library.ubc.ca/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=aph&AN=110721614&site=ehost-live&scope=site>
- Babbie, E. R. (1995). *The practice of social research* (7th ed.). Belmont: Wadsworth Pub. Co.
- Bauermeister, M. R. (2016). Social capital and collective identity in the local food movement. *International Journal of Agricultural Sustainability*, 14(2), 123–141.
- BC Ministry of Agriculture. (2014). *Agricultural Land Use Inventory: City of Kelowna, Regional District of Central Okanagan, Summer 2014*. (Reference No. 800.510-14.2014).
- Born, B., & Purcell, M. (2006). Avoiding the local trap: Scale and food systems in planning research. *Journal of Planning Education and Research*, 26(2), 195-207.
- Brown, C., & Miller, S. (2008). The Impacts of Local Markets: A Review of Research on Farmers Markets and Community Supported Agriculture (CSA). *American Journal of Agricultural Economics*, 90(5), 1296–1302.
- Campbell, A., Hughes, J., Hewstone, M., & Cairns, E. (2010). Social capital as a mechanism for building a sustainable society in Northern Ireland. *Community Development Journal*, 45(1), 22–38.
- Carson, R. A., Hamel, Z., Giarrocco, K., Baylor, R., & Mathews, L. G. (2016). Buying in: The influence of interactions at farmers' markets. *Agriculture and Human Values*, 33(4), 861-875. doi: <http://dx.doi.org.ezproxy.library.ubc.ca/10.1007/s10460-015-9675-y>
- Chazdon, A. S., Allen, R., Horntvedt, J., & Scheffert, D. R. (2013). *Developing and Validating University of Minnesota Extension's Social Capital Model and Survey* (p. 16). University of Minnesota.
- Clendenning, J., Dressler, W. H., & Richards, C. (2015). Food justice or food sovereignty? Understanding the rise of urban food movements in the USA. *Agriculture and Human Values*, 33(1), 165-177.
- Cresswell, T. (2008). Place: Encountering geography as philosophy. *Geography*, 93(3), 132-139.
- Cresswell, T. (2009). Place. In R. Kitchin, N. Thrift (Eds), *International Encyclopedia of Human Geography*. (169-177). Elsevier. <https://doi.org/10.1016/B978-008044910-4.00310-2>.
- Deller, S. C., Lamie, D., & Stickel, M. (2017). Local foods systems and community economic development. *Community Development*, 48(5), 612–638.
- Dodds, R., Holmes, M., Arunsopha, V., Chin, N., Le, T., Maung, S., & Shum, M. (2014). Consumer choice and farmers' markets. *Journal of Agricultural & Environmental Ethics*, 27(3), 397-416.
- Faber Taylor, A., & Kuo, F.E. (2011). Could exposure to everyday green spaces help treat ADHD? Evidence from children's play settings. *Applied Psychology: Health and Well-being*, 3(3), 281–303
- Farmer, J.R, Chancellor, C., Robinson, J.M, West, S., and Weddell, M. (2014). Agrileisure:
- Farmers' Markets, CSAs and the Privilege in Eating Local. *Journal of Leisure Research*, 46(3) 313-328.
- Feagan, R. (2007). The place of food: Mapping out the 'local' in local food systems. *Progress in Human Geography*, 31(1), 23–42.

- Ferragina, E. (2016). "The social capital of European regions". In Handbook of Social Capital and Regional Development. Cheltenham, UK: Edward Elgar Publishing. doi: <https://doi-org.ezproxy.library.ubc.ca/10.4337/9781783476831.00016>
- Folland, S. (2007). Does "community social capital" contribute to population health? *Social Science & Medicine*, 64(11), 2342–2354. <https://doi.org/10.1016/j.socscimed.2007.03.003>
- Foote, K.E., and Azaryahu, M. (2009). Sense of Place. In R. Kitchin, N. Thrift (Eds), *International Encyclopedia of Human Geography*. (96-100). Elsevier. <https://doi.org/10.1016/B978-008044910-4.00998-6>.
- Frances, E. K. (2013). Nature-deficit disorder: evidence, dosage, and treatment. *Journal of Policy Research in Tourism, Leisure and Events*, 5(2), 172-186.
- Fulkerson, G. M., & Thompson, G. H. (2008). The Evolution of a Contested Concept: A Meta-Analysis of Social Capital Definitions and Trends (1988–2006)*. *Sociological Inquiry*, 78(4), 536–557. <https://doi.org/10.1111/j.1475-682X.2008.00260.x>
- Glover, T. D. (2004). Social Capital in the Lived Experiences of Community Gardeners. *Leisure Sciences*, 26(2), 143–162.
- Glowacki-Dudka, M., Murray, J., & Isaacs, K. P. (2013). Examining social capital within a local food system. *Community Development Journal*, 48(1), 75–88.
- Goldenberg, M., & Meter, K. (2019). Building Multipliers, Rather than Measuring Them: Community-Minded Ways to Develop Economic Impacts. *Journal of Agriculture, Food Systems, and Community Development*, 1–12.
- Grimwood, B. S. R. (2017). An ecofeminist narrative of urban nature connection. *Leisure Sciences*, 39(6), 506-523.
- Grootaert, C., Narayan, D., Jones, V. N., & Woolcock, M. (2004). *Measuring Social Capital: An Integrated Questionnaire*. The World Bank.
- Kitchen, P., Williams, A., & Simone, D. (2012). Measuring Social Capital in Hamilton, Ontario. *Social Indicators Research*, 108(2), 215–238. Retrieved from <http://www.jstor.org/stable/23260308>
- La Trobe, H. L., & Acott, T. G. (2000). Localising the global food system. *International Journal of Sustainable Development & World Ecology*, 7(4), 309–320.
- Louv, R. (2008). *Last child in the woods: Saving our children from nature-deficit disorder* (Updated and expanded ed.). Chapel Hill, N.C: Algonquin Books of Chapel Hill.
- Liu, A. Q., & Besser, T. (2003). Social capital and participation in community improvement activities by elderly residents in small towns and rural communities*. *Rural Sociology*; Columbia, 68(3), 343. <http://dx.doi.org.ezproxy.library.ubc.ca/10.1111/j.1549-0831.2003.tb00141.x>
- Martinez, S., Hand, M., Pra, M. D., Pollack, S., Ralston, K., Smith, T., ... Newman, C. (2010). *Local Food Systems: Concepts, Impacts, and Issues*. US Department of Agriculture, 87.
- Merriam, S. B., & Tisdell, E. J. (2015). *Qualitative research: A guide to design and implementation*, 4th edition (4th ed.) John Wiley & Sons.
- Norberg-Hodge, H., Merrifield, T., & Gorelick, S. (2002). *Bringing the food economy home: Local alternatives to global agribusiness*. Zed Books.
- Peters, D. J. (2017). What drives quality of life in Iowa small towns? Iowa State University, *Rural Sociology* (SOC 3082). Retrieved from <https://store.extension.iastate.edu/product/15124>
- Petzold, J. (2016). Limitations and opportunities of social capital for adaptation to climate change: a case study on the Isles of Scilly: Social capital for climate change: a case study on the Isles of Scilly. *The Geographical Journal*, 182(2), 123–134. <https://doi.org/10.1111/geoj.12154>
- Putnam, R. D. (2000). *Bowling alone: The collapse and revival of American Community*. New York: Simon & Schuster.

- Putnam, R. D. (1995). Tuning In, Tuning Out: The Strange Disappearance of Social Capital in America. *PS: Political Science and Politics*, 28(4), 664–683. <https://doi.org/10.2307/420517>
- Putnam, R., Light, I., de Souza Briggs, X., Rohe, W. M., Vidal, A. C., Hutchinson, J., . . . Woolcock, M. (2004). Using social capital to help integrate planning theory, research, and practice: Preface. *Journal of the American Planning Association*, 70(2), 142-192.
- Putnam, R. D., Leonardi, R., Nanetti, R. (1993). *Making democracy work: Civic traditions in modern Italy* (STU - Student ed.). Princeton, N.J.: Princeton University Press
- Regional District of the North Okanagan. (2015). Agricultural Plan Background Report. http://www.rdno.ca/docs/Agricultural_Plan_Background_Report.pdf
- Rice, J. S. (2015). Privilege and exclusion at the farmers market: Findings from a survey of shoppers. *Agriculture and Human Values*, 32(1), 21-29.
- Similkameen Valley Planning Society. (2018). Our Story. Retrieved from <https://similkameenvalley.com/story/>
- Sseguya, H., Mazur, R. E., & Flora, C. B. (2018). Social capital dimensions in household food security interventions: Implications for rural Uganda. *Agriculture and Human Values*, 35(1), 117-129.
- Stanley, J., Stanley, J., & Hensher, D. (2012). Mobility, Social Capital and Sense of Community: What Value? *Urban Studies*, 49(16), 3595–3609. <https://doi.org/10.1177/0042098012447002>
- Starr, A. (2010). Local Food: A Social Movement? *Cultural Studies ↔ Critical Methodologies*, 10(6), 479–490. <https://doi.org/10.1177/1532708610372769>
- Stickel, M., & Deller, S. (2014). Community Level Impacts of Local Food Movements in the US, Canada & Western Europe: Annotated Bibliography STAFF PAPER SERIES. Unpublished. <https://doi.org/10.13140/2.1.2276.2882>
- Thompson, M. F., & Slaper, T. F. (2016). Social Capital and regional economic performance: A study across US Metropolitan Statistical Areas. In H. Westlund & J. Larsson, *Handbook of Social Capital and Regional Development*. Edward Elgar Publishing. <https://doi.org/10.4337/9781783476831>
- Town of Osoyoos. (2013). History of Osoyoos. Retrieved from <https://www.osoyoos.ca/content/history-osoyoos>
- Warber, S. L., DeHudy, A. A., Bialko, M. F., Marselle, M. R., & Irvine, K. N. (2015). Addressing “Nature-deficit disorder”: A mixed methods pilot study of young adults attending a wilderness camp. *Evidence-Based Complementary and Alternative Medicine*, 2015, 1-13.
- Webb Farley, K., & Bush Blacard, C. (2016). Using Relationships as Resources in Social Impact Investing: Examining a Local Food Movement in Appalachia. *Journal of Appalachian Studies*, 22(2), 224. <https://doi.org/10.5406/jappastud.22.2.0224>
- Winfrey, J., & Watson, P. (2017). The Welfare Economics of “Buy Local.” *American Journal of Agricultural Economics*, 99(4), 971–987. <https://doi.org/10.1093/ajae/aaw104>
- Yetim, N., & Yetim, Ü. (2014). Sense of Community and Individual Well-Being: A Research on Fulfillment of Needs and Social Capital in the Turkish Community. *Social Indicators Research*, 115(1), 93–115. Retrieved from <http://www.jstor.org/stable/24720218>
- Zepeda, L., & Leviten-Reid, C. (2004). Consumers’ Views on Local Food. *Journal of Food Distribution Research*, 35(3), 1–6.

About the Institute for Sustainable Food Systems

The Institute for Sustainable Food Systems (ISFS) is an applied research and extension unit at Kwantlen Polytechnic University that investigates and supports sustainable agriculture and regional food systems as key elements of sustainable communities. We focus predominantly on British Columbia but also extend our programming to other regions.

Our applied research focuses on the potential of regional food systems in terms of agriculture and food, economics, community health, policy, and environmental integrity. Our extension programming provides information and support for farmers, communities, business, policy makers, and others. Community collaboration is central to our approach.

About the Okanagan Bioregion Food System Project

Communities and governments are increasingly looking to strengthen regional food systems as a way to address many complex agriculture and food challenges. The Okanagan Bioregion Food System Project explores the social, economic, and ecological outcomes of a regional food system in the Okanagan. This multidisciplinary research project, initiated by ISFS and regional partners, can guide conversations among communities and decision-makers seeking to advance their regional food system.

The Okanagan Bioregion Food System Project considers and builds upon existing food system planning and other related work to support local and regional food systems in the bioregion.

For the full report and more research briefs visit: www.kpu.ca/isfs/okanagan-bioregion

Project Funders

