




Young Adults' Essential Food Skills and Cooking Perceptions: A Mixed Method Study


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Abstract

Our purpose in this research study was to examine perceptions of food and nutrition educators (FNEs, i.e., Registered Dietitians Nutritionists and Family and Consumer Science teachers) and young adults (ages 18–25) on the status of cooking and food skills among young adults. Using a cross-sectional survey design, FNEs ($n = 93$) and college-attending young adults ($n = 270$) in the United States completed electronic surveys. The qualitative and quantitative data were collected and analyzed using a convergent mixed-methods approach. The qualitative data from open-ended survey responses collected from young adults and FNEs were analyzed using *coding reliability thematic analysis*. The quantitative data used Fisher's Exact Test to compare the importance of food skills between FNEs and young adults. In the quantitative data, young adults and FNE reported the top five food skills essential for young adults with slight variations between the two groups. For young adults, "cooking meat and poultry" was their top skill while FNEs chose "reading and following a recipe" as the top food skill. Three themes were constructed through coding reliability thematic analysis: (1) definition of cooking, (2) perceptions of the purpose of cooking, and (3) young adults' autonomy in cooking. We concluded that young adults understood the benefits of cooking and eating healthily, but many felt overwhelmed by it. While educational food skill interventions should focus on foundational skills, cooking should be taught with consideration of young adults in mind (e.g., time and money limitations) to make the skills practical and enduring.

Keywords: *Cooking skills, food skills, young adulthood, mixed methods*

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Introduction

Young adulthood (ages 18–25) is recognized as a developmental time of transition (e.g., independent living, college, jobs), where some independence from parents is gained and lasting health behaviors are developed (Nelson et al., 2008; Vaterlaus et al., 2015). The social-ecological model (SEM) considers concentric ecosystem levels that acknowledge that many factors influence health behaviors and decisions (Freeland-Graves & Nitzke, 2013). The levels include individual factors (e.g., demographic characteristics, knowledge or skills), environmental factors (e.g., home, school, work), sectors of influence (e.g., healthcare systems, government, food industry), and social and cultural values (e.g., belief systems, priorities). Factors from each intersecting area influence how a person eats throughout their lifetime, impacting their overall health. According to the Centers for Disease Control and Prevention (CDCP), 60% of U.S. adults have at least one type of nutrition-related chronic disease costing the American public billions of dollars in healthcare and lost productivity (National Center for Chronic Disease Prevention and Health Promotion [NCCDPHP], 2021). Developing cooking skills before or during young adulthood may be a way to promote life-long healthful eating. Our current study was designed to understand the perceptions of young adults and food and nutrition educators (FNEs) (i.e., Family and Consumer Sciences [FCS] teachers, Registered Dietitian Nutritionists [RDNs]) regarding food skills in young adulthood.

Literature Review

Due to the numerous variables associated with cooking and the increased presence of convenience foods, it is difficult to have a standardized definition of cooking (Short, 2003; 2006). Cooking skills have generally represented the cooking method of chopping, mixing, boiling, frying, baking, and preparing foods. The concept of food skills emerged to represent cooking skills and meal and menu planning, such as budgeting, shopping, resourcefulness, and label reading; we use the term to encompass all aspects of food procurement and production (Lavelle et al., 2017). Within the SEM, the individual factors level includes food skills. Despite numerous intervention strategies aimed at teaching youth how to cook, a noted decline in food skills has been evident for several generations, including among today's young adults attending college (Caraher & Lang, 1999; Jaffe & Gertler, 2006; Ronto et al., 2016; Slater, 2013). Juxtaposed with the skills gap among generations and the increased consumption of ultraprocessed foods, Americans face rising rates of obesity and chronic disease, both of which are related to nutrition (OECD, 2011).

Compared with other countries, Americans spend the least amount of time cooking and continue to rely on prepared foods (Saksena et al., 2018). Prior to the COVID-19 pandemic, Americans spent more money eating food away from home than food at home (OECD, 2011). Nutritionally, food consumed away from home, along with ultraprocessed foods, are higher in calories, saturated fat, and sodium, linking them to nutrition-related chronic disease and altering the gut microbiome negatively (OECD, 2011; Marrón-Ponce et al., 2019; Martínez et al., 2020; Wu et al., 2020).

The reasons for lack of cooking at home cut across levels of the SEM model—individual factors (e.g., time, perceived lack of cooking skills), environmental factors (e.g., busy family schedules), sectors of influence (e.g., perceived higher cost of healthful foods), and social and cultural norms and values (e.g., stigma of cooking taking too much effort) (Berge et al., 2016; Garvin et al., 2019; Jabs et al., 2007; Kopetsky et al., 2021; Robson et al., 2016; Wolfson et al., 2016; Wilson et al., 2017; Young, 2018). However, learning to cook during adolescence has been shown to improve dietary intake, and these skills were later used in adulthood (Caraher & Lang, 1999; Hartmann et al., 2013; Laska et al., 2011; Utter et al., 2018; Vaitkeviciute et al., 2015). Moreover, cooking at home has been associated with better dietary choices and increased fruit and vegetable intake (Wolfson & Bleich, 2015; Hanson, 2008).

Teaching food skills to young adults occurs at the environmental factor level of SEM. It is unclear if contemporary young adults are learning food skills in their homes. It is possible that FNEs play a role in educating adolescents and young adults in food skills. Considered food and nutrition experts (Academy of Nutrition and Dietetics, n.d.), RDNs are specifically trained in educating the public on matters centering on food and nutrition (ACEND, 2021). FCS teachers in middle and high schools cover a set of curricula that include culinary arts, nutrition, food safety, and other life skills, such as personal finance and budgeting (AAFCS, n.d.). The FNE may be a resource in determining the critical food skills needed by all young adults.

Purpose of the Study and Research Questions

Young adulthood is recognized as a time of developing lasting health behaviors (Nelson et al., 2008; Vaterlaus et al., 2015), but there has been a decline in food skills (Caraher & Lang, 1999; Jaffe & Gertler, 2006; Ronto et al., 2016; Slater, 2013) despite the documented healthful consequences of learning to cook (Caraher & Lang, 1999; Hartmann et al., 2013; Laska et al., 2011; Utter et al., 2018; Vaitkeviciute et al., 2015). To understand this issue more clearly, our current mixed-method study was designed to explore experiences with food skills in young adulthood from the perspectives of college-attending young adults and FNE. Of specific interest was young adults' and FNEs' perspectives on which food skills are essential during young adulthood.

To guide our study, we used the following research questions:

1. Which food skills are essential for young adults to have?
2. How do young adults define and perceive cooking and how does their environment affect their perceptions of cooking?

Methods

Procedures and Participants

We collected and analyzed the qualitative and quantitative data using a convergent mixed method approach (Creswell & Plano Clark, 2011). Two groups of participants, FNEs and young adults, were recruited through different methods. Prior to data collection, we received IRB approval for the study procedures from the university. An informed consent form was provided as the first page of the survey to all participants, which then provided them access to the survey items. Surveys were developed in Qualtrics (see www.qualtrics.com).

Food and Nutrition Educators

The survey (one for RDNs and one for FCS teachers) was distributed to the respective professional social media pages with permission of page administrators. Surveys for RDNs were also sent to an email listserv administered by a director of a dietetic internship. Data were collected until saturation was reached (Creswell & Poth, 2018). We used a raffle for six \$25 gift cards to incentivize participation. We administered the surveys from September to October 2021.

Young Adults

Instructors of four 100-level survey/general education courses, representing a variety of majors and disciplines at one university, agreed to allow their students ($n = 411$) to participate. We introduced the study to each class in person or through an online course announcement. The survey link was provided on each course's online management system in late November to early December in 2021. Survey participants were given extra credit or course credit to incentivize participation. There was a 65.7% response rate.

Measurement

Food and Nutrition Educators

Although most questions were the same, we developed two unique surveys (one for RDNs and one for FCS teachers) to account for different group demographic information (e.g., only RDNs were asked if they were Registered Dietitians). The survey data from all surveys were compiled from a larger data set. For the purposes of the research questions in our study, eight questions were selected from the FNE surveys. Of the eight questions, four were open ended, three asked participants to reflect on statements, and the last question asked them to choose the top five food skills young adults need. Additionally, we derived and compiled the list of food skills from several sources (Lavelle et al., 2017; McGowan et al., 2017; Mills et al., 2016) to create the most comprehensive mix of skills.

Across the two surveys, the four open-ended questions covered the following categories: basic demographic information, their perceptions of cooking, and the food skills they think young adults need. To put the survey responses into context, a set of 5-point Likert scale (strongly disagree to strongly agree) questions were included to assess personal and basic perceptions of the professionals' cooking skills (e.g., There is a decline in cooking skills among young adults). To achieve clarity and ensure the surveys achieved their intended purpose, we completed cognitive pretesting (Collins, 2003) by sending the survey to three RDNs and two FCS teachers. Feedback from these professionals led to small revisions of items to increase clarity and understanding.

Young Adults

The young adult survey had 27 total questions that included questions regarding living situation (on or off campus), seven open-ended questions, choosing the top five food skills for young adults, and rating their confidence in certain food skills. The food skill list was the same as the one given to the FNE.

The online survey consisted of a mix of questions including having participants rank their top five food skills and their confidence level in cooking a meal on a five-point scale (not at all confident to completely confident). The survey also asked participants to provide information on basic demographic information and dietary habits. Additionally, we asked participants seven open-ended questions to expand on their perceptions of food and cooking and reflect on the top food skills ranked by the FNEs. Students in the survey were also asked to rank their confidence level using a 5-point scale (not at all confident to completely confident) of the skills listed as most important by the FNEs.

After the survey was developed, we used cognitive pretesting (Collins, 2003). College-attending young adults ($n = 13$) were given the survey questions and asked to answer each question. We asked all participants to comment on the questions (e.g., clarity, understanding, importance) and length of time to conduct the survey. Based on their responses, we made minor revisions to the survey questions for clarity purposes. For instance, many young adults did not know the meaning of "FCS." To clarify this term, culinary was added in parentheses after FCS on the survey.

Data Analysis

Research Question 1

For the first research question regarding the essential food skills young adults need, we asked each group of participants to rank the top five skills from a list of 24. We also asked FNEs whether food skills in adults and young adults had declined. We surveyed the FNEs first. We analyzed their results first to develop a list of five food skills they believed were essential for young adults. Young adults then completed surveys and were asked to rank their top five skills, based on the same list as given to FNEs. We also presented them with the five skills deemed essential by the FNEs and asked them about their level of confidence in each skill. We used frequencies and percentages to present the results. Because there were cell counts fewer than five, we used

Fisher's Exact Test to compare the prevalence of food skills and importance of these skills between the FNEs and young adults.

Research Question 2

We analyzed the open-ended survey responses from young adults and FNEs separately using coding reliability thematic analysis (Braun et al., 2018), aiming to report accurate and reliable information from the data. To begin, two independent researchers immersed themselves in the data to uncover key ideas and words repeatedly used in participant responses.

We achieved consensus in the coding by (a) discussing commonalities and initial themes, (b) agreeing on themes and creating coding rules, and (c) refining the coding scheme/rules by independently coding and comparing 10–15 participant responses. We (two researchers) agreed that the responses from FNEs and young adults were thematically similar and used one coding scheme. We then independently coded the data sets separately using the same scheme to account for any potential differences between the two groups. The percentage of agreement between coders was 93.9% for the FNEs' data and 90.8% for the young adults' surveys/interview data, which is appropriate for qualitative research (Creswell & Poth, 2018). We resolved coding disagreements through discussion and consulting the raw data. To increase trustworthiness, member checking (Creswell & Poth, 2018) was implemented by sending the completed results section to 65 young adult participants and 76 FNEs for review. Participants indicated that the results were representative of their experiences.

Results

In total, 93 FNEs ($n = 57$ RDNs, $n = 36$ FCS teachers) representing 35 different states in the U.S. participated. Most participants identified as female (98.9%). Their years of practice or teaching varied: 0–5 years (31.2%), 6–10 years (31.2%), 11–15 years (12.9%), 16–20 years (14.0%), and more than 20 years (17.2%). For RDNs, 40.4% indicated they worked in higher education, with clinical outpatients (17.5%) and clinical inpatients (14.0%) rounding out the top three practice areas.

In total, there were 270 young adult participants ($n = 204$ females, $n = 61$ males, $n = 4$ nonbinary, $n = 1$ preferred not to disclose gender) with an average age of 19.25 ($SD = 1.65$). Most participants identified as White (90.0%), while the remaining identified as American Indian (3.7%), Latinx (2.6%), multiracial (1.4%), Asian and Pacific Islander (1.5%), and African American (0.7%). While all were attending college at one university, there were 30 states represented as their states of home residence. Situated in the northern Rocky Mountains, the university demographics is comprised of a slight majority of nonresidents (51%) (Montana State University, 2023) and a majority of White students (93%), with smaller numbers of students of different races and ethnicities (5% American Indian/Alaskan Native, 5% Hispanic/Latino, 4% Asian, and 1% African American) (Montana State University, 2020). Most young adults lived on campus ($n = 158$; 58.3%) and consumed most of their meals in the dining halls with a meal plan; some ($n = 50$; 32.5%) reported using dorm communal kitchens. Off-campus young adults reported cooking for themselves (i.e., 5 or more times per week) at a higher rate than those living on campus (32.5% off campus; 5.8% on campus). The results are presented by research question.

Table 1. *FNEs' (n = 93) and young adults' (n = 270) perceived importance of food skills and percentage of young adult's confidence in top five food skills chosen by FNEs (n = 270)*

Skill	Food and Nutrition Educators (n = 93)		Young Adults (n = 270)		Fisher's Exact Test (p)	High Confidence Level Young Adults (n = 270)	
	n	%	n	%		n	%
Reading and following a recipe	63	67.9	107	39.4	0.001	252	93.4
Food safety	53	57.1	131	48.5	0.115	214	79.3
Basic knife skills	42	45.2	57	26.5	0.001	192	71.1
Using measuring cups, spoons, and scales	40	43.0	56	20.7	0.001	251	93.0
Understanding basic nutrition	37	39.8	142	52.6	0.022	200	74.1
Preparing a hot meal without a recipe	30	32.2	59	21.9	0.125		
Cooking/preparing vegetables	29	31.2	94	34.6	0.376		
Using an oven/stove	28	30.1	98	36.4	0.164		
Preparing a shopping list for grocery store	26	28.0	62	22.9	0.404		
Cooking meat and poultry	24	25.9	161	59.3	0.001		
Reading a food label	22	23.8	50	18.6	0.493		
Selecting other food items in the store such as meat, poultry, eggs, dairy, and processed foods	16	17.2	37	13.6	0.493		
Selecting fresh produce	11	11.9	35	13.0	1.000		
Cooking grains	7	7.6	11	4.1	0.274		
Cooking eggs	7	7.6	48	17.8	0.018		
Cooking legumes	6	6.6	3	1.5	0.013		
Using small appliances, such as mixers, food processors, and blenders	5	5.4	21	7.8	0.373		
Preparing soups or stews	2	2.2	13	4.8	0.731		
Food preservation	2	2.2	0	0.0	0.268		
Cooking/preparing fruit	2	2.2	19	7.0	0.076		
Using a microwave	2	2.2	23	8.4	0.050		
Baking cakes, cookies, muffins, and pastries	1	1.1	15	5.5	0.080		
Cooking pasta	1	1.1	52	19.1	0.001		
Baking yeast breads	0	0.0	5	1.5	0.330		

We asked FNEs their opinions regarding food skill decline in the U.S. The majority of FNEs agreed or strongly agreed that food skills have decreased among U.S. adults over 10 years (77.5%). They also agreed or strongly agreed that the average adult (61.3%) and young adult (81.7%) does not have foundational food skills. However, when young adults were asked about their overall confidence in cooking a meal for themselves, most reported high confidence (69.3%).

Research Question 2

Our aim with research question 2 was to understand, from the young adult and FNE perspectives, young adults' definitions and perceptions of cooking and potential environmental influences on their experiences. We identified three themes through coding reliability thematic analysis of FNEs' and young adults' open-ended responses: (1) definition of cooking, (2) perceptions of the purpose of cooking, and (3) young adults' autonomy in cooking (see Table 2).

Table 2. *Definition of cooking, perceptions of cooking, and environmental factors: theme and quotes*

Themes & Subthemes	Quote	
	Young Adult	Food and Nutrition Professional
Theme 1: Definition of Cooking		
Skills for nourishment	“Cooking is the ability to make a meal or food that is safe to consume and has nutritional value” (female, 19)	“The act of putting together ingredients to nourish the body, mind, and heart” (female, FCS)
Focus on ingredients	“I define cooking as creating a meal from fresh ingredients, combining them into a meal by following a recipe. I also see cooking as something done in a kitchen, typically including an oven/stove” (male, 18)	“Preparing a meal or dish using more than 2 ingredients; more than reheating in a microwave or a toaster oven” (female, FCS)
Theme 2: Perceptions of the purpose of cooking		
Perception of cooking	“Finding motivation at the end of a long day to still prepare a healthy, cooked meal instead of doing something quick and easy just to be done with it” (male, 19)	“Young adults seem to have a general lack of interest in cooking; Time—they are very busy with school, and it is easier to grab and go. And lastly, money—the belief that cooking is expensive” (female, RDN)
Cooking is art	“Cooking is an artistic science—timing out all components of a meal is a very difficult task, sometimes things take even longer than expected to cook or even shorter than expected” (female, 19)	“The art of using ingredients to create something eye appealing and incredible tasting to eat” (female, FCS)
Health	“Therapy for the mind, hobby for myself, and food for my tummy” (female, 19)	“A needed skill for healthy body!!” (female, FCS)

Connection	“I love cooking because it is a time to bond with the people you are cooking for, and it is also a place to display mastery” (male, 19)	“I think it’s important to stress the importance of cooking from a holistic standpoint. It’s economical, nutritious, rewarding, and it can bring families together more. Cooking is more than just eating a meal. It’s about taking care of yourself and others in so many different ways” (female, FCS)
Theme 3: Young adults’ autonomy in cooking		
Environmental influences hindering young adults’ cooking autonomy	“I think a lot of people don’t know the basics because their parents did everything for them” (male, 19)	“The fact that parents don’t make it a priority to teach their kids to cook. They think it is easier to either do it themselves or purchase prepackaged items” (female, FCS)
	“It is difficult to make healthy food choices because the unhealthy foods are easier to prepare” (female, 19)	“Companies like DoorDash make food carryout too convenient” (female, RDN)
Essential for young adults’ future	“I feel like all of these skills are very important for young adults to learn before they live by themselves. Ordering takeout everyday can lead to an unhealthy lifestyle and eventually lead to further problems down the line” (female, 18)	“I think learning basic life skills are very important. Factors that can help them throughout their life. We need to bring FCS back into all schools. Life skills are critical” (female, RDN)
	“Cooking is very important to learn because you need it if you want to live on your own. These skills are relevant to me because I live on my own and need them almost every day” (male, 19)	“If the young adult cannot prepare meals, they will have to eat out or ask others to feed them. With these skills the young adult is somewhat self-sufficient. It can also boost their self-confidence” (female, FCS)

Theme 1: Definition of Cooking

Participants (79.8% FNEs; 76.8% young adults) conceptualized the act of cooking in some similar and different ways. At a basic level, young adults and FNEs simply described cooking as the “preparation of food” or “preparing a meal.” However, many of the participants added additional phrases, such as the “ability,” “skill,” “art,” or “process” of preparing. FNE noted that cooking is a “science” and requires knowledge to perform it. Participants’ experiences are presented in two subthemes: (1) skills that lead to nourishment and (2) a focus on ingredients.

Skills that lead to nourishment

Participants (60.0% FNEs and 37.8% young adults) conceptualized cooking in terms of the use of specific skills that ultimately led to the body’s nourishment. Cooking was perceived to include multiple steps (e.g., “2 or more”) that ultimately required “different tools in the kitchen” (e.g., “oven,” “microwave,” “knives”) and “some type of heating to actually cook the food.” An FCS teacher (female) elaborated that cooking is, “Using pre-preparation techniques (measuring, cutting) to then assemble and/or apply heat transfer methods to foods in a way that makes them appealing and/or safe to eat.”

The ability to read and follow a recipe was also seen as a skill needed by most to engage in cooking. A FNE shared, “cooking is reading a recipe, following the directions to incorporate ingredients to make something edible” (female, FCS). Many young adults agreed that a recipe was “necessary,” but a smaller number shared that cooking could occur “with or without a recipe” (female, 18). Regardless of recipe use, participants indicated that the skills and steps in cooking required time. For instance, young adults explained that cooking takes “at least 20 minutes” (male, 19) or “making a true like sit down meal that takes around anywhere from 30–60 minutes to fully prepare” (male, 21). Both young adults and FNEs saw the development and use of skills that make up “cooking” as a way to “nourish” the body or provide “healthy” or “balanced” meals, which could be “the act of putting together ingredients to nourish the body, mind, and heart” (female, FCS).

A focus on ingredients

Participants (26.7% FNEs and 28.2% young adults) also focused on the ingredients used as they conceptualized cooking—“[Cooking is] mixing together various foods/ingredients to create something edible” (nonbinary, 18). This included both the number and types of ingredients. Focusing on the amount of ingredients, some indicated generally that cooking involves “multiple” ingredients, while others provided specific amounts, such as “more than 2 ingredients” (female, FCS) or “My parents told me that cooking requires at least 3 ingredients” (male, 18).

Cooking with “raw” ingredients was also noted, along with the term “cooking from scratch.” A small group of young adults and FNE were adamant that raw ingredients were required for cooking, but the larger sentiment was that cooking “doesn’t always have to be from scratch” (female, 22) and can include “more processed forms (buying chicken stock versus making own)” (RDN, female). Although, participants were clear that cooking was not occurring when food was “pre-made,” “heating something frozen,” or “adding water and microwaving.”

Theme 2: Perceptions of the Purpose of Cooking

Participants (74.4% young adults; 78.7% FNEs) shared their perceptions about the purpose of cooking to describe the reasons young adults cook/do not cook. Some participants (48.5% young adults and 39.1% FNEs) framed the purpose of cooking positively while explaining overall health, pleasure, coping, and social connection. Health was a key purpose for cooking as it was seen to provide nutrients “for overall wellness,” “to sustain healthy living,” or to have a “healthy diet.”

In addition to the direct health benefits of food, cooking was found by some to be a “stress reliever,” promote “enjoyment,” be “creative” or “artistic,” “more economical,” or to bring “pleasure” to themselves or others. Cooking was thought to promote connection: “[cooking] is a really good way to bring people together and just connect with people better” (male, 20). The connection afforded through cooking was interpersonal but also

seen to be more expansive and holistic—“[cooking] is an experience that connects people to food, community, civilization, nutrition, and is my favorite way to show people how much I value them in my life” (RDN, female).

In contrast, the conceptualization of cooking was also framed by “challenges” in cooking among young adults (74.8%) and FNEs (82.4%). While FNEs conceptualized cooking as “time intensive,” their contributions focused on how they believed young adults negatively conceptualized cooking. Some FNEs and young adults acknowledged the time commitment involved in cooking but believed that conceptualizing cooking as a major time burden was more related to young adults’ desire for “convenience” and may be more of an outcome of “laziness.” For young adults, cooking was thought to be “overwhelming,” “expensive” (e.g., “cost of certain ingredients” [female, 18], “no money to buy groceries” [female, 18]), “a chore,” “takes too much effort,” “boring,” and “taking a lot of time.” Cooking was thought to be time intensive because it involved shopping for food, cleaning up afterward, figuring out what to make, and “knowing where to start.”

Apart from time, young adults also expressed that they lacked interest or perceived cooking to be a chore—“I wish that cooking would be more enjoyable, as another reason I haven’t wanted to learn is the fact that I find cooking to be incredibly boring” (male, 18). FNEs believed that early family experiences might contribute to young adults’ perception of cooking being a burden. An RDN (female) reported, “So many people consider cooking hard and as fun as doing laundry, so it’s not valued in many families, so kids aren’t taught [food skills] from a young age.”

Theme 3: Young Adults’ Autonomy in Cooking

Participants (93.0% young adults; 84.0% FNEs) expounded on aspects of the young adults’ environment that either hinder or build autonomy in the kitchen. Participants conceptualized cooking autonomy as the ability of a young adult to cook a meal for themselves using basic tools and techniques. Participants’ responses are presented in two subthemes: (1) Environmental influences hinder young adults’ cooking autonomy and (2) Cooking autonomy is essential for young adults’ future.

Environmental influences hinder young adults’ cooking autonomy

Young adults (41.9%) and FNEs (82.3%) expressed key aspects of the young adult’s environment that affect their cooking autonomy. These included access to facilities/tools, healthy food, learning opportunities, and confidence. Young adults and FNEs explained that many young adults attend college and live in dorms or move away from their parents and have limited resources. The living situation of a college dorm or inadequate housing/resources may lead young adults to not have “access to my own kitchen” or “a functioning kitchen,” and if a kitchen was available, they often do not have adequate “equipment” or “resources” to cook in the kitchen.

Young adults and FNEs discussed overall issues with food access, including food insecurity, and most were concerned about young adults having access to “healthy foods.” They reported that the food system provides too many conveniences, such as the ease of ordering takeout or the availability of prepackaged foods that are “easier to prepare.” A young adult (female, 18) elaborated, “A lot of the time college students see the price of the prepackaged meal at the store and buy that. ...but what they’re missing is all the nutrients.” Some young adults and FNEs also related that the easy access to convenience foods has impacted young adults’ taste preferences—“[young adults] prefer junk food” (male, 24).

Aside from their current living situation and food access, young adults and FNEs discussed the young adults’ upbringing regarding autonomy and cooking. FNEs argued that contemporary home life and parents “don’t make it a priority to teach their kids to cook. They think it is easier to either do it themselves or purchase prepackaged items” (female, FCS) or “parents do not know how to cook and so do not know how to teach their children” (female, FCS). Another perspective was that parents underestimate children’s and adolescents’ ability to cook or do not create an effective learning environment—young adults lack the ability to cook for themselves because parents are “not allowing them to help [when they are younger] or thinking they are not capable, or they micromanage their attempts to help” (FCS teacher, female). Ineffective teaching strategies

could decrease young adults' willingness to cook out of fear of failure: "fear of failure [prevents young adults from cooking], as most people were taught that it isn't okay to do badly. I think it is a skill that many don't attain because it isn't always easy" (female, 18).

Some young adults affirmed the perspectives of the FNEs regarding early home life and parents and young adults' inability to cook. "Some [young adults] just never got the hands-on experience or motivation to cook their own meals, so it puts them at a disadvantage" (female, 18) or that they did not have "someone to learn from" (female, 18). The family context could also lead to decreased time and reliance on prepacked foods. For instance, a young adult (male, 19) disclosed, "a large percentage of meals [in my youth] were premade. I had divorced parents, and neither of them had a huge cooking background or knowledge base so cooking was always a chore to them."

Not having the opportunity to learn to cook led to lack of confidence in young adults' ability to cook. Young adults "are not confident in themselves [in their food skills]. I think that most people my age, especially guys, do not feel confident in the kitchen and I think that it is a very crucial part of becoming an adult" (male, 20). This lack of confidence or skill development decreased joy or interest in cooking (e.g., "The skills I am not confident in are the reason that I do not enjoy cooking" [female, 19]).

Finally, FNEs explained that there were barriers in their professional fields that prevented them from better preparing young adults to develop food skills that would allow them to be independent. FCS teachers encountered time constraints in their classes where they teach food skills that limits the time for students "to master it" (female, FCS). FCS teachers and RDNs also talked about secondary schools discontinuing FCS coursework (e.g., funding cuts) as a limitation. RDNs explained that space for teaching young adults' skills was a barrier (e.g., "Finding a place to do cooking demos is the challenge when I am requested to do them" [female, RDN]). Some RDNs also expressed that they do not teach food skills (e.g., "I do not have a lot of confidence in my own cooking abilities" [RDN, female]). Most FNEs (62.4%) reported that they wished they had more training in teaching food skills (e.g., "provide a webinar for professionals [on how] to teach [young adults] basic cooking skills" [RDN, female]) or may have food skills, but not the needed pedagogical knowledge. An RDN (female) elaborated:

I am self-taught and for that reason I'm not sure how to teach others in an interactive setting. I just kind of wing it with ingredients I'm familiar with, which means decreased confidence in being able to do anything in the kitchen or confidence in my own ability to teach.

Cooking autonomy is essential for young adults' future

More young adults (93.3%) than FNEs (32.9%) explained the importance of young adults developing cooking autonomy or provided suggestions to improve or build cooking autonomy. Participants highlighted that, as young adults live independently, they must know how to take care of their nutritional needs, and cooking skills are central to this process. Summarizing the general sentiment, a young adult (male, 19) articulated:

These [food] skills have allowed me to take care of myself sufficiently while I have been living on my own. They are extremely relevant and useful for having a healthy lifestyle. Cooking and food in young adulthood is important and sets the groundwork for how the young adults will think about nutrition in the future.

Because being able to cook independently was seen to be important, participants explained that adolescents and young adults should have education from parents, employment (e.g., "I work as a chef in a restaurant, and nothing has made me more confident in my food prep than the sheer number of hours I spend with food" [male, 22]), or formal education to promote skill development and confidence. Participants believed that food skills should be part of "required" coursework or a part of "core studies in high school and college" (FCS, female). Some young adults explained that taking a culinary FCS class in high school led to increased

confidence in food skills. Community courses that focused on teaching young adults were also encouraged. Participants believed increasing educational opportunities (formal and community-based) on food skills would benefit young adults' long-term health—"if [young adults] can learn how to cook for themselves they will be healthier in the long run" (female, 18).

Discussion

Our study examined FNEs' and young adults' perceptions and experiences related to food skill development among young adults. Participants addressed that their definitions of cooking focused on specific skills that led to nourishment and considered the number/types of ingredients used. The purpose of cooking was seen as being both positive and challenging. Participants did share foundational food skills that young adults needed and believed that developing independence in cooking was essential for young adults. However, participants perceived there were environmental influences that prevented cooking autonomy. The SEM provides a guide for understanding and contextualizing people's health decisions and behaviors (Freeland-Graves & Nitzke, 2013). The model focuses on concentric systems levels, and results will be discussed using these system levels: individual factors, environmental factors, sectors of influence, and social and cultural values.

Individual Factors

Individual factors include one's knowledge and skills, food preferences, time, financial resources, and demographic considerations, and these can inform a person's definition and perception of cooking. This was evident in the diverse definitions of cooking by participants from simple definition like "preparing food" to more complex definition requiring the inclusion of "raw" ingredients or a specified amount of time (e.g., 20 minutes to cook a meal). Defining cooking is complex and different for everyone, as it takes in the person's own ability and their access to ingredients (Short, 2003; 2006). When participants discussed the aspects of what did not constitute cooking (e.g., just heating things up), this is in contrast with previous research where older adults described cooking in a sense of "semi-homemade" using some processed ingredients to make a meal (Wolfson et al., 2016).

Participants indicated that often time constraints due to busy school, work, and life schedules left them with little time to cook. Their responses about the time-consuming nature of cooking and perceived higher cost of health food align with previous research (Kopetsky et al., 2021; Young, 2018). College students have reported that heavy school schedules prevented them from cooking (Marquis et al., 2019). Time and cost leave young adults overwhelmed and unsure as to where to begin. They seemed to want to cook more but some were at a loss of what to do. Furthermore, FNE responses affirmed previous research that reports an overall decline in food skills among adults (Caraher & Lang, 1999; Ronto et al., 2016; Slater, 2013).

In determining a base set of food skills for young adults, FNEs and young adults diverged slightly with young adults putting more emphasis on the basics like cooking meat and poultry and food safety. The difference between the two groups, especially regarding the top food skill selected by each, may indicate a difference in values. FNEs may value recipes as a teaching tool, as it was indicated in responses that it helped students with their reading skills, whereas young adults may see cooking meat and poultry as a basic necessity. Additionally, young adults' confidence levels for the FNEs' top five food skills indicated high confidence in the skills of reading a recipe and using measuring devices, thus indicating it may be of lesser importance to them. Confidence is correlated with repetition of skill, so if students feel they have had ample practice in reading and following a recipe, they may not see the need to rate this highly (Brasington et al., 2021). The confidence levels of our study are mostly consistent with experiences of young adults in other studies. Participants in other studies reported high confidence in preparing meals from basic ingredients, such as meat, poultry, and vegetables (Wilson et al., 2017; Larson et al., 2006); following a recipe (De Borba et al., 2021); knife skills (Larson et al., 2006; De Borba et al., 2021); and other mechanical food skills (Larson et al., 2006). Moreover,

more females (75.6%) participated in the young adult survey, which may skew the confidence levels slightly since cooking at home and the passing down of the skills still falls along gendered lines, with females doing most of the food preparation at home (Larson et al., 2006; Laska et al., 2011; Wolfson et al., 2016). Moreover, confidence may not translate to a young adult being competent in the skill, and additional research is needed to assess young adults' actual use of these skills.

Environmental Factors

Within SEM, environmental factors include settings like homes, schools, and communities. Participants in our study reported that family was crucial in determining eating habits and developing autonomy in the kitchen. However, FNEs perceived that homes were not always good learning environments due to several factors, including access to proper equipment and food. Similar to previous research (Lavelle et al., 2019), FNEs explained that some parents do not have food skills or may not be passing food skills down to their children for a myriad of reasons, including the mess it creates in the kitchen. Additionally, some homes may provide more access to more snack foods, which are energy dense and nutrient poor, thereby increasing caloric intake (Branscum & Sharma, 2011). Young adults explained that divorced parents or time-strapped working parents made cooking rarer in their households of origin. Women, in single-headed or dual-headed households, take more responsibility for the home food environment than men (Sharif et al., 2017), which could make it difficult to prepare meals or teach food skills in the wake of relationship dissolution or time constraints with working/childcare. In young adulthood, participants also mentioned relying on others, such as their parents or university meal plans, for their meals. Reliance on parents to make meals may have affected their ability to be autonomous and self-sufficient (Lahey, 2015).

Young adults' confidence level in the FNEs' five foundational food skills could indicate they have been exposed to them through various avenues, such as through family, school, or through the Internet (e.g., cooking videos or recipes). Young adults, and to a certain extent, FNEs, reported that the educational system influenced their food habits and food skills development. Participants perceived the educational system also seemed to hinder or affect cooking skill development, especially as FCS programs are in decline across the country and funding for teaching cooking classes seems to be insufficient or difficult to find (Arnett-Hartwick, 2017).

Food skills courses could also occur in the community by RDNs, but RDNs often felt at a loss for teaching food skills. Some reported not having adequate training to teach the skills or the kitchen space to teach cooking. This is largely due to the training for RDNs, which start in undergraduate programs. According to ACEND (2021), the curriculum for future dietitians encompasses coursework in the sciences (e.g., chemistry, anatomy), nutrition (e.g., medical nutrition therapy), and other fields differing from accredited culinary arts programs where specific food skills (e.g., sauteing meat, steaming vegetables) are required for future chefs (American Culinary Federation Foundation, n.d.). For the RDNs in our study who felt they had inadequate training in cooking, offering additional coursework in culinary arts may address this issue.

Sectors of Influence

Sectors of influence include government and the food industry. Participants' comments echoed previous research in that the food system itself is a major factor in consumption habits because of the time constraints experienced by young adults and families (Kopetsky et al., 2021). In the contemporary food system, using convenience foods seems to be a natural way to eat and cook. With the rising cost of food due to inflation (Grant, 2023), shopping for food is becoming even more challenging to everyone, including young adults who might be food insecure (Nikolaus et al., 2020).

Social and Cultural Norms and Values

Self-sufficiency and community were common values that emerged around food skills in our study. Young adults valued the nutritional aspect of cooking, and a few mentioned finding it enjoyable. In line with existing research (Utter et al., 2018; Vaitkeviciute et al., 2015), participants explained that young adults needed to develop cooking autonomy so they could be self-sufficient in nourishing their bodies and maintaining lifelong health. Further, conviviality (i.e., from French culture meaning sharing good food with good company [Pettinger et al., 2006]) emerged as a value. Participants explained that the primary purpose of cooking was to connect with family and friends over meals.

Limitations

Limitations of our research include the demographics of the participants. Nearly all the FNEs identified as female, which is a slightly higher percentage than the average for RDNs (92%) (Rogers, 2021) and FCS teachers (85%) (Zippia, 2024). The population of young adults in our study was chosen from a campus located on a predominantly White campus, and most young adults identified as female. Future research could replicate our study with more People of Color, students from diverse cultural groups, and young adults not attending college to find best practices and needs for young adults in the kitchen. Young adults not attending college may offer more insight as to which skills are needed to maintain a healthful diet, especially if socioeconomic issues are a factor. The skills listed in our study were compiled from several sources rooted in European cooking methods (e.g., McGowan et al., 2017). While these cooking methods are standard in culinary schools around the country (ACFF, n.d.) they may not be appropriate for all cultural groups. Research with specific cultural groups would be an important next step.

Implications

The SEM highlighted that young adults' food skills are influenced by multiple contextual factors. There were barriers (e.g., not learning in the home/at school, time, money, prevalence of convenience foods) and benefits (e.g., cook autonomy, health, social) to cooking that were identified in our study. A key implication from our study is that while educational food skill interventions should focus on foundational food skills, to make the skills practical and enduring, they need to be contextualized in the system levels articulated in the SEM (e.g., teaching food skills, but not addressing cooking in the context of time or money limitations may miss the mark for young adults). Most young adults in the study saw the value and importance of cooking autonomy, and this may be a meaningful overarching objective of food skill interventions. In terms of research, the next logical step would be to assess what food skills are being taught by FNEs in their formal and community education settings. Research could focus on whether these align with the skills identified in our study and if their pedagogical approaches account for contextual issues influencing use of food skills.

References

- Academy of Nutrition and Dietetics. (n.d.). *Practice*. <https://www.eatrightpro.org/practice>
- Accreditation Council on Education in Nutrition and Dietetics (ACEND). (2021). *Crosswalk of knowledge and competency statements between the 2022 and 2017 accreditation standards for CP, DI, DPD, and FDE programs*.
- American Association of Family and Consumer Sciences (AAFCS). (n.d.). *What is FCS?* AAFCS. <https://www.aafcs.org/about/about-us/what-is-fcs>
- American Culinary Federation Foundation (ACFF). (n.d.). *Culinary arts program: Required knowledge and competencies for the ACFEF Accrediting Commission*.
- Arnett-Hartwick, S. (2017). Profile and promotion of the Family and Consumer Sciences teacher education student. *Journal of Family and Consumer Sciences*, 34 (special edition 2), 8–17.
- Berge, J. M., Hanson, C., & Draxten, M. (2016). Perspectives about family meals from racially/ethnically and socioeconomically diverse households with and without an overweight/obese child. *Childhood Obesity*, 12(5), 368–376. <http://dx.doi.org.proxybz.lib.montana.edu/10.1089/chi.2015.0215>
- Branscum, P., & Sharma, M. (2011). Predictors of snack food consumption among upper elementary children using social cognitive theory. *Journal of Social, Behavioral & Health Sciences*, 5(1), 23–37. <https://doi.org/10.5590/JSBHS.2011.05.1.03>
- Brasington, N., Jones, P., Bucher, T., & Beckett, E. L. (2021). Correlations between self-reported cooking confidence and creativity and use of convenience cooking products in an Australian cohort. *Nutrients*, 13, 1724. <https://doi.org/10.3390/nu1305724>
- Braun, V., Clarke, V., Terry, G., & Hayfield, N. (2018). Thematic analysis. In P. Liamputtong (Ed.), *Handbook of research methods in health and social sciences* (pp. 843–860). Springer.
- Caraher, M., & Lang, T. (1999) Can't cook, won't cook: A review of cooking skills and their relevance to health promotion. *International Journal of Health Promotion and Education*, 37(3), 89–100.
- Collins, D. (2003). Pretesting survey instruments: An overview of cognitive methods. *Quality of Life Research*, 12(3), 229–238.
- Creswell, J. W., & Plano Clark, V. L. (2011). *Designing and conducting mixed methods research*. Sage.
- Creswell, J. W., & Poth, C. N. (2018). *Qualitative inquiry and research design: Choosing among five approaches* (4th ed.). Sage.
- De Borba, T., Da Silva, M., Jomori, M., Bernardo, G., Fernandes, A., Proença, R., Rockenbach, G., & Uggioni, P. (2021). Self-efficacy in cooking and consuming fruits and vegetables among Brazilian university students: The relationship with sociodemographic characteristics. *British Food Journal* (1966), 123(6), 2049–2065. <https://doi.org/10.1108/BFJ-04-2020-0311>
- Freeland-Graves, J. H., & Nitzke, S. (2013). Position of the Academy of Nutrition and Dietetics: Total diet approach to healthy eating. *Journal of the Academy of Nutrition and Dietetics*, 113(2), 307–317. <https://doi.org/10.1016/j.jand.2012.12.013>
- Garvin, T. M., Chiappone, A., Boyd, L., Stern, K., Panichelli, J., Edwards Hall, L. A., & Yaroch, A. L. (2019). Cooking matters mobile application: A meal planning and preparation tool for low-income parents. *Public Health Nutrition*, 22(12), 2220–2227. <http://dx.doi.org.proxybz.lib.montana.edu/10.1017/S1368980019001101>
- Grant, D. (2023, January 4). Food price inflation to remain high; impacts variable food. *Daily Herald* (Arlington Heights, IL: Arlington Heights Ed).

- Hansen, S. (2008). Society of the appetite. *Food, Culture, & Society*, 11(1), 49–67. <https://doi.org.proxybz.lib.montana.edu/10.2752/155280108X276050>
- Hartmann, C., Dohle, S., & Siegrist, M. (2013). Importance of cooking skills for balanced food choices. *Appetite*, 54(1), 125–131. <https://doi.org/10.1016/j.appet.2013.01.016>
- Jabs, J., Devine, C. M., Bisogni, C. A., Farrell, T. J., Jastran, M., & Wethington, E. (2007). Trying to find the quickest way: Employed mothers' constructions of time for food. *Journal of Nutrition Education and Behavior*, 39(1), 18–25. <https://doi.org/10.1016/j.jneb.2006.08.011>
- Jaffe, J., & Gertler, M. (2006). Victual vicissitudes: Consumer deskilling and the (gendered) transformation of food systems. *Agriculture and Human Values*, 23(2), 143–162. <https://doi.org/10.1007/s10460-005-6098-1>
- Kopetsky, A., Baker, S., Hobbs, K., & Robson, S. (2021). Understanding mothers' perceptions of food skills: A qualitative study. *Journal of the Academy of Nutrition and Dietetics*, 121(7), 1339–1349.e2. <https://doi.org/10.1016/j.jand.2021.01.001>
- Lahey, J. (2015). *The gift of failure: How the best parents learn to let go so their children can succeed*. Harper.
- Larson, N. I., Perry, C. L., Story, M., & Neumark-Sztainer, D. (2006). Food preparation by young adults is associated with better diet quality. *Journal of the American Dietetic Association*, 106(12), 2001–2007. <https://doi.org/10.1016/j.jada.2006.09.008>
- Laska, M. N., Larson, N. I., Neumark-Sztainer, D., & Story, M. (2011). Does involvement in food preparation track from adolescence to young adulthood and is it associated with better dietary quality? Findings from a 10-year longitudinal study. *Public Health Nutrition*, 15(7), 1150–1158. <https://doi.org/10.1017/S1368980011003004>
- Lavelle, F., Benson, T., Hollywood, L., Surgenor, D., McCloat, A., Mooney, E., Caraher, M., & Dean, M. (2019). Modern transference of domestic cooking skills. *Nutrients*, 11(4), 870. <https://doi.org/10.3390/nu1104870>
- Lavelle, F., McGowan, L., Hollywood, L., Surgenor, D., McCloat, A., Mooney, E., Caraher, M., Raats, M., & Dean, M. (2017). The development and validation of measures to assess cooking skills and food skills. *International Journal of Behavioral Nutrition and Physical Activity*, 14(1), 118. <https://doi.org/10.1186/s12966-017-0575-y>
- Marquis, M., Talbot, A., Sabourin, A., & Riopel, C. (2019). Exploring the environmental, personal and behavioural factors as determinants for university students' food behaviour. *International Journal of Consumer Studies*, 43(1), 113–122. <https://doi.org/10.1111/ijcs.12490>
- Marrón-Ponce, J. A., Flores, M., Cediél, G., Monteiro, C. A., & Batis, C. (2019). Associations between consumption of ultra-processed foods and intake of nutrients related to chronic non-communicable diseases in Mexico. *Journal of the Academy of Nutrition and Dietetics*, 119(11), 1852–1865. <https://doi.org/10.1016/j.jand.2019.04.020>
- Martínez L., Edwin E., & Segura Campos, M. R. (2020). Effect of ultra-processed diet on gut microbiota and thus its role in neurodegenerative diseases. *Nutrition*, 71, 110609. <https://doi.org/10.1016/j.nut.2019.110609>
- McGowan, L., Caraher, M., Raats, M., Lavelle, F., Hollywood, L., McDowell, D., Spence, M., McCloat, A., Mooney, E., & Dean, M. (2017). Domestic cooking and food skills: A review. *Critical Reviews in Food Science and Nutrition*, 57(11), 2412–2431. <https://doi.org.proxybz.lib.montana.edu/10.1080/10408398.2015.1072495>

- Mills, S., White, M., Wrieden, W., Brown, H., Kwasnicka, D., Halligan, J., Robalino, S., & Adams, J. (2016). Systematic review of the health and social determinants and outcomes of home cooking. *Journal of Epidemiology and Community Health*, *70* (Suppl 1), A73. <https://doi.org/10.1136/jech-2016-208064.144>
- Montana State University. (2023). *About Montana State University Bozeman*. <https://www.montana.edu/about/#stats13>
- Montana State University. (2020). *Diversity at a glance*. <https://www.montana.edu/diversity/glance/index.html>
- National Center for Chronic Disease Prevention and Health Promotion. (2021, January 12) *Chronic diseases in America*. Centers for Disease Control and Prevention. <https://www.cdc.gov/chronicdisease/resources/infographic/chronic-diseases.htm>
- Nelson, M. C., Story, M., Larson, N. I., Neumark-Sztainer, D., & Lytle, L. A. (2008). Emerging adulthood and college-aged youth: An overlooked age for weight-related behavior change. *Obesity*, *16*(10), 2205–2211. <https://doi.org/10.1038/oby.2008.365>
- Nikolaus, C., An, R., Ellison, B., & Nickols-Richardson, S. (2020). Food insecurity among college students in the United States: A scoping review. *Advances in Nutrition (Bethesda, Md.)*, *11*(2), 327–348. <https://doi.org/10.1093/advances/nmz111>.
- Organisation for Economical Co-Operation and Development (OECD). (2011). *Society at a glance 2011: OECD social indicators*. OECD Publishing. https://doi.org/10.1787/soc_glance-2011-en.
- Pettinger, C., Holdsworth, M., & Gerber, M. (2006). Meal patterns and cooking practices in Southern France and Central England. *Public Health Nutrition* *9*(8), 1020–1026. <https://doi.org/10.1017/PHN2006945>
- Robson, S. M., Crosby, L. E., & Stark, L. J. (2016). Eating dinner away from home: Perspectives of middle-to high-income parents. *Appetite*, *96*, 147–153. <https://doi.org/10.1016/j.appet.2015.09.019>
- Rogers, D. (2021). Report on the Academy/Commission on Dietetic Registration 2020 Needs Satisfaction Survey. *Journal of the Academy of Nutrition and Dietetics*, *121*(1), 134–138. <https://doi.org/10.1016/j.jand.2020.10.018>
- Ronto, R., Ball, L., Pendergast, D., & Harris, N. (2016). What is the status of food literacy in Australian high schools? Perceptions of home economics teachers. *Appetite*, *108*, 326–334. <https://doi.org/10.1016/j.appet.2016.10.024>
- Saksena, M. J., Okrent, A. M., Anekwe, T. D., Cho, C., Dicken, C., Effland, A., Elitzak, H., Guthrie, J., Hamrick, K. S., Hyman, J., Jo, Y., Lin, B., Mancino, L., McLaughlin, P. W., Rahkovsky, I., Ralston, K., Smith, T., Stewart, H., Todd, J., & Tuttle, C. (2018). *America's eating habits: Food away from home*. United States Department of Agriculture. <http://www.ers.usda.gov>.
- Sharif, M., Alcalá, H., Albert, S., & Fischer, H. (2017). Deconstructing family meals: Do family structure, gender and employment status influence the odds of having a family meal? *Appetite*, *114*, 187–193. <https://doi.org/10.1016/j.appet.2017.03.032>
- Short, F. (2003). Domestic cooking practices and cooking skills: Findings from an English study. *Food Service Technology*, *3*(3–4), 177–185. <https://doi.org/10.1111/j.1471-5740.2003.00080.x>
- Short, F. (2006). *The meaning of cooking in everyday life*. Berg.
- Slater, J. (2013). Is cooking dead? The state of home economics food and nutrition education in a Canadian province. *International Journal of Consumer Studies*, *37*(6), 617–624. <https://doi.org/10.1111/ijcs.12042>

- Utter, J., Larson, N. I., Laska, M. N., Winkler, M., & Neumark-Sztainer, D. (2018). Self-perceived cooking skills in emerging adulthood predict better dietary behaviors and intake 10 years later: A longitudinal study. *Journal of Nutrition Education and Behavior*, *50*(5), 494–500. <https://doi.org/10.1016/j.jneb.2018.01.021>
- Vaitkeviciute, R., Ball, L. E., & Harris, N. (2015). The relationship between food literacy and dietary intake in adolescents: A systematic review. *Public Health Nutrition*, *18*(4), 649–658. <https://doi.org/10.1017/S1368980014000962>
- Vaterlaus, J. M., Patten, E. V., Roche, C., & Young, J. A. (2015). Getting healthy: The perceived influence of social media on young adult health behaviors. *Computers in Human Behavior*, *45*, 151–157. <https://doi.org/10.1016/j.chb.2014.12.013>
- Wilson, C. K., Matthews, J. I., Seabrook, J. A., & Dworatzek, P. D. N. (2017). Self-reported food skills of university students. *Appetite*, *108*, 270–276. <https://doi.org/10.1016/j.appet.2016.10.011>
- Wolfson, J. A., & Bleich, S. N. (2015). Is cooking at home associated with better diet quality or weight-loss intention? *Public Health Nutrition*, *18*(8), 1397–1406. <https://doi.org/10.1017/S1368980014001943>
- Wolfson, J. A., Bleich, S. N., Smith, K. C., & Frattaroli, S. (2016). What does cooking mean to you?: Perceptions of cooking and factors related to cooking behavior. *Appetite*, *97*, 146–154. <https://doi.org/10.1016/j.appet.2015.11.030>
- Wu, Q., Chen, T., El-Nezami, H., & Savidge, T. C. (2020). Food ingredients in human health: Ecological and metabolic perspectives implicating gut microbiota function. *Trends in Food Science & Technology*, *100*, 103–117. <https://doi.org/10.1016/j.tifs.2020.04.007>
- Young, P. A. (2018). Perceptions of obese African American women regarding altering traditional soul food preparation. *Journal of Social, Behavioral & Health Sciences*, *12*(1), 84–99. <https://doi.org/10.5590/JSBHS.2018.12.1.06>
- Zippia: The career expert. (updated March 14, 2024). *Family and Consumer Sciences Teacher: Demographics and Statistics in the U.S.* <https://www.zippia.com/family-consumer-science-teacher-jobs/demographics/>



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