



Original Research Article

Challenges to acquiring and using food literacy: Perspectives of young Canadian adults

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Abstract

The purpose of this qualitative, grounded theory study was to explore the concept of food literacy from the perspective of young Canadian adults who recently transitioned to independent living. Seventeen individual, in-depth interviews were conducted with Canadian university students from this target group. Results suggest that young adults face significant challenges with regard to healthy eating as well as acquiring and using food literacy. The three main reasons for these challenges were: a lack of food and nutrition education prior to independent living throughout home and school environments; time-constraints; and complex food relationships. This study will add to the existing body of literature by exploring the food experiences of young adults and the concept of food literacy from their perspectives, thereby strengthening theoretical foundations.

Keywords: Food literacy, young adults, Canada, qualitative research, food skills

Introduction

Evidence demonstrates a reduction in food and nutrition knowledge and skills in the general population, contributing to serious public health concerns that include obesity and other nutrition-related chronic diseases (Caraher & Lang, 1999; Cutler, Glaeser, & Shapiro, 2003; Jaffe & Gertler, 2006). Obesity rates have risen alongside increased consumption of processed and ultra-processed, low nutrient, and energy-dense foods, including sweetened beverages that are typically mass-produced, heavily marketed and readily available (Moore & Rideout, 2007; Popkin, 2001; Ustjanauskas, Harris, & Schwartz 2014). This has also contributed to increased away-from-home food intake and eating outside traditional meal structures (i.e., eating at the kitchen table in homes or eating at regular times of the day) (Warde, 1999). This shift, coined the “nutrition transition” (Popkin, 2001), has been facilitated by changing social roles and norms including more women working outside the home, time scarcity, decreased family meals, and fewer opportunities to learn basic food skills in school and at home (Agriculture and Agri-Food Canada, 2007; Slater, 2012; 2013; Smith, 2009; Smith & de Zwart, 2010; Zayak-Reynolds, 2004).

Concurrently, there is concern that people are becoming increasingly “de-skilled” regarding fundamental food planning, food preparation, and nutrition knowledge, in the context of increasingly complex foodscapes (Jaffe & Gertler, 2006; Lang & Caraher, 2001; Scrinis, 2007). “Food literacy” has emerged as a possible framework and promising approach to “re-skill” people with necessary and relevant food related knowledge, skills, attitudes, and values (Desjardins & Hailburton, 2013). Although definitions vary, Vidgen and Gallegos (2014) define food literacy as “a collection of inter-related knowledge, skills and behaviours required to plan, manage, select, prepare and eat foods to meet needs and determine food intake”, as well as, “the scaffolding that empowers individuals, households, communities or nations to protect diet quality through change and support dietary resilience over time” (p. 54).

In order to effectively address the multi-faceted issues highlighted above, it is essential to understand how young adults navigate their food environments and cope with the corresponding challenges. Young adults’ dietary habits are among the poorest of all age groups, with high rates of fast-food and soft drink consumption and low rates of adherence to national recommendations for fruit and vegetable intake (Nelson, Story, Larson, Neumark-Sztainer, & Lytle, 2008; Paeratakul, Ferdinand, Champagne, Ryan, & Bray, 2003; Pelletier & Laksa, 2012). Additionally, some food habits developed by young adults are often associated with poor diet quality including: irregular meal patterns; meal skipping; frequent snacking (Al-Rethaiaa, Fahmy, & Al-Shwaiyat, 2010; Kremmyda, Papadaki, Hondros, Kapsokfalou, & Scott, 2008; Šatalic, Colic Baric, & Keser, 2007); and frequent consumption of commercially prepared meals, such as takeaway food, pre-packaged, or restaurant meals (Burns, Jackson, Gibbons & Stoney, 2002; French, Story, Neumark-Sztainer, Fulkerson, & Hannan, 2001; Nicklas, Myers, Reger, Beech, & Berenson, 1998).

Using a qualitative approach, this study explored the complexities of acquiring and using food literacy from the perspective of Canadian university students who recently transitioned to independent living. This research study was approved by the Joint-Faculty Research Board of Ethical Review at the University of Manitoba.

Methods

This study used a grounded theory approach. Grounded Theory seeks to construct theory from issues of importance in peoples' lives (Corbin & Strauss, 2008; Glaser & Strauss, 2009) and is suitable for the investigation of complex multifaceted phenomena such as food literacy. Study participants included seventeen students from two universities in a mid-sized Canadian city. Participants demonstrated the following characteristics: they ranged from 18 to 25 years old; were responsible for feeding themselves; had transitioned to independent living within the last two years; had never studied in the Department of Human Nutritional Sciences at the University of Manitoba; and were Canadian citizens. Purposive and theoretical sampling techniques were used to recruit eligible participants (Charmaz, 2006; Ritchie, Lewis, Nicholls, & Ormston, 2013).

Participants were interviewed individually in a private room and took approximately 30 to 45 minutes to complete. A semi-structured interview guide which had been tested for face validity was used. Demographic information was also captured.

Table 1: Sample semi-structured interview questions

Can you describe what you ate yesterday?
Where did you learn about food from, such as certain skills (e.g., cooking, shopping, and growing) or eating habits?
Do you eat differently now that you have the main responsibility for your own food? How and why?
When buying food, what's important for you to know?
What do you consider "healthy eating" to be?
Do you think you know how to eat healthy?
What feelings do you associate with food?
How important do you think food is in order to live well or have a high quality of life, if at all?

All interviews were digitally recorded, transcribed verbatim, and replayed while re-reading the transcribed interviews for accuracy. After each interview, the primary researcher took detailed field notes regarding general thoughts, assumptions, and behaviour observed throughout the interview.

Data analysis began during the transcription of interviews in accordance with grounded theory methods. The constant comparative method was used to analyze the data (Charmaz, 2006). NVivo9 QSR International Software (2009) was used for the coding process. Initial codes/categories guided subsequent interviews and analysis. First level codes were ranked to reveal those coded most frequently, and those coded for the majority of participants. These were used to construct more

theoretical categories of focus. Focused coding (directive, selective, and conceptual) was used to synthesize and understand the main themes (Charmaz, 2006). Emergent cases were compared with existing cases, and were compared across categories and themes. During data analysis, diagrams were developed for each participant to facilitate the constant comparison method through comparison of participants based on similarities and differences.

Results

The following major themes and subthemes emerged, reflecting complex challenges and opportunities participants experienced around food literacy while transitioning to independent living: (a) food learning & experiences; (b) competing priorities & interests; and (c) complex food relationships.

Food learning & experiences

Food learning and experiences were the primary precursor to the development of food literacy. Prior to transitioning to independent living, this occurred primarily through the home environment, mainly from mothers. The school environment (formal education) was also a source of learning, but minimally.

Home environment

Three sub-themes emerged from analysis of food literacy in the home environment: parents' influence, participation in food-related activities, and food and nurturing.

The first sub-theme of the home environment was parental influence. Participants identified both “healthy” and “unhealthy” ways in which their parents' food habits influenced their eating practices and food choices prior to and while living independently. Commonly, participants compared and related current food practices to how they were raised.

“...my mom's super healthy, that's kind of just how I've been raised so it's normal for me.” (Female)

“My mom is like a grilled cheese, Rice Krispie™ square kind of person...So it's just kind of the way I operate now.” (Male)

Food and nutrition knowledge and skills taught by parents were varied, and frequently related to parents' or mothers' food and nutrition knowledge and skills. Most commonly, participants described learning basic skills related to food preparation, meal planning, and grocery shopping, as well as basic nutrition information such as healthy foods, portion sizes, and the four food groups.

“...my mom is a nurse and she, I guess by having kids, she was probably aware of it more, but once she had us kids she totally picked up on healthy eating and that’s important to her and she taught us the Canada Food Guide and tried to plan meals based on that so as we were growing up we were very aware of the different food groups.” (Female)

One student grew up on a farm and described learning about agriculture in addition to basic food and nutrition knowledge and skills.

“I grew up on a farm also so we always had a big garden in the summer. My dad raises beef and sheep. So, I had a lot of education I guess. We used grass fed meat and beef so it was kind of always in my house, education on quality food and healthy food, just coming from an agricultural background.” (Female)

While some participants described positive food and nutrition learning experiences from their parents, almost half of participants stated that their parents made food choices they considered to be unhealthy. This was primarily attributed to: poor food skills; busy family schedules; and/or negative attitudes around cooking, which contributed to increased consumption of processed convenience and takeout foods. Some participants were interested in healthy eating after transitioning to independent living and did not equate their current food skills, knowledge, and practices to what they learned from their parents while living at home. One young man explained that he was eager to gain independence with regard to food choices once he moved out of his parents’ home due to their unhealthy food habits.

“I was actually pretty excited to get out of the house and stop eating the food that my parents were buying.” (Male)

Participants’ food learning in their home environment encompassed various values and attitudes as well, sometimes having negative effects on participants’ food habits and relationships. A young woman compared her attitude toward cooking to her mother’s, who perceived cooking to be stressful and a lot of work.

“My mom always complained how much work, like for me thinking of cooking I automatically think that’s a lot of work but really I don’t think it is. It’s just ‘cause of how I was raised.” (Female)

This participant, who currently does not participate in food preparation from whole ingredients, elaborated on why her mother did not cook for the family.

“...she was working and taking care of three kids. She felt too stressed to be able to cook because all of us didn’t agree on what we liked to eat...So she decided that everyone kind of make their own thing after a while. So, yeah, we had a lot of quick stuff.”
(Female)

A second subtheme relevant to the home environment was participation in food-related activities. The majority of participants described minimal hands-on participation in food preparation, meal planning, grocery shopping, and other food related activities when growing up. Rather, food-related learning occurred primarily through observation of their parents’ food habits.

“Like my mom would always cook so I’d see it but I never would do it on my own.” (Male)

Three participants described having greater hands on participation in meal preparation, and were given more significant responsibilities by their parents.

“I learned a lot from my mom, I cooked a lot at home when we were younger because we were four of us. So, we all kind of helped out with stuff like that.” (Female)

This participant described acquiring a high level of food literacy while in her parents’ home. This was demonstrated through: regular participation in household food related activities (e.g., cooking, meal planning, and grocery shopping); nutrition knowledge (e.g., understanding of healthy meals); ability to grow food; and positive attitudes expressed around food and eating. This participant continued with similar food habits and used these skills after transitioning to independent living.

“...me and my sister lived together our first year in university and every once in a while you’d have your friends over for dinner and they’d come over and they’d be like ‘oh my god, you cook like this every day!?’ And we’re like ‘oh this is how we grew up having a good solid dinner with your meat and your vegetables and your potatoes or rice’.” (Female)

The two participants who had more significant food responsibilities growing up did not use the skills they acquired from their parents once they transitioned to independent living. One young man explained that he was aware of the poor nutritional quality of his diet, but was not interested in practicing the food and nutrition skills/knowledge he had learned at home.

“As a kid we used to have to plan one meal a week for the family. So we had to plan a starch, a vegetable, a protein and then we

would usually help cook that meal as well... I know how to cook. I think I'm pretty good at it. I just don't... I know how to, I know what is good for me, I just don't care a lot of the time." (Male)

The other student cooked meals from scratch for her family from the age of eight years old. When this young woman initially started living on her own, she chose processed convenience food products, which she attributed to disinterest in cooking. Eventually she began planning and preparing her meals from scratch for health and economic reasons.

"...when I first moved to the city because I had this new found freedom, I didn't want to cook, I didn't want to waste my time cooking... I bought a lot of prepared stuff." (Female)

The third subtheme under the home environment was related to food and nurturing. Several participants described this as their mother's role. One participant described the homemade pasta sauce he ate the day before his interview.

"Yeah it was some homemade stuff that I got from my mom cause I went out for the weekend and brought some back." (Male)

However, participants regularly discussed their mothers as nurturing or providing acts of love with foods they considered to be unhealthy. For example, a participant described the "home cooked" meals his mother made for him growing up as remaining his preferred meals today, despite his mother's lack of food preparation skills or traditionally recognized "cooking".

"Like it wasn't elaborate home cooked meals it was just chicken fingers and honey dill which now those are my favorite things. You get those home cooked meals, to me its chicken fingers and Tator Tots." (Male)

A young woman implied the significance of preparing meals as an act of love and nurturing when she defended her parents for using takeout and convenience foods as a way to cope with time constraints.

"Well we ate good meals and everything it was just that my parents didn't have the greatest eating habits. They would get home at 9 o'clock and 'oh what are we going to have for supper', 'well, let's just order in a pizza'." (Female)

In this case, the act of feeding is separate from the act of "healthy cooking". In response to whether or not her parents cooked, she said:

"They cooked all the time. I mean I'm giving them a really bad image here. It's not like they didn't cook for us but it's just like

they kind of took the easy route when they could. But they would make us meals all the time.” (Female)

Another participant explained that he eats healthier now that he lives on his own because his mother gave him snack foods considered to be unhealthy.

“I ate lot more junk food when I was living with my mom because she bought it for me. So, I kind of ate a lot more candy and chips because she liked to give me snacks and chocolaty granola bars and stuff and yeah pop like we usually had a drawer full of pop in the fridge.” (Male)

In summary, the home environment had a significant influence on the development of food literacy. This was primarily through parental influence, participation in food-related activities, and nurturing through food.

School environment: Home economics food and nutrition education

Another place where food learning and experiences occurred was the school environment. The majority of participants took at least one Home Economics Food and Nutrition (HEFN) class through their formal (grades K to 12) education. Overall, participants felt this education did not help prepare them to manage food-related activities in a healthy way once they transitioned to independent living. In response to whether or not the HEFN education received facilitated management of food, a young woman stated:

“It taught me how to make a few dishes but other than that I wouldn’t say so.” (Female)

Reasons for discontent with HEFN education varied. Most commonly, participants expressed issues with the curriculum; particularly that HEFN education was only about cooking and included little or no nutrition education. When participants discussed learning about food preparation or cooking in school they implied that this education was not valuable, possibly due to a lack of interest in cooking at this stage of their lives. However, this contradicted agreement amongst participants that food preparation skills were important to have for independent living and health, which they declared in other parts of their interviews.

“...they didn’t offer home ec...until you were in grade 10 and then we didn’t really learn much nutrition or anything. We just learned how to cook recipes.” (Male)

Other concerns participants had with the curriculum included: little to no education on grocery planning and shopping, portion control, and strategies to avoid food waste.

“...they don’t teach you enough about when you first move out. Grocery shopping’s really hard to plan what you want to buy. They don’t teach you enough about that. Like portion control, like what am I going to eat for the next few days so you’re not wasting stuff.” (Male)

Overall, the school environment, particularly HEFN education, appeared to impact food literacy minimally from the perspectives of students.

Competing priorities & interests

Two subthemes emerged through analysis of this area of food literacy: time constraints, and food and meal habits. Participants perceived that their desire to eat healthy frequently collided with time constraints. This often influenced their food and meal habits by increasing reliance on convenience foods/meals and decreasing time spent cooking meals from whole or more basic ingredients.

Time constraints

Time constraints were a significant barrier to healthy eating experienced by participants. The majority of participants struggled to balance food-related responsibilities, school work, and paid employment. They frequently expressed lack of time management and planning skills to facilitate grocery shopping, planning meals in advance, and cooking.

“... a few months ago I switched living arrangements and also my work and my school schedule was kind of complex so I didn’t have much time to prepare meals. I’d have to leave in the morning and be in school all day and then I have an hour and then I’d have to go to work till like after 7. So, and then it takes like an hour to make the meals. So, I was really burnt out, so that was the difficulty, just the time. I didn’t really plan it out very well.” (Male)

Another participant, despite having cooking skills, identified meal planning as her most significant challenge, which contributed to increased consumption of convenience foods requiring little preparation and decreased intake of a variety of foods.

“Probably just the meal planning itself, like I have no idea what I’m going to eat for supper tonight...It’s just thinking of variety and planning ahead of what to make because then I don’t just want to be like ‘oh, I don’t have any time, I didn’t think of anything, so I’ll just have pasta’. I don’t just want to have Kraft Dinner every night.” (Female)

Several participants expressed a desire to have learned more of these particular planning and time management skills.

“I wish I learned more about time management and how to deal with work and school and cooking and how to plan. But I just kind of went with the flow.” (Female)

One young man explicitly attributed his poor eating habits to being a student and the associated time demands of this role.

“I think that’s kind of how I viewed it up until now is that this is temporary and I’ll change it at some point. Once I’m done school I think is sort of the obstacle that’s in my mind like ‘oh once I’m done school maybe I’ll have extra time’. But when you put it like that that kind of sounds foolish. There’s always some reason not to.” (Male)

Food & meal habits

The majority of participants coped with their busy lives by preparing convenience foods because these foods take little time to prepare and are easy to make.

“Finding the time to cook meals because we both had to work full time jobs and whatever is fast and easy to cook that’s what we usually did...Kraft dinner, noodles, anything like that.” (Female)

In turn, this also contributed to decreased frequency of preparation of meals from whole and fresh ingredients, as well as a desire to do so.

“My life is pretty fast paced so sometimes you just want to stop in for 20 minutes, eat and then leave as opposed to making sure you have all the stuff, cooking half an hour or 40 minutes, and then eating it.” (Male)

Several participants, some with high levels of self-reported food preparation skills, coped with time constraints by skipping meals altogether.

“No, because we hadn’t done groceries in a while and I’ve been super busy with my thesis, I kind of put off eating, so it’s like 10 at night and I will realize that ‘Oh, I didn’t eat today’.” (Female)

In some cases, meals were replaced by portable snack foods that could be consumed on the go.

“I think I’m eating a lot of sweets actually. Like cookies and granola bars and things like that. Like they’re more like packaged and they’re just easy snacks. And I know it’s not healthy but it’s just something quick to grab and go.” (Female)

Although less common, some participants prioritized food in their lives and were able to maintain healthy food habits despite work/school/life responsibilities. Most commonly, these participants enjoyed the procedure of cooking and preparing meals. Several participants attributed their interest in food and health to their enjoyment of cooking.

“The whole me liking cooking I felt, I don’t know, it’s nice to make it healthy instead of just sugar fat filled and salty dinner [sic].” (Male)

Participants who prioritized preparing food from whole ingredients coped with time constraints by making large batches of soups or stews to create leftovers. For these participants, leftovers allowed for convenience and time efficiency without the reliance on processed convenience foods or meals.

“I usually make a big pot of whatever it is. Like lentils with chilli and then I just throw it in the freezer.” (Male)

In summary, competing priorities and interests, such as school and work commitments, often acted as a barrier to healthy eating. These perceived time constraints affected the food and meal habits of participants often in nutritionally unfavourable ways.

Complex food relationships

Participants’ relationships with food were highly complex. Participants identified various aspects of food in their lives as contributing to positive or negative emotions/feelings, but neutral relationships to food were also expressed.

Positive relationships

Most participants described their relationship with food as positive, primarily due to their enjoyment of eating.

“I like to eat so it makes me happy when I’m eating for sure. So that’s definitely a pick me up. I guess I just like to eat, so that’s pretty much it.” (Female)

Participants who enjoyed cooking were more likely to have healthy and positive food relationships compared to those who did not enjoy cooking. These participants positively associated cooking with health, connectedness, pleasure, and self-satisfaction.

“Just feeling good, feeling healthy too like when you cook that stuff you feel like you’re doing good for yourself and happier than eating something processed and bad for you, so positive.” (Male)

Three participants (two female and one male) enjoyed sharing food with others in social situations and believed this to be a healthy way of eating as well as a positive contributor to their relationship with food. Additionally, participants who enjoyed the social aspects of food and eating were more likely to participate in and enjoy cooking.

“...well food, it’s always positive to me I think and because I don’t live alone and because I go out with friends and everything, so food is definitely a social thing. And I like that because it brings people together; it’s good. But also the process of cooking is also fun when you cook with someone else.” (Female)

Negative relationships

Approximately one quarter of participants described disordered eating habits and negative relationships with food, which impacted food choices and created feelings of fear, guilt, and obsession around food. One young woman attributed her binge eating to her low emotional state after moving to a new country. This young woman highly valued healthy eating and home prepared foods.

“I think what mostly played a role in there is that I moved there, and it was really hard the first few months, I had a really hard time. So, I had a lot of binge eating episodes. I was so down so I would just go and get some junk food and eat it all, so much.” (Female)

Another participant, who experienced regular binge eating episodes, described his relationship with food as an addiction. This participant would often not eat until the evening and then would eat processed, convenience foods and meals until he would be physically ill.

“When I’m food sick, like in the morning, I’ll always say, it’s like a hangover, ‘oh I’m never gonna do that again’, ‘why do I do this to myself?’ ‘why did I eat three taquitos?’ for some reason and you

say you're never going to do it again but then later you're in Sev and it's 2:30 and hey what else are you going to eat, you feel hungry, you have that taste in your mouth already but you don't think about the consequences. It's like an addiction, like any other." (Male)

Another participant attributed her eating disorder (bulimia) to perceived pressure to be perfect, which was coupled with a fear of gaining weight.

"...there were lots of outside issues I guess, there was pressure to be perfect and fear of gaining weight and fear of not like looking good." (Female)

When this young woman lived in her family home she would frequently prepare meals for her family from a very young age. However, due to a lack of interest in cooking when she first moved out of her parents' home she consumed mostly prepared, processed, convenience meals which negatively impacted her pre-existing eating disorder.

"When I moved out on my own and when I was getting all the prepared food, before I started getting the healthy food, I had left home with an eating disorder and it had been sort of okay like it had stopped for a while and then when I moved out on my own, I had a really bad I guess relationship with food, like my eating disorder blew way out of proportion when I was eating all the prepared stuff."

For one participant, her disordered eating patterns stemmed from an obsession around calories and nutrient avoidance in order to lose weight. Although this participant was highly interested in nutrition and caloric intake, she lacked basic food and nutrition knowledge and skills.

"I kind of got obsessed with it like before. I kind of have a love-hate relationship with food. Yeah, it's kind of bad. I am trying to eat for energy you know. Not try to, I don't like measuring, I used to measure everything and kind of like, kind of made me a bit sick." (Female)

Some students described negative feelings such as laziness and dissatisfaction when they ate convenience foods. A young man explained the difference in how he felt when he made a "microwaved" meal compared to a home cooked meal from whole ingredients.

"Whenever I microwaved anything and ate it I feel like it just wasn't the best for me most likely and also, makes you feel kind of lazy and there's no satisfaction out of it. When you make your own

meal and it tastes good and looks nice it just, there's a little bit of self-satisfaction for sure." (Male)

Another area of distress for some participants was making food choices in the vast array of food products available, and trying to keep up with the latest "superfood" trends. Participants expressed feeling frustrated, confused, and overwhelmed when deciphering conflicting nutrition messages given by the food industry and health professionals.

"...it's really confusing like you hear foods that help you combat depression and like you know different, or reduce your risk of heart disease and stuff. It's like so much information especially for someone like who doesn't know much about it. It would be nice to have it simple and stuff and like on food packages a lot of them say like this is like health tech or something like on orange juice. Then like people say orange juice is really bad, because it has so much sugar. Yeah it's just confusing." (Female)

Neutral relationships

Although less common, a few participants did not express positive or negative feelings toward food and eating. One participant identified his relationship with food as neutral while acknowledging differing views and relationships people have with food.

"Well I don't know, I'm kind of neutral because you know there's one side of it, food as fuel and that's it and then the other side I guess can be sensual, or whatever, like trying new things out and experiencing the world differently. You know like Folklorama, you know, 'try different cultures' and stuff like that. But I guess overall, I'm neutral." (Male)

One participant stated that the main role of food and eating in their lives was to survive.

"Well it's just you got to eat to live so it's whatever." (Female)

Another participant explained that he chose foods that "fill" him up as opposed to selecting foods based on health or enjoyment.

"...usually because again for the whole breakfast scenario instead of spending unnecessary money on food that won't fill me up it's just easier to plan ahead and eat that." (Male)

In summary, participant's complex relationships with food contributed to their well-being in different ways. Some had positive relationships through enjoyment of eating and cooking,

individually and socially. Others had negative relationships and disordered eating habits, undesirable feelings toward food and eating, and weight loss preoccupation. A few participants described neutral food relationships centred on food as “fuel” or a survival tool.

Discussion

Overall, the results of this study suggest that young adults face significant challenges with regard to acquiring and using food literacy, which appear to influence food choices. Key reasons for these challenges were: a lack of food and nutrition education prior to independent living through home and school environments; competing priorities and interests (time constraints); and complex food relationships. As well, these results highlight the current complex food environments inhabited by these young adults.

Although a few participants described greater food-related responsibilities while growing up, in general, participants described minimal hands-on participation in food preparation, meal planning, grocery shopping, and other food related activities. Additionally, almost half of participants in this study stated their parents made food choices considered to be unhealthy (e.g., processed, convenience meals and snack foods, and take-out meals/foods) due to poor cooking skills, busy family schedules, and negative attitudes around cooking. This may have negatively impacted the nutritional quality of participants’ diets as well as the ability to gain hands-on experience in food preparation with family members. These results are consistent with existing research that links a decrease in home-based food and nutrition mentoring with current and subsequent generations becoming increasingly “de-skilled” regarding food preparation and planning, making them dependent on mass-produced convenience foods (Beagan, Chapman, D’Sylva, & Bassett, 2008; Höijer, Hjälmeskog, & Fjellström, 2011; Larson, Perry, Story, & Neumark-Sztainer, 2006; Vidgen & Gallegos, 2011; 2012). This has been shown to be even more concerning in vulnerable youth, as shown by Desjardins and Hailburton (2013).

Schools and Home Economics Food and Nutrition (HEFN) education could be seen as part of the solution to food “de-skilling”. Results from this study indicate that formal education (grades K to 12) was a minimal source of food and nutrition learning for participants and did not facilitate healthy management of food after participants transitioned to independent living. This in part may be due to a lack of interest in food at this stage of their lives. As well, there is concern that HEFN curriculum may not be reflective of current food and nutrition knowledge, issues, and contemporary lifestyles. While significant challenges exist with regard to HEFN programming, several authors argue that if children and adolescents are not being taught fundamental food skills at home, HEFN education should fill this gap in order to “re-skill” and prepare youth to effectively navigate the increasingly complex modern foodscape in a healthy way (Fordyce-Voorham, 2011; Lichtenstein & Ludwig, 2010; Slater, 2013).

Participants mentioned having restricted time for preparing healthy, nutritious meals primarily due to busy schedules, balancing university workload, and paid employment. In order

to cope, participants used processed convenience foods at home or on the run, fast food, or skipped meals altogether. Perceived time constraints decreased the frequency and desire to prepare meals with multiple steps from fresh ingredients, and reinforced participants' need and desire for foods/meals that are quick and easy to prepare and eat. This is consistent with current Canadian research which shows a trend for products that take little or no time to prepare (Zafiriou, 2005).

The food environment influences people's food choices as well. According to Moubarac and colleagues (2013), eighty percent of the Canadian population has diets consisting of more than fifty percent ultra-processed food products. Ultra-processed products are industrial formulations made mostly or entirely from industrial ingredients, commonly containing little or no whole foods (e.g., cake mixes, pastries, soft drinks and 'energy' drinks, margarines, 'instant' packaged soups, poultry 'nuggets') (Monteiro, Levy, Claro, Castro, & Cannon, 2010; 2011). The convenience and ultra-processed foods in contemporary food markets are typically mass-produced, "branded," and heavily marketed by a multi-billion dollar food industry (Moore & Rideout, 2007; Moubarac et al., 2013; Ustjanauskas, Harris, & Schwartz, 2013). These foods are readily available at supermarkets, restaurants, vending machines, and other retail venues (Glanz, Basil, Maibach, Goldberg, & Snyder, 1998) contributing to increased away-from-home food intake and eating outside traditional meal structures (Warde, 1999).

Although less common, some participants prioritized food in their lives and were able to maintain healthy food habits in the midst of work/school/life balance. Most commonly, these participants had food learning opportunities prior to living on their own and enjoyed the procedure of cooking and preparing meals. Participants who prioritized preparing food from whole ingredients coped with time constraints by making large batches of soups or stews to facilitate leftovers. Existing studies indicate that increased diet quality is associated with greater frequency of cooking and using more complex preparation steps (Larson et al., 2006; Thorpe, Kestin, Riddell, Keast, & McNaughton, 2013). Therefore, this study suggests that creating food learning opportunities prior to transitioning to independent living could potentially pique interest in cooking, which was associated with a variety of healthy food behaviours.

Finally, interconnections between participants' food literacy, food environments, and competing priorities and interests shaped their complex, emotional relationships with food. While most participants related positive emotions with food due to an enjoyment of eating, approximately one quarter of participants described perceived problematic and unhealthy relationships with food such as disordered eating patterns, including binge eating and food addictions. Possible solutions to these issues are complex and multi-faceted. However, this study has contributed to our understanding of the barriers to and enablers of food literacy, which may facilitate practical recommendations for program development and policy. The following food literacy framework may serve as a starting point to inform future programs and education.

Food literacy: barriers & enablers framework

Figure 1 is a conceptual map which emerged from the interpretation of study results. The framework links barriers and enablers to acquiring and using food literacy (knowledge, skills, attitudes, and values) perceived by participants as important to health. The most significant barrier or enabler, *prior* to independent living, was food learning opportunities in home environments through parents. Individual interest in cooking and health and perceived time-constraints played a pivotal role in the utilization of food literacy *after* transitioning to independent living. Broad components of food literacy which emerged from this study are aligned with several existing food literacy definitions and frameworks (Schnögl et al., 2006; Slater, 2013; Vidgen & Gallegos, 2011; 2012). Together, each component of the framework potentially impacts food choices, and ultimately, health and well-being.

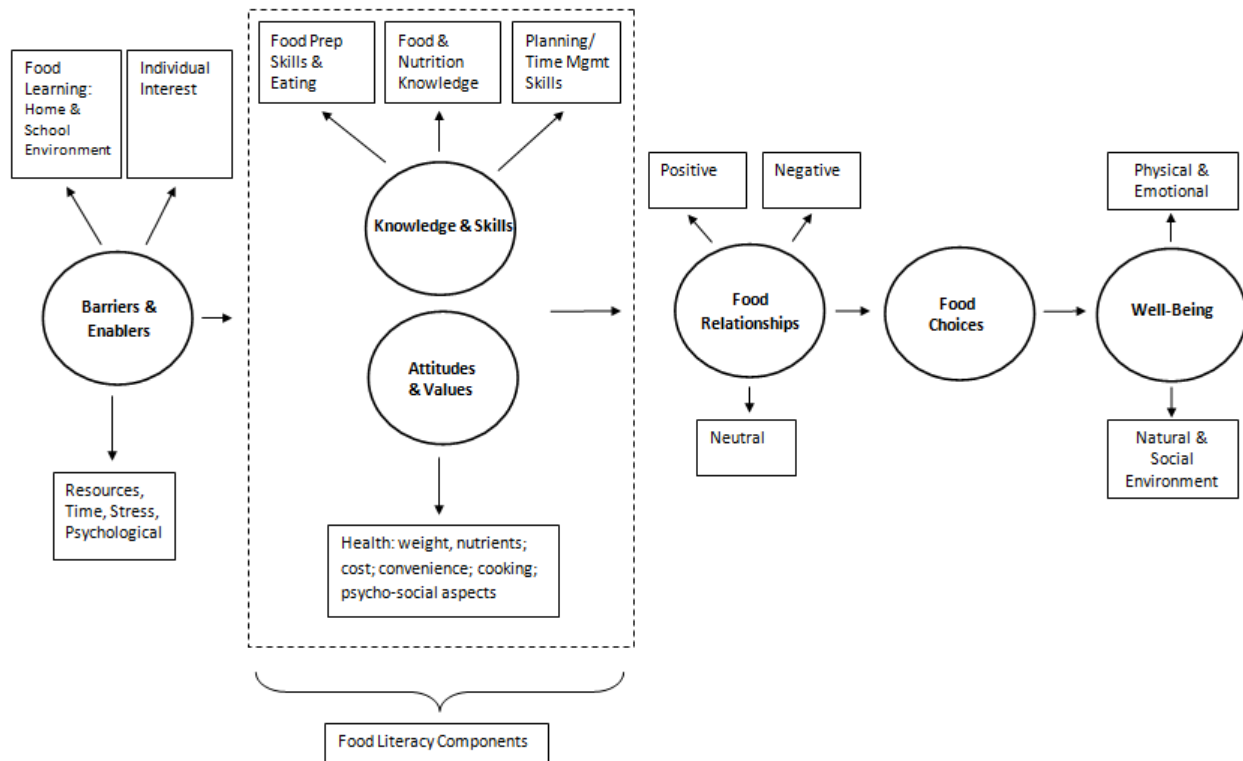


Figure 1: Food Literacy: Barriers & Enablers Framework

Moving forward, this framework has important implications for food and nutrition education programs, policies and research. First, the framework addresses key challenges or barriers that are associated with acquiring and using food literacy and can therefore be considered in the planning of food and nutrition education, programming and policy. Further, each food literacy component in this framework encompasses a wide spectrum of food-related knowledge, skills, attitudes and values that could be applied to curriculum and program development. Also, this framework sheds light on the complex roles played by “food

relationships” in individuals’ food choices, which is relevant in developing food literacy. Finally, this framework offers a holistic representation of food literacy by including contextual influences and the potential relationships towards health and well-being.

This framework can provide a starting point for further research, including exploration of the scope and boundaries of food literacy. It is necessary to empirically define and measure the components of food literacy, as well as the linkages and pathways between food literacy and well-being. Research is also needed to examine how to best develop food literacy through family, cultural, educational, and private sector institutions.

Strengths and Limitations

A strength of this research is that it is among the first studies to explore the emerging concept of food literacy from the perspectives of young Canadian adults. This has enhanced our understanding of participants’ food experiences, including challenges towards acquiring food literacy. The first limitation is the small sample size of Canadian university students in western Canada who may not be representative of views and experiences of young adults from other backgrounds and geographical areas. Second, the study did not quantitatively examine the food/nutrient intake of study participants, limiting the ability to draw conclusions about the diet quality of participants. As well, the study did not quantitatively measure “levels” of food literacy, limiting the ability to discuss participant’s individual food literacy. Finally, the study did not capture the full breadth of influences on the development and utilization of food literacy, which is highly complex due to individual (biological and psychological) and contextual factors.

Conclusion

This study has illuminated challenges and opportunities toward acquiring and using food literacy from the perspectives of Canadian young adults who recently transitioned to independent living. Possible solutions to these challenges are diverse and multifaceted, and depend on further research into personal, social and environmental contributing factors as well as health-related outcomes.

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