

HOW DO THEY FEEL ABOUT COOKING? THE STATUS OF COOKING AND
FOOD SKILLS AMONG YOUNG ADULTS

by

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DEDICATION

This is dedicated in memory to my first cooking teachers: Great-Grandma Trautwein, Grandma Cook, and my mom, Judy Shoemaker. I thank them for their life-long lessons and recipes, many of which I use today and have passed along to my own children and students.

This is also dedicated to my young adult kids, Caitlynn and Miles, who are entering adulthood, ready to take on the future. May you be sent into the world with confidence in your cooking skills to make a meal that is more than just ramen. Always be curious, open, and adventurous with food.

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ABSTRACT

With negative perceptions and many cited barriers to cooking, along with the advances in technology promoting convenience foods, young adults may be entering adulthood without the basic cooking skills (CS) and food skills (FS) needed to stave off increases in obesity and chronic disease. Most of the previous research regarding the decline of CS and the perceptions of cooking have relied on quantitative designs. With few qualitative studies available, this study expands quantitative studies beyond a focus of older generations and shifts the focus to experiences within young adulthood. A historical overview of Home Economics in the United States and the state of Montana provided context for the current situation of declining cooking skills among several generations in America. A phenomenological qualitative approach was used to understand the shared experience of a phenomenon, that of the loss of CS and FS among young adults in the United States (Creswell & Poth, 2018). A total of 93 surveys from food and nutrition professionals (i.e., Registered Dietitian Nutritionists [RDN] and Family and Consumer Sciences [FCS] teachers) and 270 surveys (and 9 interviews) with young adults (ages 18-25) were completed. Young adults understood the health and nutritional benefits of CS and FS as they entered adulthood. They elaborated on the challenges related to cooking such as time, tight financial resources, and the lack of CS and FS. Food and nutrition professionals provided insight into challenges to teaching CS, such as lack of time and funding. Participants, collectively, shared that a hands-on approach to teaching CS and FS while utilizing social media would be the best strategy to address this issue. Understanding the historical roots of CS decline aligned with the contemporary experiences shared by participants, this research indicates that young adults want to learn CS and FS that are relevant to their own lives as they enter adulthood. By utilizing practical teaching solutions and concentrating on the foundational CS, young adults can have a better understanding of food and nutrition, and this may be an approach to address the nutrition-related health issues facing the United States.

CHAPTER ONE

HOME ECONOMICS AND COOKING SKILLS: A HISTORICAL PERSPECTIVE

Introduction

The historical perspective of home economics and cooking skill development provides an understanding of the educational opportunities in relation to domestic skills, such as cooking, offered to many young adults over the past 120 years and how it has influenced cooking skill development. As a profession and degree program, home economics has been influenced by many factors, including social changes and changes in agriculture, food manufacturing, and technology, thus altering its scope and curriculum to meet the needs of the time. The following history provides insight to the present phenomena, that of cooking skill decline among adults in the United States (U.S.) by offering possible reasons for the current status of cooking among young adults.

The history of home economics starts well before Ellen Swallow Richards formed the American Home Economics Association (AHEA) in the early 20th century (Stage, 1997a). It could be argued that it starts at the point where hunter gatherers began farming and settling into areas and ultimately creating cities, towns, and territories. Prior to this, women and men both had their responsibilities regarding domestic life but moving from a nomadic culture to settled societies cemented women as the caretakers of the household.

As such, the woman became the domestic servant, responsible for cooking, cleaning, and child rearing. By the time Richards proposed adding value to women's housework, women had

been running households for many centuries, toiling over squalid conditions and in some cases, having little to eat other than stew and porridge (Cowan, 1983; Freedman, 2019).

Before industrialization, household duties were split between the sexes in mixed sex partnered households. While women cooked and cleaned, men looked after the animals, butchering, and farming (McWilliams, 2005). The term husbandry, referring to the raising of livestock, stems from the duties of the head male member of the household (McWilliams, 2005). Even today, despite efforts of men to assist with household duties, a divide among the chores in households is still evident. Women still do the bulk of cleaning, cooking, and childcare, no matter how busy their work schedule, whereas men gravitate towards the perceived more masculine duties of mowing the lawn and taking out the garbage. Even food preparation finds itself in a gendered role, as women spend more time cooking in the kitchen while men find themselves cooking outside, often recreationally, on a charcoal or gas grill (Pollan, 2013).

Technological innovations in agriculture during the 20th century moved much of the rural farm labor of raising animals and growing food for the household to the industrialized food system where in 2020 only one percent of the United States population identify as farmers (Center for Sustainable Systems, 2020). Food procurement and preparation once done by men and women living in rural areas are now the responsibility of food companies who grow, process, and distribute food to families and individuals in the United States. The average American merely needs to stop at a grocery store and choose food that is often ready to eat.

Witnessing the beginning of industrialization, Ellen Richards (1911) recognized the need to address the growing concern over the perception of women's work in the household and the issue of deskilling among young women. In her book, *Food Materials and Their Adulterations*,

she wrote, “Just now educators are complaining of all classes of students, saying they are too careless or too indolent to think for themselves, that they wish their food knowledge, like their food, ‘predigested.’ Women of sense ought not to shirk a little exercise of their minds” (p. 7).

With changes in technology and society, Richards (1911) reflected on the loss due to the rapidly changing technology and life:

The methods of their mothers and grandmothers will no longer answer. *They* had no trouble with their soap, for they superintended its making and knew its properties. *They* knew how colored fabrics should be washed, for they had done the coloring under their own eyes. *We* buy everything and have no idea of the processes by which the articles are produced, and have no means of knowing beforehand what the quality may be. Relatively, we are in a state of barbarous ignorance, as compared with our grandmothers about the common articles of daily use. (p. 5; italics, Richards)

A chemist and instructor at the Massachusetts Institute of Technology (MIT), Richards created the Women’s Lab, which ran from 1876-1883, researching the adulteration of food and contamination of water sources. Through her work, Richards became an expert in the sciences of sanitation and nutrition (Goldstein, 2012). She wanted to bring together science and social change to prepare women, as homemakers, to assume responsibility as consumers (Goldstein, 2012). To Richards, the home was key to the making of a citizen (Goldstein, 2012).

Using the Women’s Lab as a guide, Richards created the American Home Economics Association, which sought to bring home economics into colleges and universities across the United States. The courses taught women how to run their households more efficiently while also giving them an education. For Richards, this accomplished two goals. First, she wanted women freed from the burdens of managing work at home and second, she wanted women to receive a college education (Richards, 1911).

If women were educated in the 19th and early 20th centuries, they were put into programs such as teaching, nursing, or secretarial work (Stage, 1997b). It was hoped that offering another

avenue for women to be educated would elevate women's legitimacy in both the home and the workplace. Around the turn of the 20th century, domestic labor for women was fulltime work, accounting for 44 hours per week (Bowers, 2000). The upper middle class had domestic servants, typically young women from lower income families and African American women (Cowan, 1983). At this time, just under 21% of women over the age of 15 worked as a paid laborer and only 5.6% of married women worked outside the home (Bowers, 2000). Additionally, around 1900, roughly 60% of the United States population lived in rural areas (Bowers, 2000).

By the 1920s, more women started to work outside the home, including married women (Bowers, 2000). However, even if a woman wanted to work outside the home, she was met with resistance. Some employers simply did not want to hire married women and the normal work week made it difficult to do so when raising children (Coontz, 1992), even though the average time spent on domestic duties had decreased to 30 hours per week in the 1920s (Bowers, 2000).

The Early Years: 1890-1944

Lake Placid Conferences 1899-1908

Richard's mission to educate women on running more efficient households hinged on new technology entering the home. Houses at the turn of the 20th century changed drastically with the modernization of kitchen appliances, along with indoor plumbing and electricity becoming the norm in urban areas by the 1930s (Bowers, 2000). Because of the modernization of the household, the skills required also changed. As industrialization took hold in the 20th century, it improved home technology to the point where families did not need servants or other young

women to assist with laundry or household cleaning. Machines took the place of the manual labor (Cowan, 1983).

From 1899-1908, women concerned with the declining domestic skills of young women, met at the first conferences of the American Home Economics Association in Lake Placid, New York (Lake Placid Conference on Home Economics, 1901).¹ Spearheaded by Richards, these conferences provided the basis of what home economics would become (Stage, 1997a). Attended by mostly women, debates over curriculum and best practices emerged, along with many discussions on what home economics is and how it should be defined (Stage, 1997b).

Even though these conferences intended on defining home economics education and promoting it around the country, domestic science (or domestic economy or home economics) programs in land grant colleges and universities had been in existence before 1899 (Dreilinger, 2021). For instance, Iowa State University's first domestic science courses started in 1871, Kansas State University's in 1873, and the University of Illinois's in 1874 (Dreilinger, 2021). Those in attendance at the first Lake Placid conference worked at or were educated at schools in the northeast (Dreilinger, 2021).

In an effort to legitimize Home Economics education, conference participants toiled over questions about what, why, and where the subject should be taught. Should home economics be taught in high school, college, or both? What types of courses should be included? What types of skills should be taught? With Richard's background in chemistry, it seemed natural to center part

¹ The conferences ran the following dates and years: First Conference - September 19-23, 1899; Second Conference - July 3-7, 1900; Third Conference - June 28-July 5, 1901; Fourth Conference - September 16-20, 1902; Fifth Conference - July 7-9, 1903; Sixth Conference - September 19-24, 1904; Seventh Conference - June 26-July 1, 1905; Eighth Conference - September 15-22, 1906; Ninth Conference - July 1-6, 1907; Tenth Conference - July 6-10, 1908.

of the curriculum in hard sciences of chemistry, biology, and physics while also including psychology, sociology, food science, nutrition, and hygiene (Lake Placid Conference on Home Economics, 1901).

Many felt that by adding science courses, it would help elevate home economics to a respected degree program. Even the name home economics was not good enough for some, who suggested the name should be changed to domestic science (Goldstein, 2012) or home ecology (Stage, 1997b). Semantics was fully at play as some schools (college and high school) used home economics while others changed to domestic science (Goldstein 2012). Semantics aside, the uphill battle towards legitimizing the field continued as any household duties were seen as women's work and therefore, as not important (Elias, 2008).

A growing concern for women at the turn of the 20th century was the status of women in society. Educators at the conference understood the issues facing the profession and women. According to Stage (1997a), at this time, “female professional” was a contradiction in terms, as “professional” was a term reserved for men and anything associated with home was distinctly female. Therefore, a female could not be a professional, especially if she worked in home economics (Stage, 1997a).

The idea of valuing women's work in the home seemed to stand in contrast with a capitalist economy. Where home economists saw their work as valuable, creating good citizens and consumers,² in a capitalist society, unpaid labor was not valued (Braverman 1998; Marx, 1976). Marx (1976) defined labor in capitalism as a commodity— “The worker sells the labour power in order to live, thus securing his existence” (pt 1, p 19). However, female domestic work

² Richards wanted women to ultimately be better consumers

fell outside this construct. Their work is not considered a commodity that can be sold in the marketplace (Braverman, 1998). However, once a woman does the same work – cooking, sewing, or cleaning – outside the home for a wage, then now her work is of value and part of the marketplace and therefore a commodity (Braverman, 1998).

While Braverman (1998) attempts to define the value of labor for women, Beechey (1982) offered additional insight and criticism of his work as it relates to women's value in the workplace. Beechey (1982) states that Braverman "also ignores the fact that the work of women wage labourers has rarely been defined as skilled because women have not been very successful at following any of the routes to the acquisition of skill -- education, training and apprenticeship in the case of objective skill, and successful collective bargaining in the case of conventionally defined skill" (p. 65). According to Beechey (1982), those doors were closed to women.

The social framework of the early 20th century placed women in the center of household, leaving them responsible for child rearing, cooking, cleaning, and other domestic duties even if they worked outside the home in factories or as teachers, nurses, and secretaries. Home economists attempted to add value to the work of the home by creating education programs and eventually using these skills in paid work in schools and universities, as well as by the United States government and private business sector (Goldstein, 2012).

In addition to value of work, educators attending the Lake Placid conferences also felt that home economics would bring freedom and independence to women through education and embracing modern advances in technology. Caroline Hunts (1901), in her speech, "Revaluations," at the Third Conference, remarked on the freedom home economics could bring to women.

The final test of teaching home economics is freedom. If we have unnecessarily complicated a single life by perpetuating useless conventions or by carrying the values of one age over into the next, just so far we have failed. If we have simplified one life and released in its energy for its own expression, just so far have we succeeded. (p. 89)

Hunts advocated for home economics to move forward and build skills necessary for a modern society: “The woman who today makes her own soap instead of taking advantage of machinery for its production enslaves herself to ignorance by limiting her time for study” (p. 83).

Citing the simplicity of baking bread, Hunts (1901) reminded the many lessons it teaches:

To illustrate by the well worn [*sic*] topic of breadmaking, a lesson in bread making may be useful: 1 because it may be the means of giving dexterity which, if never used upon dough, will be useful upon some other material; 2 because the making of bread may be the expression of some lives; 3 because the ability to make bread may simplify some lives and release energy for self-expression; 4 because the lesson may be the means of giving such knowledge concerning the use of bread and the characteristics of good bread as shall enable some persons to simplify their lives and to increase the energy available for their own life work by ceasing to make bread. (p. 89)

The lesson of breadmaking, as she states, serves many purposes including a skill or the expression of art, but in the end, it teaches someone what good bread should taste like and they will be better consumers by choosing better products at the store. In a sense, they know what to look for and do not need to spend time baking bread at home, freeing themselves from the burdens of baking.

Even with Hunt’s remarks, some attendees lamented the loss of skill and the art of domestic duties due to the modernizing of the food system with more canned foods and housework with labor-saving devices such as washing machines (Lake Placid Conference on Home Economics, 1901). By the next conference, Hunts seemed to join the concern over the loss of beauty from the increases in industrialization by stating, “They have shown a steady decline in beauty. The inevitable division of labor in the large factories destroys the possibility of art work

and takes away from the maker much of the joy of labor” (Lake Placid Conference on Home Economics, 1902, p. 57).

Post Lake Placid: 1908-1944

Home economics gained traction with more universities and colleges offering it as a degree program. It was also offered in more high schools and elementary schools, as the changes in society were dictating what types of education women needed. By 1938, 90% of junior and senior girls in high school took home economics courses (Bowers, 2000). Additionally, the number of women who were working grew to 35% by 1944.

While the curriculum was debated and discussed at the Lake Placid Conferences, many agreed that hard sciences such as chemistry, physics, and biology should be part of the curriculum, along with domestic sciences such as nutrition, food science, and hygiene/sanitation. Educators even felt sociology and psychology belonged in the curriculum since matters of the home included not only cooking and sewing but also child-rearing and relationships (Lake Placid Conference on Home Economics, 1905). The actual curriculum of including physical science and social science seemed agreed upon by many educators and was evident in home economics programs around the country. However, discussion over practical skill versus theoretical skill came to the forefront especially among college educators (Lake Placid Conference on Home Economics, 1902). During the conferences, it was the understanding that college education should teach principles and train students to put “thoughts into action” (Lake Placid Conference on Home Economics, 1902, p. 23). This became evident when the subject of recipes and the teaching of skills came up at Lake Placid and in the years after (Todhunter, 1949). During the Fifth Conference at Lake Placid (1903), Amy Daniel of the Manual Training School in Denver

gave a speech about inductive methods in cooking, advocating for the teaching of skills as opposed to recipes. Her argument for not teaching recipes, as many at the time did, “The aim in instruction is to teach the child in such a way that he may adjust himself to his environment. The teacher presents the situation in the schoolroom and guides the reactions in the child, presenting situations similar to those which he will meet in his present and future environment” (p. 55). She continued her remarks by stating,

Cooking is a science, but not in the same way chemistry is a science. The substances with which we deal are far from being chemically pure. ...Is there not a danger of giving the child the impression that the recipe is absolute? ...By omitting the formal recipe at first and teaching by the developing method or the inductive method, would we not make the child a stronger and more independent thinker, with a fuller knowledge of the food principles and greater power in using this knowledge? (p. 56)

Opposition to Daniel’s speech centered on the waste of time and materials that teaching skill would create. Some educators thought that recipes made for more efficient teaching (Lake Placid Conference on Home Economics, 1903).

The theoretical and practical discussion continued with educators wondering what the purpose of home economics should be in light of increasing modernization of the home (Todhunter, 1949). To Todhunter (1949), head of the Department of Foods and Nutrition at University of Alabama during this time, education in general serves the purpose of training for job security and contributing to the social development of people. She continued that home economics education needs the inclusion of many sciences (i.e., chemistry) along with training in economics, management, and finance. Instead of teaching skill, she felt home economics needed to be of more intellectual development (Todhunter, 1949).

Even using certain terms such as “cooking” seemed to degrade the subject matter. “Cooking” seemed to convey the mundane, an everyday occurrence whereas the phrase “food

preparation” conveyed more sophistication (Goldstein, 2012). As a result, programs in high schools and colleges changed the names of their food courses to elevate the subject matter (Goldstein, 2012).

When the Great Depression of the 1930s occurred, the importance of home economics became apparent, as people were starving and dying of hunger. The need to educate the public on nutrition and cooking, particularly food preservation moved to the forefront (Spafford, 1942). As Ivol Spafford (1942) wrote in her book, *Fundamentals in Teaching Home Economics*, “Home economics proved over and over again that it could help people live better on what they had, even at the lowest level of living” (p. 438).

Even as World War II began, food rationing became central to the war’s mission. The public needed to know how to stretch the food they had and use products such as margarine and Crisco. Spafford (1942) believed “Home economics can help people simplify their living even as they make every effort to maintain fine and wholesome personal and family life in surroundings that are clean and orderly and restful” (p. 438). It became a mission of not only educating women in colleges but educating the public.

In addition to education, home economists found themselves employed for the U.S. government in the Bureau of Home Economics (BHE) or working for companies such as Proctor and Gamble (Goldstein, 2012). Started in 1923 under Warren G. Harding’s administration, the BHE, housed under the United States Department of Agriculture (USDA), worked to provide the scientific basis and principles of the home (Dreilinger, 2021). There seemed to be a divide among home economists on the best way to educate the public. Some preferred to stay in

education while others felt their work in the business world or in government was more fruitful and satisfying, reaching a broader audience (Goldstein, 2012).

On the education front, Spafford (1942) outlined the vision, mission, and purpose of home economics education.

Home economics grew out of a great social need, the recognition by social-minded women that many girls were not learning within the home the skills they needed to feed, clothe, and house their families. Home economics has changed through the years with new knowledge in the art and science, social science and psychology; with changes in the larger society; and with a new concept of the purpose education. The desire today to build a more functioning program of education concerned with everyday living offers home economics an opportunity to become a part of the basic curriculum of all students – an opportunity such as it has never had before. (p. 7)

In her book Spafford (1942) also outlined the purposes for home economics, echoing the sentiments of the early home economists (p. 2-4; italics, Spafford):

- *The achieving of a satisfying and functioning philosophy of the life with emphasis on personal and family living should be set as the primary purpose of home economics.*
- *The developing of a wholesome personality and the working out of satisfying human relationships is the second broad objective which concerns home economics.*
- *The broadening and enriching of life is the third large objective of interest to home economics.*
- *The acquiring of techniques and skills needed in immediate personal and home living, learning to use one's resources to attain the values set up as most worth while [sic] in life, is the fourth major objective which concerns home economics.*
- *The finding of one's relation to and place in the vocational work and preparing for it is the fifth major purpose of importance to home economics*

These stated purposes build off Richards' own idea for producing better citizens. With this outline, the focus for home economics centered on everyday life – what was happening in the household. The home economists working for the BHE or in the private sector were concerned with this as well but in a different way. They wanted to solve issues homemakers were encountering and viewed the public as needing guidance with innovations in food and kitchen technology (Goldstein, 2012).

In contrast, the education side of home economics seemed to address the same issues by concentrating on educating the younger generation. Both boys and girls were targeted, but girls by-and-large were the main demographic of the classes. According to Spafford (1942), in the 1930s, 49% of girls and 1% of boys were enrolled in home economics courses in high school, where the classes were taught as a special subject. Devising ways to include boys in the courses was of concern to many educators who felt boys should not be left out. Many wanted boys in the classes even though they tended to gravitate toward food preparation.

Tradition raises a barrier. Homemaking and housekeeping have been women's work. Home economics has been a girl's subject. This point of view influences the older generation more than the younger. Administrative officers, parents, and student advisors fail to see any of its aspects as worth while [sic] for boys even when the boys see it as a valuable and worth taking. (Spafford, 1942, p. 389)

However, according to Goldstein (2012), home economics had a continuing perceived negative image of only teaching cooking and sewing that would not cease and would eventually hurt the profession.

Post WWII – 1944-1994

After WWII, family dynamics changed when women stopped working in war production factories. If they continued to work, most remained in gender-specific jobs such as home economics, nursing, teaching, and secretarial work. After men returned home from the war, the percentage of women working outside the home decreased from 36.5% in 1944 to 30.8% in 1947 (Coontz, 1992). However, women of color were more likely to be employed outside the home (Dreilinger, 2021). In 1955, 44% of women of color were employed compared to 33% of white women (Dreilinger, 2021). At the same time, the focus of rationing food switched to

consumerism and increased consumption. By the 1950s, meal preparation and other domestic duties were down to 20 hours per week (Bowers, 2000).

The debate over recipes versus skill continued, with recipes becoming the preferred way to teach people how to cook. Recipes, for most home economists provided a fool proof method for cooking, and recipes were often referred to as a scientific cookery (Goldstein, 2012). This was in response to the advent of increased production and consumption of processed foods. Home economists working in food manufacturing and recipe development for magazines saw increasing need for recipes. The American public was faced with new food products and needed ideas of how to incorporate them into meals. For instance, Campbell's line of condensed soups sparked many recipes, including green bean casserole, which is a staple at many Thanksgiving dinners (Wallach, 2013). Food manufacturers liked the idea of recipes using their products, as it boosted sales (Goldstein, 2012).

The increased reliance on recipes was welcomed by many, as society moved toward a more consumer-based economy. In support of this, Gordon Blackwell (1962), President of Florida State University, wrote, "I believe the decreasing emphasis upon skills and the increasing attention to application by the social and natural sciences to problems relating to homemaking are illustrative of desirable changes" (p. 450). Blackwell (1962) indicated that home economics needed more rigor with more sciences and intellectual development. Change was desired within home economics. Home economics courses boosted consumerism in the U.S. by centering on creating an ideal consumer, one who could make informed choices on purchases for the home. The 1920s consumerism of the upper middle class trickled down to lower income brackets by the 1950s (Henderson, 1980).

During the 1940s and 1950s, the attitude towards home economics was largely positive, especially when it came to educating young women and girls. Middle class and upper middle class white families encouraged girls to take the courses. Mothers, especially, influenced girls' decision to take home economics, as they felt it prepared them for marriage (Hall, 1955; Wright & Corbin, 1952). Home economics was seen as a way to prepare young women for marriage and raising kids, even though boys were also encouraged to take the classes. “The homemaking program could increase its appeal by offering more practical courses, preparing students for more areas of homemaking responsibilities, designing a program for boys and maintaining an attractive homemaking department” (Hall, 1955, p. 170). In terms of numbers, in the 1950s, there were 70,000 home economists and of those, 42,000 were teachers or professors, 20,000 were dietitians, and 5,000 were Cooperative Extension agents (Dreilinger, 2021).

A result of the girls and young women taking home economics courses was the development of the mid-century ideal housewife. In middle class white America, it was the prevailing thought influenced by messages in popular culture and the media that women staying at home and raising children was key to a good family and therefore a good society. “In the same years, the language used in the nonfiction material in women’s magazines underwent subtle change, coming to imply that housework was to be thought of no longer as a chore but rather, as an expression of the housewife’s personality and her affection for her family” (Cowan, 1983, p. 177). This was evident in popular television shows such as *The Donna Reed Show* and *Leave it to Beaver* with an ideal household helmed by a loving and devoted housewife. The ideal housewife, as opposed to the unfortunate working woman (Cowan, 1983), dictated home

economics curriculum with emphasis on how to run a household, raise children, and cook for the family.

Some continued to see women as the backbone to American progress and desired to see women continuing to raise good citizens. In the fall of 1951, The American Council on Education sponsored a conference entitled the National Conference on Women in the Defense Decade.³ Arthur Adams (1951)⁴, in his keynote address to conference attendees, evokes a sense of patriotism that women can instill in children, “Traditionally women have been the special guardians of our culture. Therefore, the attitude of each individual woman toward the issues we face today is basic to the building of a national philosophy of strength and confidence” (p. 510).

Starting in the 1940s, home economics saw a decline in enrollment. By the late 1960s, less than five percent of women who were college graduates were home economics majors (Rossiter, 1997) and the number of home economists working in government declined with the closing of the BHE in 1963 (Dreilinger, 2021). From the 1950s to the 1970s, high school counselors encouraged intelligent young women to pursue other degrees because they felt home economics was not academically challenging (Elias, 2008). Eventually, many went on to study business and science (Dreilinger, 2021). Even so, by 1968, there were 90,000 home economists working around the country in schools, universities, business, and government (Dreilinger, 2021). As changes occurred in American society between the 1960s and 1990s, women entered the workforce in greater numbers and the women’s liberation movement fought for more respect

³ The conference was held Sept 27 and 28, 1951 in New York City. The program included: “meetings on homemaking, health and welfare, citizenship at home and abroad, armed services, everyday economics, defense production for war and peace, creative leisure and education, formal and informal.”

⁴ At the time, Arthur Adams was the president of the American Council on Education.

for women in society. Betty Friedan's book, *The Feminine Mystique* (1963), spoke against the image of the ideal housewife, encouraging women to free themselves from the home, pitting Friedan and other feminists against home economics (Elias, 2008).

However, it was more complicated than that. In the 1950s, advertising and media viewed working mothers as a sign of economic distress. They had to work to improve the standard of living. "American housewives discovered that ... they needed full-time employment; and subsequently discovered that with the help of the dishwasher, a washing machine, and an occasional frozen dinner, they could undertake that employment without endangering their family's living standards" (Cowan, 1983, p. 209). The American way of life was quickly becoming hectic and expensive. Women needed to contribute to household finances to keep up with the demands of daily living.

As for home economics, it continued to experience image problems among the public. The Yankelovich Report (Goldstein, 2012),⁵ took a consensus of home economics and found that "Home economists were perceived as primarily as technicians or teachers, not creative professionals or researchers" (p. 292). As Goldstein (2012) notes, "the report provided no indication that respondents saw home economists as representing women or consumers" (p. 292). The stigma of home economists of being humorless and overly serious stayed with the profession along with the idea that the profession as a whole lacked prestige (Dreilinger, 2021). By the end of the 1970s, some educators wondered if home economics should continue to teach consumerism or teach practical skills (Henderson, 1980). This question was in response to the

⁵ The Yankelovich Report, "Home Economics Image Study: Qualitative Investigation," was compiled by Daniel Yankelovich in 1974 for the AHEA. Goldstein, *Creating Consumers*

economic crisis of the late 1970s which saw slower economic growth and a need for more self-reliance at home (Henderson, 1980).

By the 1990s, the stigma of the cooking and sewing housewife was firmly linked with home economics. “Women’s work in the kitchen was valued as important, sustaining, even sacred – but not professional. This distinction was crucial to a culture more reliant on classifications in order to understand society” (Elias, 2008, p. 27). Those who were anti-home economics viewed domestic labor – even cooking – as inherently worthless (Elias, 2008).

In 1983, a federal report called “A Nation at Risk” was published from the National Commission on Excellence (Dreilinger, 2021). The report cited issues with the educational system in the United States and sounded an alarm that the country’s children were falling behind educationally to other countries (Dreilinger, 2021). In addition to an increase in hours in a school day along with the number of school days, the report advocated for shifting from teaching cooking (i.e., home economics) to science, critical thinking, and computers (Dreilinger, 2021). This change in education prompted the reduction of home economics courses taught in schools across the U.S (Dreilinger, 2021).

Era of Family and Consumer Sciences: 1994 – Present

By the 1990s, the AHEA had fewer than 25,000 members and companies were no longer hiring home economists (Dreilinger, 2021). After a meeting in Scottsdale, Arizona in 1993, home economics went under a name change (Dreilinger, 2021). The era of referring to the education as home economics ended in favor of a more broadly defined term of Family and Consumer Sciences (FCS). To Elias (2008), “The name indicated that practitioners in the field would be analytical and experimental scholars rather than housewives” (p. 170). FCS extended

the profession to outside the home. Vincenti (1997) felt that the name change to FCS moved it beyond the stereotypical connotation of home economics, that of sewing and baking.

The updated name seemed to reflect changes in American society as new home technology entered the kitchen. The microwave, which was discovered by accident in 1945 (Davis, 2016), was now a fixture in kitchens across the country. This device changed the way people cooked, speeding up the process of cooking, reheating leftovers, and making processed and convenience foods easier to turn into dinner.

Additionally, women continued to work and become educated with two working parents heading most households. Busy schedules and time constraints increasingly became the main reasons why cooking saw a decline at home (Jabs et al., 2007; Jaffe & Gertler, 2006; Meah & Watson, 2011). With societal changes, FCS education updated its curriculum to focus on professional development, especially for cooking. It trained young people to think of food and other FCS subjects as a possible career path. In the culinary aspect, the shift from home-based cooking to professional contexts attracted more boys to the courses (National Restaurant Association Education Foundation, n.d.).⁶ However, this potentially left out those who did not see themselves as professional chefs or working in the food service industry.

Even as the curriculum changed, FCS still fought for legitimacy (Elias, 2008). FCS programs in high school and college were in decline. With the No Child Left Behind Act of 2002, many home economic/FCS programs dissolved as schools were punished for low test scores and low graduation rates (Dreilinger, 2021). Science, Technology, Engineering, and Math

⁶ The Prostart Program is a program developed by The National Restaurant Association. Focused on high school education, it is a two-year program teaching culinary arts and restaurant management. It is often included as part of FCS curriculum. <https://chooseresaurants.org/prostart>

(STEM) education won the battle, despite efforts of FCS teachers arguing FCS education is part of STEM (Swafford & Rafferty, 2016). The ideal housewife and the image of home economics seemed to take a toll on FCS education, even with the changes to the name and curriculum.

Not all FCS programs ended and many still educate young adults. From 2010-2012, 3.5 million public school students took FCS classes in middle or high schools taught by 27,000 FCS teachers (Dreilinger, 2021). Across the country, 786 universities awarded 38,000 FCS degrees in 2017-2018, along with an additional 25,000 degrees in related fields such as dietetics, hospitality, fashion, and interior design (Dreilinger, 2021).

Today, FCS education continues to fight for legitimacy (Elias, 2008), as Americans are inundated with a male-dominated celebrity chef culture and countless cooking shows, many of which are competition based. The cooking shows on television place food in two spheres: either it is seen as a chore completed by the female parent of the household and the show illustrates ease of cooking and food preparation; or it is valued as spectacle and entertainment. Americans like watching cooking shows, especially ones that are competitive (Discovery Channel, 2020).⁷ Cookbooks are now coffee table books, but it is uncertain if people actually use them or if they flip through the pages, looking only at the beautiful photography and skipping the recipes (Kocher, 2020).

Coupled with the increased television viewership during 2020, a rise of social media platforms such as Instagram and TikTok (see www.tiktok.com) have heavily influenced trends and food consumption. TikTok and YouTube (see www.youtube.com) have channels dedicated

⁷ TV Ratings for Food Network increased in 2020.

to cooking, which are watched by many, including younger generations (Asmelash, 2021; Makalintal, 2021). However, the question remains, people watch, but do they actually cook?

American food values and food trends are changing rapidly. While convenience is still valued, price is a main concern for many people (International Food Information Council [IFIC], 2020). Food manufacturers have taken many steps to make food cheaper, even if it comes at a cost to consumers' health (Moss, 2021). In addition to reducing the prices of food, marketing of food products in terms of placement on grocery store shelves and packaging (i.e., colors, lettering, and size of the packaging) have been studied with the goal of increasing profits of large food corporations (Glanz et al., 2012).

In relation to competition from media, FCS education will encounter many obstacles including a generation that has grown up in the digital age (Seemiller & Grace, 2016). Because of convenience and a burgeoning restaurant industry, younger generations have changed their eating habits, looking for variety, more sustainably sourced foods, and comfort foods (National Restaurant Association, 2021).⁸ More than any other generation before it, Millennials spend the most money on food away from home and this will continue to be a trend among Generation Z as they enter adulthood (Kuhns & Saksena, 2017).

Diversity in Home Economics

For much of its history, home economics remained a segregated profession. At its beginning with the Lake Placid Conferences and the creation of home economic programs in the

⁸ The National Restaurant Association compiles a list of trends for the restaurant business based on surveys completed by restaurateurs and chefs. In 2019 and 2020, the trends were centering on sustainability issues of eco packaging and plant-based meals.

Midwest and western states, the role of African American women and home economics programs at Black colleges was largely ignored (Dreilinger, 2021). From the beginning, the profession was run by middle class white women, and those in attendance at the first Lake Placid Conferences hailed from the northeast. African Americans and Jews were not invited to the Lake Placid conferences because the resort at which it was held did not permit these groups (Dreilinger, 2021).

However, African American women were seeking education in home economics. The Hampton Institute in Virginia educated African American and Native American students and in 1868, opened a women's labor department teaching courses in sewing (Dreilinger, 2021). Even with Black colleges offering home economics courses, there was a divide among African American scholars regarding the importance of the subject matter. To some, notably W.E.B. Du Bois, home economics was not intellectual enough and felt the subject matter was too close to slavery, as they saw it teaching women to do manual labor (Dreilinger, 2021). However, to others like Margaret Murray Washington, third wife of Booker T. Washington, thought of the work as not menial but work that could produce a bachelor's degree (Dreilinger, 2021). A prominent African American home economist, Washington went on to publish *Work for the Colored Women of the South*, a household manual for rural black women (Dreilinger, 2021). In 1895, she founded the Tuskegee Women's Club and went on to become an educator at Tuskegee University in Alabama and focused on strengthening Black communities. Tuskegee began granting bachelor's degrees in home economics in 1929 (Dreilinger, 2021).

From 1925-1933, 41 African American women earned master's degrees in home economics from various universities across the U.S (Dreilinger, 2021). Despite notable educators

and proponents of home economics like Flemma Kittrell, the first African American woman to earn a PhD in nutrition, the profession remained largely segregated (Dreilinger, 2021).

In the 1940s, segregated schools in the south had special groups for Future Homemakers of America, a home economics organization. Additionally, according to Dreilinger (2021), the American Home Economics Association (AHEA) did not notice the segregation of the organization and did not seem aware of the existence of African American women working in home economics (Dreilinger, 2021). During this time, African American home economists were not mentioned in its journal (Dreilinger). The sense to African American home economists was that they were not welcome into the AHEA and resisted any efforts by the national organization to recruit more African American home economists (Dreilinger, 2021).

The segregation in the south continued to keep African American women from joining state chapters of the AHEA. In 1963, the national chapter of the AHEA passed a resolution to desegregate (Dreilinger, 2021). However, by this time enrollment in home economics programs at Black colleges was declining due to lack of employment opportunities (Dreilinger, 2021). Even with desegregation of the AHEA, African American members still had difficulty obtaining leadership roles within state and local chapters (Dreilinger, 2021).

Even today, as the overall decline in home economics (now Family and Consumer Sciences) continues, the majority of FCS teachers are white. However, the National Coalition for Black Development in Family and Consumer Sciences (NCBDFCS) seeks to bring more African Americans to the Family and Consumer Sciences (NCBDFCS, n.d.). Created in 1980, the mission of the organization states

The National Coalition for Black Development in Family and Consumer Sciences was born of the need to fill a void in recognizing and recording the myriad

contributions of individuals of African descent to the family and consumer sciences profession, indeed the nation and world. Founded in January 1980, the mission of the Coalition is to enhance and strengthen the presence of family and consumer sciences programs in traditionally black institutions, to coalesce with other organizations to ensure the continued advancement of the profession, to provide support and career development for the next generation of black professionals, and to recognize and record the contributions of professional of African descent (NCBDFCS, n.d.).

Dietetics

A subgroup of the American Home Economics Association was the field of dietetics. Proper nutrition had been a focus of many home economists, including Richards, and it seemed a natural place to discuss nutrition and health. By 1917, the group had formed the American Dietetic Association (now, Academy of Nutrition and Dietetics), concentrating on working in hospitals. Many physicians at the time were unaware of the role of dietitians and the benefits they bring to society (Nyhard, 1997). Since their beginning, dietitians contributed to nutrition science and continue to work in various fields such as clinical nutrition, community nutrition, retail, education, and food service (Rogers, 2021).

Montana

Much of the research compiled in this research study is from the state of Montana and specifically Montana State University. To place the research findings into context, a closer look at Montana's racial history, the history of Montana State University (MSU), and the history of Home Economics and Cooperative Extension Services at MSU is provided. Due to its rural setting, a closer look at the racial history of Montana and the educational programs offered at MSU may help provide additional insight into the status of cooking skills among young adults in Montana.

Racial History of Montana

Before Montana became a state in 1889, many Native American tribes with varying cultures and histories, resided on the land (Montana Office of Public Instruction Indian Education for All Unit, 2019). In 1805, 100% of the residents in Montana territory were Native American (Montana OPI Indian Education for All Unit, 2019). As the United States expanded westward, settlers from the east formed communities, especially as the mining operations increased during the mid-1800s, unjustly pushing many tribes off their lands (Montana OPI Indian Education for All Unit, 2019). Through various treaties and federal policies, American Indian tribes were forced onto reservations (Montana OPI Indian Education for All Unit, 2019). As of today, there are seven reservations across the state of Montana and 12 recognized American Indian nations, many of whom were either placed here by the federal government or were here originally (Montana OPI Indian Education for All Unit, 2019).

In the mid-1800s, the discovery of gold and other minerals and gems brought more people to the state, most of whom were men (Swartout Jr, 2015). In addition to the many settlers from European descent, many immigrants were from China. According to the U.S. census in 1870, 38.7% of Montana residents were foreign-born (Swartout Jr, 2015). Most notable were Chinese immigrants who left China due to a myriad of problems including food shortages and rebellion (Swartout Jr, 2015). From 1860-1870, Chinese communities were created along the west coast in Oregon, Washington, and California before moving to interior states/territories of Idaho, Montana, Nevada, Wyoming, and Colorado. In 1870, the U.S. consensus counted 1,949 Chinese immigrants (mostly men), accounting for nearly 10% of the population (Swartout Jr, 2015). In 1890, the census counted 2,532 Chinese immigrants. It is thought that the number of

Chinese immigrants was likely higher due to widespread undercounting of the immigrant population (Swartout Jr, 2015).

Many of the Chinese immigrants worked in mining and then for the railroad. They settled communities, creating and running businesses, such as restaurants, laundries, tailor shops, and mercantile stores (Swartout Jr, 2015). Due to the Chinese Exclusion Act of 1882, the number of Chinese immigrants and people of Chinese descent dropped considerably (Swartout Jr, 2015). After the Chinese Exclusion Act of 1882, Japanese immigrants began their journey to Montana. In 1900, the census counted 2,441 Japanese immigrants living in Montana (Pallister, 2015).

American Indians and Chinese immigrants were not the only people of color residing in Montana. By 1930, about 1000 Mexicans and Mexican Americans resided in Yellowstone Valley (Mercier, 2015). They were used as farm workers to assist with the harvesting of sugar beets during the 1920s (Mercier, 2015). However, due to anti-immigration sentiment throughout the state, many Mexican people (regardless of citizen status) were deported back to Mexico (Mercier, 2015).

Additionally, African American individuals and families moved westward as they sought better lives and opportunities after the end of slavery and the Civil War (Robison, 2015). Due to the onslaught of people of color entering Montana, one-third of cowboys in the state were either African American or Mexican during the late 1800s (Robison, 2015).

However, the numbers of traditionally underrepresented racial groups started to decline as policies were put in place to discourage or outlaw immigrants or people of color. The census numbers from 1890 to 1960 reflect the changes in racial dynamics of the state, with an increase of white population and decreases in populations of color (see Table 1.1).

Table 1.1*Montana Population 1890-1960*

Census Year	White (%)	Black (%)	Native American (%)	Japanese (%)	Chinese (%)	Filipino (%)	Other (%)
1890	89.34	1.04	7.84	0.01	1.77	--	--
1900	93	0.02	4.66	1.00	.71	--	--
1910	95.88	.49	2.84	.42	.34	--	--
1920	97.34	.30	1.99	.19	.16	.01	.01
1930	96.70	.024	2.75	.14	.09	.06	.02
1940	96.60	.20	3.01	.09	.05	.03	.02
1950	96.77	.21	2.81	.09	.03	--	.07
1960	96.44	.22	.09	.03	.04	.04	.04

Note. Montana population data compiled from U.S. Census data from 1890-1960 illustrating the racial and ethnic groups residing in the state over a span of 70 years (Montana State Employment Service, 1966).

With increases in population, especially in Gallatin County (Lutey, 2021), Montana's diverse population has changed according to the 2020 census (U.S. Census Bureau, 2020). As of 2020, the white population is at 84.5% and the Native American population is at 6.2% and people reporting two or more races at 6.6% (see Table 1.2).

Table 1.2*Montana 2020 Population*

Montana -- 2020	Number	Percentage
Total Population	1,084,225	--
White	916,524	84.5%
African American	5,484	0.5%
Asian	8,300	.76%
Native American or Native Alaskan	67,612	6.2%
Two or more races	71,275	6.6%
Hispanic or Latino	45,199	4.2%

Note. Montana population data compiled from the most recent U.S. Census data from 2020 (U.S. Census Bureau, 2020).

Home Economics at Montana State University

The history of home economics at Montana State University (MSU) started when the university was considered the Agriculture College of the State of Montana, which was created in 1893 as the land-grant institution on the Morrill Act of 1862 (Burlingame, 1968). It was commonly referred to as Montana State College (MSC) before obtaining university status in 1965 (Burlingame, 1968). Historically, the student body has been made up of mostly White students. While this is still the case, the current enrollment for the university shows an increase in historically marginalized racial and ethnic groups among campus (Targeted News Service, 2021). For the 2021-2022 academic year, MSU saw its second largest enrollment of 16,841 students, along with increases in American Indian students and other students of color (Targeted News Service, 2021).

One of the early programs at the college was *Domestic Economy* (Burlingame, 1980). In the second year of the program, the name was changed to *Ladies Course*, which brought some objection from students (Burlingame, 1980). Eventually, the name changed to *Domestic Science and Art* before becoming Home Economics in 1912. The early curriculum mirrored other similar programs around the country. Early curriculum in Domestic Economy included botany, chemistry, physics, English literature, history, and a variety of domestic science courses which included sewing and cooking (Burlingame, 1980).

Enrollment in the department steadily increased over the years. From 1901 to 1979, a total of 1,977 students received bachelor's degrees in Home Economics along with 133 master's degrees from 1924-1929 (Burlingame, 1980). Enrollment in the early start of the program started with seven freshman and seven sophomores in 1894-1895 and increasing to 48 students in 1912 and 106 in 1921 (Burlingame, 1980). A notable student success story is that of Jeanette Kelly

who helped develop the Betty Crocker department at General Mills after working as a Home Demonstration Agent in Stillwater County (Burlingame, 1980).

The program also oversaw the creation of the Child Development Center in Herrick Hall in the mid-1970s. Prior to this, part of the space in Herrick Hall was used for classes to observe child behavior and in the 1940s, it partnered with the Red Cross Day Care Center to provide childcare for working mothers. The permanent space for the Child Development Center located on the first floor of Herrick Hall was provided in 1976 (Burlingame, 1980).

Today, Family and Consumer Sciences is housed in the Department of Health and Human development (MSU, n.d.-a). Students major in Human Development and Family Science major and choose between the teaching option in Family and Consumer Sciences or the option of Human Development and Family Science.

Cooperative Extension Service in Montana

The Cooperative Extension Service program in Montana was created in 1917 after the passage of the Smith-Lever Act of 1914, affording each state funds to create Extension programs (Cushman, n.d.). In the programs, women extension agents, known at the time as home demonstration agents, were trained in home economics and tasked with teaching Montana communities about food and nutrition (Cushman, n.d.). Missoula was the first county to have home demonstration agents and by 1919, there were 15 agents throughout the state (Cushman, n.d.).

In the beginning of the Extension program, federal funds were supplied to each state and placed emphasis on preserving, producing, and conserving food (Burlingame, 1980). Four study-action areas were outlined to cover these topics (Burlingame, 1980, p 71):

1. Food. The proper feeding of a family, food conservation, food preservation, and the school lunch.
2. Home efficiency.
3. Clothing. Selection, care, and renovation
4. Health. Maintaining health, care for the ill, and household emergencies

The importance of Home Demonstration Agents became vital during the Depression of the 1930s, where agents saw a return to basics and held classes on pressure canning and sewing (Burlingame, 1980). In the 1930s, as electricity entered homes, especially in rural parts of Montana, new plans for kitchens were required (Burlingame, 1980). With the help of Extension agents, farm kitchens were redesigned for efficiency and to reduce the workload of women (Burlingame, 1980). The need for agents continued during World War II, as they oversaw the implementation of victory gardens and needed education in food preservation and conservation (Burlingame, 1980).

Today, there are 94 Extension agents and 26 subject matter experts covering the needs of 56 counties and 7 reservations in Montana (MSU, n.d.-b). Program areas include youth, agriculture, community, family, and yard and garden. In relation to food and nutrition, Extension agents also educate the public regarding food safety, food preservation, and nutrition education related to chronic disease. The mission of the Extension program in Montana stems from its roots: "to improve the lives of Montana citizens by providing unbiased, research-based education and information that integrates learning, discovery and engagement to strengthen the social, economic and environmental well-being of individuals, families and communities" (MSU, n.d.-b).

Conclusion

The social and cultural changes of the past 120 years have impacted home economics education and therefore have impacted the cooking skill level of Americans. Home economics started to bring women's domestic work front and center as a way to legitimize and add value to the duties done in the home. Over the years, it evolved according to the social and cultural pressures of the day. Now, younger generations are not receiving basic cooking skill instruction either at home or at school, which has had a negative impact on health (Sanyaolu, 2019).

Home economics faced challenges from cultural and societal changes that ultimately hindered its perception among the public. In the end, home economics was and still is considered women's work and the societal forces made it difficult for home economics to be taken seriously. Even today, with curriculum updates and new name of Family and Consumer Sciences, the fight for legitimacy continues at the cost of missed opportunities to prevent deskilling of young American students.

Considering the history of home economics, that began as a way to educate women and add value to their work, this current research was designed to understand the educational opportunities and current level of cooking and food skills among young adults. To achieve this, a review of literature specific to cooking and food skills was conducted. Then those with professional roots in home economics and training in cooking skills (i.e., Registered Dietitian Nutritionists and Family and Consumer Sciences Educators) were consulted about perceived cooking skills needed by today's young adults and recommendations for teaching these skills. Based on these skills, young adults were then surveyed and interviewed regarding their knowledge and experience with cooking. The overall contribution of this research will not only

provide a better understanding of the overall status of cooking and food skills among the American public and young adults but may offer additional insight as to how the cultural and societal impacts have led to the decline in skill development. The ultimate goal is to begin to identify best practices for teaching these skills to younger generations and to determine ways to address the phenomenon within American society.

CHAPTER TWO

REVIEW OF RELATED LITERATURE

Introduction

By the end of the 20th century, home economics had changed its name to Family and Consumer Sciences (FCS) along with the cooking curriculum to meet the needs of the culinary and hospitality industries (Lead FCS, 2018). The switch to more professional-style cooking classes and courses ending up as electives has had an impact on the teaching of basic cooking skills to many young people.

The result of 20th century ingenuity, in terms of technology and food manufacturing, coupled with the changes in FCS education and older generations not passing cooking skills (CS) down to the next generation, relates to several generations not receiving the (CS) needed at home (Lavelle et al., 2016). Juxtaposed with the skills gap among generations and the increase consumption of ultra-processed foods, Americans are faced with rising rates of obesity and chronic disease, both of which are diet related (Saksena et al., 2018). Effects of the decline in CS and food literacy (FL) have been correlated with health issues related to diet quality and nutrition, which may inform behavioral issues centering on self-efficacy.

In March 2020, a worldwide pandemic greatly affected Americans and others around the world. Due to the lockdowns of many communities, aimed at reducing the spread of COVID-19, a resurgence in cooking and baking occurred after many years of reliance on quick and easy meals (Liaw, 2020; Taparia, 2020). Due to the noted decline in cooking over several generations

it is unclear if people, especially young adults, have the skills necessary to cook at home on a regular basis.

The Status of Cooking Skills and Food Literacy

State of Cooking Skills and Food Literacy

Despite numerous intervention strategies aimed at teaching youth how to cook, a noted decline in cooking skills (CS) and food literacy (FL) has been evident for several generations, including among today's college attending young adults (Caraher & Lang, 1999; Jaffe & Gertler, 2006; Ronto et al., 2016; Slater, 2013). Compared to other countries, Americans spend the least amount of time cooking, and continue to rely on prepared foods (OECD, 2011). Prior to the COVID-19 pandemic, Americans spent more money eating food away from home (Saskena et al., 2018), stemming from reasons such as busy family schedules and reported low CS in families (Jabs et al., 2007; Jaffe & Gertler, 2006; Meah & Watson, 2011). This decline in CS and FL can be associated with many factors including advances in technology and food manufacturing, socioeconomic status, household dynamics, and education level. As people continue to cook less at home, there is greater dependence on the industrialized food system and continued deskilling in the kitchen as convenience foods replace whole foods (Jaffe & Gertler, 2006).

Defining Cooking Skills, Food Skills, & Food Literacy.

Due to its complexity, a formal, standardized definition of CS has not been established, even though several researchers are making attempts to do so. According to the Oxford English Dictionary (2021), cooking is simply defined as “to prepare (food) by combining and heating the ingredients.” When adding the term “skill” to the phrase, the definition becomes more

convoluted. Short (2003, 2006) discusses the complexity of CS by realizing there are numerous variables associated with cooking – skill level of the cook, which includes knowledge base and mechanical skill level, along with kitchen equipment available. This is evident in perceptual and conceptual CS where a home cook, from experience, knows when to season or when the oil in the pan is ready. These abstract skills are more difficult to quantify (Short, 2003).

Short (2006) also discussed the concept of cooking taking on many meanings, depending on the person who is doing the act. The concept and conversation become more complex when the use of convenience foods (i.e., ultra-processed) versus raw foods (i.e., whole foods such as raw meat, poultry, fruits, and vegetables) are considered. In one study (Wolfson et al., 2016) participants defined cooking more broadly to include the use of convenience foods, making much of what they cook and consume “semi-homemade.” Food writers, like Michael Pollan (2013) and Janet Flammang (2009) may balk at the thought of including ultra-processed foods in the definition of cooking but for the majority of Americans, this is how they cook and eat (Jaffe & Gertler, 2006; Berge et al., 2018). To Pollan and Flammang, cooking from scratch, where a person uses raw ingredients, should be the definition of cooking.

Additionally, more recent research has moved from labeling CS to food skills (FS), as this term seems to address a broader definition of working with food. As stated previously, the word, “cooking” may denigrate the meaning. Cooking itself is commonly associated with women at home, in the domestic sphere where it has been undervalued. Food, on the other hand, encompasses everyone. Perhaps a more appropriate word would be to use culinary, as it conjures up more positive meanings, ones associated with professional chefs (Scholes, 2011). Even the term “skill” brings with it a litany of issues and mixed history (Beechey, 1982; Braverman,

1998). The movement toward the term of “literacy” as in “culinary literacy” or “food literacy” could evoke a sense of knowing and learning. To date, researchers have not fully defined “culinary literacy,” but “food literacy” has been defined by Cullen et al. (2015) as:

... the ability of an individual to understand food in a way that they develop a positive relationship with it, including food skills and practices across the lifespan in order to navigate, engage, and participate within a complex food system. It's the ability to make decisions to support the achievement of personal health and a sustainable food system considering environmental, social, economic, cultural, and political components. (p. 143)

In this definition, food literacy (FL) offers a broader knowledge base covering cooking skill, food knowledge, health, and sustainability.

In addition to FL, researchers have attempted to define both CS and FS. Hartmann et al. (2013) defined CS broadly as the ability to prepare a meal without a recipe, follow instructions for a recipe, prepare soups, and bake a cake or loaf of bread. In an effort to standardize the definitions of FS and CS, Lavelle et al. (2017) developed measurements to fully define these concepts. CS simply refer to the cooking method of chopping, mixing, boiling, frying, baking, and preparing foods. On the other hand, FS refer to meal and menu planning such as budgeting, shopping, resourcefulness, and label reading, while also including CS under its definition. These definitions were developed in response to numerous cooking intervention studies completed which did not have a CS or FS measurement available for use (McGowan et al., 2017a; Mills et al., 2016). An important measure included by Lavelle, McGowan, et al., (2017) was that of CS and FS confidence, which is a factor that determines how much a person cooks and the types of foods they consume.

Barriers to Cooking

Even though some researchers found that older generations tend to cook more than younger, several barriers were identified that related to a lack of cooking at home (Jabs et al. 2007; Meah & Watson, 2011; Peltner & Thiele, 2017; Wolfson et al., 2016). Of all the barriers mentioned, time seems to be the biggest limiting factor to cooking. Families are simply too busy to cook due to family schedules juggling work, school, and extracurricular activities (Berge et al., 2016; Betts et al., 1997; Garvin et al., 2019; Jabs et al., 2007; Kopetsky et al., 2021; Robson et al., 2016). In these studies, parents intended to cook more complex meals, but they simply did not have the time (Kopetsky et al., 2021). However, if planning and time management strategies were implemented, they had more time to cook (Jabs et al., 2007). In this case, making dinner was a priority (Berge et al., 2018; Jabs et al., 2007). Additionally, adults in these studies commonly referred to cooking as including convenience foods. In their opinion, cooking from scratch carries with it the stigma of taking too much time and effort despite its perceived health benefits (Wolfson et al., 2016).

Participants in the aforementioned studies seem to be operating with the “have it all” mentality perpetuated by mainstream media (Nathanson, 2009). According to Nathanson (2009), women, more than men, juggle domestic labor of cooking and cleaning along with their paid employment, which is typically done outside the home. Corporations such as Crate and Barrel and Williams Sonoma portray an ideal of cooking, a “visual aesthetic” and a “privileged form of leisure” evoking a sense of nostalgia of the 1950s (Nathanson, 2009). According to Scholes (2007), people desire culinary perfection that speaks to an area of perfect home life – Sunday dinners with mom cooking a meal with roast beef, mashed potatoes, peas, and apple pie for dessert. The American public has been sold an image of a busy working mom having it all (or at

least trying to) – domestic perfection of a cooked meal at the table with happy family ready to eat coupled with a fulfilling career. In contrast, researchers explain that it is difficult for many low-income Americans to achieve these standards. Individuals with low incomes recognize the virtues of cooking at home but simply do not have the time nor the financial resources to do so (Bowen et al., 2019).

Another often cited barrier to cooking is food cost and affordability. Healthy food is perceived as being more expensive (Wolfson et al., 2016). Cooking from scratch, in addition to the extra time people think it takes, is also perceived as costing more. In terms of cost, at the price level, two studies (Tharrey et al., 2020; Yang et al., 2015) compared the cost of cooking with processed convenience foods to the cost of cooking with raw (less processed) ingredients. The food costs for each study were insignificant, with neither food type (processed or raw) coming out ahead. However, researchers in the U.S. study (Yang et al., 2015) accounted for the time involved in cooking as part of their cost. In this case, cooking from scratch cost more due to the time it took to cook. This may explain why “healthy” foods, typically referred to as whole foods such as raw cuts of meat, poultry, fruits, and vegetables, can be perceived as expensive whereas convenience foods are inexpensive. Store sales and coupons can also bring the cost of convenience foods down further, making them a more attractive option to the average consumer, especially those using Supplemental Nutrition Assistance Program (SNAP) benefits (SNAP, n.d).

Related to time and affordability, perceived skill level was also a barrier (Wolfson et al., 2016). Even if older adults felt cooking from scratch was better, their perceived CS level became a barrier. College students also reported skill level as a barrier to cook (Wilson et al., 2017).

Students in this study reported high confidence in their mechanical cooking skills such as chopping and peeling. However, they had low confidence in their conceptual and perceptual cooking skills such as meal planning and budgeting. Their confidence level for the conceptual and perceptual cooking skills made them less likely to cook at home. Larson et al. (2006) also found in addition to time and budget constraints, 23% of males and 18% of females indicated inadequate CS as a barrier to cooking.

Lastly, picky eating by children and other family members have made mealtime planning stressful for many parents, thus creating another barrier (Berge et al., 2016; Berge et al., 2018; Robson et al., 2016). In these cases, the family dinner, which is a place to learn communication skills, build interpersonal connections, and provide a place of structure and security for children, has become a place of contention. Pleasing all tastes and meeting the demands of food preferences among family members seems to be a hindrance to making meals at home (Robson et al., 2016).

Even though these studies are from the past 5-10 years, this is not a new phenomenon. Betts et al. (1997) surveyed college students in the mid-1990s (Generation X) and found similar barriers to cooking as not only time and money but also access to fresh foods and adequate cooking equipment. Barriers to cooking have been in place for many years, over several generations (Wolfson et al., 2016).

Methods for overcoming barriers to cooking have been suggested by parents (Berge et al., 2016). They advocate for shopping and meal planning ideas, having kids cook with parents, making cooking fun, making it a priority, and simplifying meals. Families who prioritized meals at home (Berge et al., 2018), had a broader definition of what a family meal actually is (not just

dinner), had rules for the use of electronics during the meal, and did not pressure their kids to eat everything on their plate or a certain amount of vegetables. Prioritizing the family meal, it seems, took some of the stress out of the mealtime.

Perceptions of Cooking

Speaking to the overall decline of cooking at home, is the perception of cooking itself. If the term “cooking skill” is further analyzed, cooking only has meaning if a professional chef (likely male) is producing the food: “There are, for instance, forms of labour which involve complex competencies ... such as cooking, which are not conventionally defined as skilled (unless performed by chefs within capitalist commodity production)” (Beechey, 1982, p. 64). To many people, cooking at home is a duty the must be endured each day, or it is seen as a burden (Caraher & Lang, 1999).

Eating out, for some parents (Robson et al., 2016), has been more beneficial and less time consuming. In this study (Robson et al., 2016), parents who generally frequented restaurants felt the cooking and clean-up of a family meal took away from family time whereas eating out a restaurant gave them more family time and happier eaters by appeasing picky eaters and dietary preferences. Cooking at home, for these parents was also perceived as wasteful and costly, as they felt they needed special ingredients to cook. Many of these parents noted throwing out leftovers and other food items, contributing to the perception that cooking at home is wasteful.

In terms of food waste, this is of growing concern, especially in relation to climate change (United Nations Environmental Programme, 2021). Food waste is estimated to contribute to 8-10% of greenhouse gas emissions globally, with United States (U.S.) households and restaurants contributing this percentage. Household and restaurant food waste in the U.S. is

estimated to be 123 kg (271 lbs)/capita/year, combined (United Nations Environmental Programme, 2021). Researchers have suggested measures to reduce food waste at home by teaching FS and CS, such as planning, using proper food preparation techniques, shopping smartly, and reusing leftovers (Schanes et al., 2018; Stancu et al., 2016; Nonomura, 2020).

Additionally, in an attempt to update messaging that cooking is not difficult and time consuming, cooking shows such as Rachel Ray's *30 Minute Meals* and Ina Garten's *Barefoot Contessa* seek to eliminate cooking as labor (Hansen, 2008). In 30 minutes, Rachel Ray shows the efficiency of cooking and planning by preparing a full meal in a short amount of time. Ina Garten, with her comforting approach to cooking and entertaining, is often heard saying "How easy was that?" (Hansen, 2008). These shows, in addition to many others,⁹ attempt to display working mothers the ease of cooking with discerning family tastes by glossing over the burden of shopping, cooking, and clean up.

Cooking Skill Development

How individuals learn to cook is as important as their perception of cooking. The passing down of CS among generations varies greatly depending on the participants in the study and the area of the world in which they live. Lavelle, et al. (2016) conducted research in Great Britain and found CS have been in decline for several generations and have not necessarily been passed down to younger generations. However, a study conducted in Baltimore by Wolfson et al. (2017) interviewed and surveyed members of both White and Black communities with a median age of 51 years. In their findings, about two-thirds of participants reported learning to cook from their

⁹ Additional shows that portray ease of cooking at home, *Pioneer Woman*, *Semi-Homemade*, *In the Kitchen with Joanna Gaines*, *Everyday Italian*, *Giada at Home*

parents. In this same study (Wolfson et al., 2017) researchers also found that the vast majority (90%) of participants felt that parents are responsible for teaching children how to cook.

Even though much of the research regarding skill development is done outside the U.S., a growing number of researchers have concluded that a general decline in CS and FL is evident among younger generations, regardless of location (Caraher & Lang, 1999; Jaffe & Gertler, 2007; Ronto et al., 2016; Slater, 2013). Researchers have noted several barriers to teaching kids how to cook, as parents often feel it might be important but too risky or dangerous, children are in the way in the kitchen, parents do not want to handle the mess created, or that children are not interested in cooking (Hamilton-Ekeke & Thomas, 2008; Lavelle et al., 2019). Additionally, researchers noted that the passing down of skills relies mainly on women, namely mothers and grandmothers (Larson et al., 2006; Wolfson et al., 2016), as they generally do the majority of cooking at home and are therefore the ones most responsible for the passing down of skills (Larson et al., 2006; Laska et al., 2011).

If people are not receiving CS at home, Wolfson et al. (2016) found that they employed other methods of learning how to cook. Other methods included teaching themselves through trial and error, reading cookbooks, watching cooking shows, or using the internet. Cookbooks seemed the most popular with older adults whereas utilizing the internet for recipes and techniques was preferred among younger generations. Even though one-third of participants in the study cited cooking shows as a way to learn CS, it was additionally noted that these shows are generally considered entertainment and not necessarily educational (Wolfson et al., 2016).

Despite not actually teaching the public valuable cooking skills, television has shaped food habits and consumption. Chefs on television are spokespeople, many of whom have built

empires of stuff – kitchen gadgets, cookware, cookbooks, cooking shows, online videos and recipes (Giousmpasoglou et al., 2020). The rise of The Food Network in 1993, aimed originally at women (Ketchum, 2005), rode on the heels of Julia Child and *The Galloping Gourmet* (Graham Kerr), who came before it. In the early start of the Food Network, Emeril Lagasse helped create an image of what a chef looks like, especially a male chef – masculine, in control managing chaos, using special equipment and ingredients, and new techniques. This helped increase enrollment for culinary school programs across the United States over the past 25 years (Giousmpasoglou et al., 2020). Many young men, and to a certain extent, women, saw the allure of working with food in a busy restaurant. Even Anthony Bourdain (2000) in his book *Kitchen Confidential*, made kitchen work appealing to boys, despite the honesty of the reality of working in a hot kitchen. Bourdain’s depiction appealed to young men who idolized the competitiveness and fast-paced life of restaurant work. Where home economics failed to attract boys to the classes in the 20th century, the Food Network and celebrity male chefs made up for it by hyping an overly masculine lifestyle.

Benefits to Children, Youth, and Young Adults

Supporting the consensus that parents should be passing down skills to children, many studies have shown that teaching children and adolescents about cooking will improve their food choices, by making positive changes in their dietary habits, eating outside the home less often, and enjoying the act of cooking more as adults (Caraher & Lang, 1999; Hartmann et al., 2013; Laska et al., 2011; Utter et al., 2018) while also improving children’s social and emotional development (Caraher & Lang, 1999). In intervention studies, it has also been noted that children

who learn to cook at a younger age had more confidence in the kitchen as they got older (Lavelle et al., 2016).

It has also been noted that food skills learned in youth have been sustained into adulthood and adolescents who assisted with cooking dinner, were more likely to cook as they got older (Vaitkeviciute et al., 2015). Utter et al. (2018) reported that young adults who indicated having very adequate CS had greater odds of preparing a meal with vegetables. This led Utter and colleagues to conclude that the perceived adequacy of CS may have an impact on diet quality.

Laska et al. (2011) found differences among genders in terms of cooking as more females than males prepare a meal with vegetables. They also found that food preparation doing during young adulthood predicted the likelihood to cook and more frequent preparation of meals with vegetables five years later. Laska and colleagues suggested that educating young adults, instead of children or adolescents, may be more impactful for sustaining behavioral change over time (Laska et al., 2011).

Family and Consumer Sciences (FCS) Education

If children and adolescents are not getting cooking instruction at home, this leaves the education system, a place where students receive much food knowledge through FCS courses, if available (Lavelle et al., 2016). Nonetheless, FCS teacher educator programs have seen a decrease in enrollment for several years (Arnett-Hartwick, 2017). Arnett-Hartwick (2017) speculated on reasons for this decline and determined one such reason as the demand for FCS teachers at the high school level has decreased because the perception of FCS education is inferior to other subjects, which has shifted funding to Science, Technology, Engineering, and Mathematics (STEM) education (Ronto et al., 2016; Slater, 2013).

The stigma of home economics only teaching cooking and sewing, which is not viewed as intellectually stimulating, has been present since the 1950s in the United States (Hall, 1955; Henderson, 1980; Wright & Corbin, 1952). In other countries, such as Australia and Canada, home economics education has continued to have negative perceptions (Ronto et al., 2016; Slater, 2013). One perception of the courses, as indicated by parents, school administrators, and other teachers was that home economics education only teaches baking. Any food-related life skills were undervalued, as parents felt the subject matter was not rigorous enough (Ronto et al., 2016; Slater, 2013). As a result, home economics courses both in the U.S. and abroad are offered as electives (Ronto et al., 2016; Slater, 2013). In the United States, school budgets tightened, and testing increased due to the No Child Left Behind policy in the early 2000s, this also moved funding from FCS towards science, technology, engineering, and mathematics (STEM) (Vincenti, 1997). Cooking and other FCS classes are more expensive to run, because of the special cooking labs, equipment, and supplies required.

However, since its inception as home economics, FCS teachers argued that FCS education can be academically rigorous. Cooking and nutrition are part of science as these topics use chemistry, biology, and physics. FCS also teaches life skills, which can help build critical thinking skills (Swafford et al., 2016). Moreover, researchers (Worsley et al., 2016) found that health and home economics education is related to various forms of food knowledge. However, they acknowledge that students who take these courses already have an interest in food, and therefore may already know more than the average student.

Technology

Looking back at the 20th century, kitchen technology advanced greatly with the invention of the microwave in the 1940s and improved efficiencies of stoves and refrigerators. Attention shifted in the kitchen from scratch cooking to utilizing processed and convenience foods, which in turn sped up time in the kitchen, freeing mothers from the burdens of cooking (Cowan, 1983). Sales of microwaves increased drastically in the 1970s and by 2009, 96% of households in the U.S. had a microwave (Williams et al., 2012). Because of the influx of microwaves in homes, food manufacturers answered the call of efficiency by creating whole lines of food products aimed at reheating food for ease of preparation (Moss, 2013). A result of this increased access to ready-to-eat food was ultra-processed foods, loaded with sugar, salt and fat (Moss, 2021). Ultra-processed foods are typically made with additives and other items that are derived from foods but do not have culinary use (e.g., modified starches and protein isolates) and include everything from sweet to savory snacks, frozen or shelf-stable packaged dishes, carbonated beverages, breakfast cereals, and salad dressings (Marrón-Ponce et al., 2019).

Even with the prevalence of technology through improvements of kitchen appliances increasing speed and efficiency of cooking at home, people still do not cook at home and opt for pre-packaged, manufactured foods to save time and effort (Jaffe & Gertler, 2007), hence the broad definition of cooking by many people. Food manufacturers have made it easier to just reheat food items, taking most of the preparation away from the consumer (Cutler et al., 2003). Removing the preparation of food by the consumer relates to increasing dependence on the food system, losing self-sufficiency, and encountering negative health effects (Pollan, 2013).

Effect in the Decline of Cooking Skills and Food Literacy

Health Implications

Even before the COVID-19 pandemic, the health of the average American was of great concern. According to the Centers for Disease Control (CDC), 60% of U.S. adults have at least one type of chronic disease (National Center for Chronic Disease Prevention and Health Promotion [NCCDPHP], 2021a). Of the most prevalent chronic diseases, cancer, diabetes, heart disease, and stroke are all nutrition related (NCCDPHP, 2021b). Nutrition-related chronic diseases come at a cost to the U.S. with diabetes estimating to cost \$327 billion in 2017 in terms of healthcare and lost productivity, and heart disease and stroke incurring estimated costs of \$214 billion in 2017 for healthcare (NCCDPHP, 2020a; NCCDPHP, 2020b).

The rise in chronic disease is a result of several factors including poor nutrition and obesity. The CDC defines a healthy diet based on the Dietary Guidelines for Americans 2020-2025 which emphasizes the consumption of fruits, vegetables, whole grains, fat free or low-fat dairy, a variety of lean animal proteins, plant-based proteins, and foods low in saturated and trans fats, cholesterol, salt, and added sugars (CDC, 2021). The prevalence of obesity among U.S. adults was 42.4% in 2017-2018 (Hales et al., 2020). Causes for obesity are complex but can be associated with poor nutrition. Researchers in Wisconsin found positive associations of eating outside the home at fast food and sit-down restaurants with increased BMI (Bhutani et al., 2018). In Mexico, Marrón-Ponce et al. (2019) found nutrient profiles of ultra-processed foods to be much higher in sugar, calories, and fat while lower in dietary fiber and protein, linking the consumption of ultra-processed foods to diet-related chronic disease. In relation to this, the CDC noted that (NCCDPHP, 2021b), less than 1 in 10 U.S. adults and adolescents consume enough

fruits and vegetables each day. In 2017-2018, the intake of dietary fiber among U.S. adults was 16.9 g per day, about 50% less than the recommended daily allowance (RDA) (Food Surveys Research Group, 2020). Furthermore, the increased consumption of processed foods has altered people's gut microbiomes, contributing to health issues such as increased prevalence of chronic metabolic diseases (Martínez et al., 2020; Wu et al., 2020). However, cooking at home at least two days per week was associated with better diet quality – less intake of energy (kcal), carbohydrates, and fat (Wolfson & Bleich, 2015). Additionally, for college students, cooking at home resulted in more fruit and vegetable intake (Hansen, 2008).

From an economics perspective, Cutler et al. (2003) surmised obesity can be attributed to the time cost of food. The time cost of food refers to the shorted amount of time and the lower cost of food produced by food manufacturers. Because of technology, which has sped up food processing and preparation, people now have more available to eat. Therefore, Americans do not need to spend as much time cooking and they have more variety to choose from, which can cause them to eat more (Cutler et al., 2003).

American Food Values and Trends

As a result of declining CS and FS, American food culture has changed since the advent of consumer culture in the 1920s. The consumer culture of the 1920s created a marketplace for processed and convenient foods and spurred changes in food manufacturing, which have affected American food culture over the past 100 years (Moss, 2021; Pollan, 2013; Roberts, 2008). What do Americans eat and why do they eat it? Many authors have posited these questions, from Michael Pollan in *Cooked* (2013) to Eric Schlosser in *Fast Food Nation* (2012) to Wendell Berry (2009) who wrote, “eating is an agricultural act” (p. 227)—each judging the food system and

America's choice in food. Current food preferences among Americans cite taste as the number one factor in determining how people spend their food dollars (IFIC, 2021). Price, nutrition, convenience, and environmental sustainability round out the top five factors (IFIC, 2021). Even though the International Food Information Council report is from 2021, taste and price have remained in the top five factors for several years (IFIC, 2021; Moss, 2021).

Prior to the Civil War, Americans grew their own food and ate a diet consisting of bread, soups, stews, and cheaper cuts of meat (Freedman, 2019). This shifted during the period of industrialization in the late-1800s when processed foods became more readily available. For instance, nearly all butter was produced on family farms in 1879. By 1899, this dropped to three-quarters and by 1939, only one-fifth of the butter was produced on family farms (Braverman, 1998). With the change to more reliance on the industrialized food system, human values have also changed. Because time and cost are factors in determining someone's willingness to cook, it seems appropriate to assume Americans continue to value convenience as well.

Each American regional cuisine embraces canned goods as a result of mass marketing and automation. As Waverly Root and Richard de Rochemont noted in their book *Eating in America (1981)*, "...the process of education by advertising which has destroyed regional eating in most of the United States is no new thing, and ... in the last quarter of the twentieth century, its force will be at its maximum" (p. 446). The regional cuisines that once marked differences in America, have morphed into one food culture. Others have noted the homogeneity of food by citing the increased consumption of Coca-Cola, McDonald's, and similarities in supermarkets across the country (Ashley et al., 2004).

America's need for innovation to make things more efficient and faster created the current food culture. Wendell Berry (2009) lamented on what has been lost as a result, "The industrial eater is, in fact, one who does not know that eating is an agricultural act, who no longer knows or imagines the connections between eating and the land, and who is therefore necessarily passive and uncritical" (p. 228).

As Berry (2009) and others (e.g., Pollan, 2009) have bemoaned, in the quest for affordability and convenience, the focus on food has been lost. This judgment is not only on food manufacturers who created products laden with sugar, salt, and fat, but also on consumers who purchased these products. With their buying power, white middle class America shaped the food culture (Pollan, 2009).

For Americans, however, nutrition became a determinant of food purchases as health professionals in the early 1900s began placing food into categories of "good" and "bad" based on their health benefits or lack thereof (Freedman, 2019). To many nutrition scientists, people are guided by the flavors of food which influence their consumption. Food that tastes good (i.e., ice cream) is considered "bad" for you whereas a healthful food (i.e., lentils) may taste bad or have strong earthy flavors that can be off-putting to some. Unhealthy food, designed to meet the taste preferences of the public, could be viewed more favorably than healthful food (Freedman, 2019). Moreover, people's taste perceptions of healthy foods (e.g., blueberries) may be in part due to the marketing of foods with health claims such as "low fat" or "superfood" (Nestle, 2018). Food marketers have studied the behavioral effects of placing health claims on food packaging and found an increase in sales of these products, even if the claim was largely untrue (Nestle, 2018).

In the case of low-fat labeling, researchers noted that people consume more of the food item thinking it was healthier or posed less health risk (Wansink & Chandon, 2006).

Despite the negative health effects of “unhealthy” foods (e.g., salty canned foods) espoused by the medical community after Second World War, Americans continued to prefer them. Slowly, Americans became accustomed to artificial flavors and the blandness of processed foods (Freedman, 2019). According to Root and de Rochemont (1981), “Many of us have already been educated away from a willingness to grapple with any really assertive flavors; we have been conditioned to prefer insipidity” (p. 474). Bland foods provided Americans with a chance to enhance the flavor by adding condiments such as ketchup and sriracha. However, in some cases, especially for those with low incomes, the price of the food item outweighs the flavor, as one participant in *Pressure Cooker* (Bowen et al., 2019) said, “Well I haven’t tried it yet, but it’s cheap. Banquet *is* nasty, but I will try it” (p. 144).

The preoccupation of labeling foods as “good” or “bad” has had lasting effects on the American palate and the health of the nation. Food companies sought to give Americans the flavors they desired while being cognizant of health food trends (Moss, 2021). Low sodium and low-fat diets, starting in the 1960s gave Americans canned food choices of low or no sodium and low or non-fat (Moss, 2013; Moss, 2021). To compensate the reduction in one of the three flavor pillars of sugar, salt, and fat, adjustments are made to balance the taste of the product (Moss, 2013). For instance, to reduce the sodium content of a can of soup, the sugar and/or fat content is increased.

Since health problems continue to be a source of concern among the general public, many Americans seek ways to lead a healthier lifestyle through dietary changes and exercise (IFIC,

2021).¹⁰ The internet has provided an abundance of information on healthy eating and with the rise of social media, home cooks are inundated with a variety of recipes on websites, on cooking shows, and in Facebook feeds. One notable group producing food videos is Tasty (see www.tasty.co), a website dedicated to quick meals presented in a short video format. One video posted to their Facebook timeline was for a re-imagined version of tuna noodle casserole not using condensed soup (Tasty, 2019). In the comments on the video, most people did not have positive memories of eating tuna noodle casserole as evidenced by comments inserting the vomit emoji. The consensus from many comments on this video was that people do not like condensed soup, suggesting a shift in food preferences stemming from concerns for health and a shift in flavor preferences.

As preferences change, the canned food industry is scrambling to make profits and more importantly, stay relevant (Gasparro, 2019). Even with adjustments made to their products to be low fat or low sodium, as well as creating soups with global flavors, it has not been enough for the younger generations to purchase their products. As a result, Campbell Soup sales fell three percent in the first fiscal quarter in 2019, continuing the decline of soup sales over the past nine years (Gasparro, 2019). In a notable change from the early 20th century (Parkin, 2001), today's canned food carries with it the stigma of poor nutrition and poor flavor, struggling to fit in with the current trends of special diets such as paleo and ketogenic diets.

¹⁰ According to the IFIC 2021 report, four in ten US adults follow diet with losing weight and preventing negative health outcomes as the top 2 reasons why.

Shifting Food Culture and COVID-19

Despite the political divide surrounding food policies (Levy, 2018),¹¹ American food culture is changing. As the changes in American food culture occur, the risk of dividing the American public, while alienating low-income individuals, appears considerable. Influenced by the Millennial generation, restaurant food trends prior to 2020, emphasized local foods and global flavors (National Restaurant Association, 2019). The “foodie” movement adopted by younger generations is evident in the upper middle class of America, but many low-income families simply cannot afford fresh fruit and vegetables at the local grocery store, let alone at the farmer’s market, creating an even greater divide (Fielding-Singh, 2017; Peltner & Thiele, 2017). Regardless of stigma associated with it, low-income families will continue to rely on processed food, even if the preferences among younger generations shift towards farm-to-table cuisine emphasizing healthier foods.

Also determining consumption trends are the numerous dietary restrictions people proclaim to have either due to chronic disease, food allergies or intolerances, or health and wellness. Popular among many groups including those in Latin America and the U.S, is the gluten free diet (Reilly, 2016). While the gluten free diet is important for those with celiac disease, an autoimmune disorder that affects the digestion of gluten (Reilly, 2016), less than one percent of the U.S. population has celiac disease, and the disease is less common among minority racial groups (Rubio-Tapia, 2012). Researchers also found that most people consuming or

¹¹ The Farm Bill, renewed every 5 years by the United States congress, sees the greatest divide between the two political parties. Republicans support measures decreasing aid to food assistance programs and supporting initiatives of big food companies, whereas Democrats vote to increase food aid for low income families and improve nutrition standards.

following a gluten free diet do not have a celiac disease, nor a medical reason to follow the diet (Rubio-Tapia, 2012; Reilly, 2016). In addition to gluten free, several fad diets (e.g., ketogenic, paleo, and detox diets) have experienced increased popularity for the past several years (Passos, et al., 2020). The popularity of these diets can be attributed to the overwhelming amount of nutrition information prevalent on the internet, through social media platforms, and through the marketing of fad diets for wellness purposes (Passos et al., 2020).

Additional dietary restrictions include food allergies and intolerances, which have also seen increases in prevalence among the U.S. population. From 2000-2013, 3.6% of patients in a large healthcare organization reported one or more food allergies or intolerances (Acker et al., 2017). According to Acker et al. (2017), patient-reported food allergies and intolerances were higher among females (4.2%) and Asians (4.3%).

With the growth of the fast-food industry, the trends of eating out increased prior to 2020 (Moss, 2021). To date, the Millennial generation spends more of their food budget eating out than any generation before it (Kuhns & Saksena, 2017). According to Saksena et al. (2018) food away from home (FAFH) surpassed food at home (FAH). From 1987 to 2010, FAFH increased from 44% to 50.2%. This can be attributed to high incomes among the population as higher income correlates with more consumption of FAFH. Nutritionally, FAFH has more calories, saturated fat, and sodium and less calcium, iron, and fiber (Saksena et al., 2018). Over the past 100 years, the number of calories consumed by Americans has increased by 300 kcals (Putnam, 2000).

The COVID-19 pandemic influenced the amount of food eaten outside the home during 2020 but it appeared to be going back to a more normal status in 2021 (IFIC, 2021). As COVID-

19 vaccination rates increased, Americans were increasingly going to back to normal. A report done by the IFIC published information about changes in American food habits from 2020 to 2021 (IFIC, 2021). In April 2020, 85% of Americans changed food habits in response to the pandemic. In March 2021, that number had decreased to 72%. At the beginning of the pandemic, about 60% of Americans in their study reported cooking more at home but one year later, that number decreased to just over 45%. This was supported by similar research, which reported increased interest in cooking and baking at home during the beginning of the pandemic (Liaw, 2020; Taparia, 2020). Generally speaking, Americans were excited to eat out again as restaurants reopened (IFIC, 2021). Even Campbells Soup sales declined between 2020-2021. Initially, due to the pandemic, sales of Campbell's soup increased (Wiener-Bronner, 2020) but the company faced decline in sales as people shifted their purchasing habits (Kumar, 2021).

COVID-19 had additional impacts on food and cooking through supply line disruptions, rising cost of food, and the closure of restaurants. During the beginning of the pandemic, which saw many communities and states issuing stay-at-home orders, Americans stocked up on food essentials. As the pandemic progressed and social distancing rules were put into place, food manufacturers faced labor shortages, closing of facilities or the reduction in food production and processing, and disruptions in supply lines. As a result, Americans encountered food shortages and empty store shelves with the addition of food shortages, many Americans lost their jobs and relied on emergency food assistance (Hobbs, 2020; Deconinck et al., 2021; Laborde et al., 2021). As Americans cooked more often from home, grocery stores felt increased strain as more money was spent through in-person and online sales (Ellison et al., 2020). In one month due to

quarantining guidelines, food sales for FAH increased 26% from February 2020 to March 2020. Spending on FAFH was 51% lower from April 2019 to April 2020 (IFIC, 2021).

With supply and demand issues in the food system there was a rising cost of food. According to the Economic Research Service for the USDA (2021), food prices increased 0.7% from May 2021 to June 2021. Over the course of one year, food prices were 2.4% higher from June 2020 to June 2021. As Americans returned to a more normal way of life, it was expected that food prices would continue to increase. The cost of food consumed at home for 2021 was expected to increase 2-3% and food consumed away from home was expected to increase 3-4% (Economic Research Service, 2021).

Researchers have noted changes in behaviors and food preferences of Americans over the course of the pandemic. In addition to more online grocery shopping, Ellison et al. (2020) found nutrition and price to be of decreased importance to Americans when it came to purchasing food, a tradeoff based on real or perceived scarcity of food. Other researchers (Laborde et al., 2020) noticed a movement away from nutrient dense foods such as fruits and vegetables to more purchases of shelf-stable products and basic staples. Additionally, Bin Zarah et al. (2020) found that Americans gravitated toward comfort foods. They noted an increase in consumption of sweets, meat, and refined grains and a decrease in consumption of whole grains, fruits, vegetables, and lean meats. Even though more people cooked at home during the pandemic, researchers in Canada have indicated that FL only improved somewhat (Hobbs, 2020). Some Canadians changed their food habits, but it was not a significant amount.

Furthermore, The National Restaurant Association compiled the biggest food trends in restaurants during the pandemic. While comfort food remained on the list, consumers desired

bundled meals that include appetizer, entrée, and dessert for individuals and families, meal kits from their favorite restaurants, meal subscriptions, and health and diet-specific foods. According to their survey, the top foods ordered at full-service restaurants during the pandemic were burgers, seafood items, and pizza (National Restaurant Association, n.d.).

Theoretical Perspectives

Two theories that potentially inform and guide this research study are ecological systems theory and the theory of self-efficacy. Ecological systems theory can guide the broader context of the phenomenon of declining cooking and food skills whereas the theory of self-efficacy will help inform the individual aspect of the phenomenon.

Ecological Systems Theory

Developed by psychologist Urie Bronfenbrenner (1979, 1994), ecological systems theory encompasses five environmental levels - microsystem, mesosystem, exosystem, macrosystem and chronosystem—each of which impact a person's development. The microsystem is the immediate system, as Bronfenbrenner defines as "a pattern of activities, roles, and interpersonal relations experienced by the developing person in a given setting with particular physical and material characteristics" (Bronfenbrenner, 1979, p 22). The setting of the microsystem can include the home, playground, or school.

The second level is the mesosystem, which he considers a "system of microsystems" (Bronfenbrenner, 1979, p. 25), all interconnecting. The third level is the exosystem, defined as "one or more settings that do not involve the developing person as an active participant, but in which events occur that affect, or are affected by, what happens in the setting containing the

developing person" p 25. In the case of a child, the exosystem could include the parent's place of employment.

The macrosystem represents the society of culture in which a person lives (Bronfenbrenner, 1979). Macrosystems influence the development of a person through a multitude of ways including public policy, as Bronfenbrenner states "Public policy is a part of the macrosystem determining the specific property of exo-, meso-, and microsystems that occur at the level of everyday life and steer the course of behavior and development" (1979, p. 9). Bronfenbrenner (2005) also discussed humans as both creators or producers of culture while also being produced by culture. In a sense, the culture in which humans live influences our development and behaviors. Finally, the chronosystem accounts for time and sociohistorical conditions (Bronfenbrenner, 1994).

As a person grows and develops, they experience many transitions, which Bronfenbrenner (1979, 2005) described as ecological transitions. These transitions can include moving, changing jobs, graduating, or getting married. Each of these requires a change in role and therefore "expectations for behavior associated with particular positions" (Bronfenbrenner, 2005, p. 53).

This theory has been used by researchers looking at issues pertaining to public health. In one study, Davison et al. (2012) researched the family dynamic as opposed to individuals to address issues of obesity. The participants, all using Head Start for childcare, were low-income and the majority were single parents (Davison et al., 2012). The study looked at several areas of the family environment to determine influences on eating behavior (Davison et al., 2012). Affecting their behavior was the neighborhood/community in which they lived with participants

citing issues pertaining housing instability, lack of safe playgrounds, lack of supermarkets, inadequate transportation, and poorly maintained schools (Davison et al., 2012). The parents in the study felt knowledgeable about healthy eating but reported time as a barrier and perceived cost of healthy food as another barrier (Davison et al., 2012).

In another study (Verstraeton et al., 2014), Ecuadorian researchers studied adolescent eating behavior and how the influence of the environment. The participants cited time and cost of healthy food as barriers to eating more healthfully (Verstraeton et al., 2014). In terms of environmental influences, other factors affect their eating behaviors such as the wide availability and advertising of junk food, enticing adolescents to consume it (Verstraeton et al., 2014).

In an intervention study (Torrence et al, 2018), researchers noted the importance of addressing factors such as access to healthy foods in a person's environment to improve healthy eating behaviors. Additionally, with cooking instruction and nutrition education, participants in the study showed more confidence in food preparation (Torrence et al, 2018).

While many factors in a person's immediate environment greatly impact their behavior and development, public policy and the culture play significant roles. Story et al. (2008) reviewed food and eating environments and found many factors influencing eating behaviors. Some of these factors include the availability of grocery stores and disparities of food access in low-income areas, abundance of fast-food restaurants, rising cost of food, media influences, and the federal food and agricultural policies (Story et al., 2008). Federal food and agricultural policies encouraged the production of ultra-processed foods, many of which are considered unhealthy (Story et al., 2008). Federal policies have also increased the cost of fruits and vegetables, more so than for processed foods (Story et al., 2008). This is largely due to the low

commodity pricing for soybeans and corn, whose derivatives are in many processed foods (Story et al., 2008).

These studies highlight that a developing human's environment can influence their food related behaviors. From a macrosystem and chronosystem perspective (Bronfenbrenner, 1979, 1994), contemporary young adults have been raised with specific policies and unique sociohistorical conditions (e.g., changes in food system because of technology, COVID-19). These environmental influences may have influenced young adults' experience with learning about CS and FS (microsystem).

Role of Self-Efficacy

While the decline in CS has led to a larger discussion on public health, what is less understood is the relation of CS to social cognitive development through the theory of self-efficacy, where a person's perceived self-efficacy influences choice of behaviors (Bandura, 1978). This theory could help explain issues surrounding barriers and perceptions of cooking such as lack of CS and viewing cooking as duty or chore. As noted by Lavelle et al. (2016), few researchers have connected the role of self-efficacy with cooking, but more are starting to research its effectiveness in cooking skill development.

The efficacy expectation looks at the strength of someone's conviction in their own ability to perform a task, which will lead to behavior change and produce a positive outcome (Bandura, 1978). In a sense, a person's confidence to perform a task, such as cooking, can lead to behavior change and produce positive outcomes, like healthier eating habits. Bandura also surmised that with more self-efficacy, a person is more willing to put forth an effort in the task (Bandura, 1977). He also discussed issues of past performances in completing a task may

influence a person's self-efficacy for doing the task in the future, both positively and negatively (Bandura, 1997). For instance, if a person had a negative experience cooking the past, it may affect their current self-efficacy for cooking.

Additionally, people also tend to gravitate toward things that provide them with self-satisfaction, self-worth, and a sense of pride (Bandura, 1997). If teachers develop an interest in an act, such as cooking, this can instill positive outcomes or encourage a person to like the act of cooking. As Bandura writes, "People display an enduring interest in activities at which they feel efficacious and from which they derive self-satisfaction" (p. 219).

The theory of self-efficacy could help inform issues surrounding the perceptions of and barriers to cooking and in turn, help educators develop strategies to improve not only cooking skills but confidence and enjoyment of cooking, and ultimately improve dietary behaviors among adolescents and young adults. This can also lead to a better sense of agency, as personal self-efficacy is an important aspect of human agency (Bandura, 1997).

Intervention Strategies Using Self-Efficacy.

Over many years, several cooking intervention programs have been implemented to address the decline in CS. The programs span the globe and age groups, from children to adults, all with varying levels of impact and success (Garcia et al., 2016; McGowan et al., 2017b). Recently, the role of self-efficacy and confidence in cooking has started to emerge as a theme for a few programs.

Prior to 5-10 years ago, self-efficacy was rarely studied or not explicitly stated in the research of cooking programs (McGowan et al., 2017b). As such, researchers started calling for the need to include self-efficacy in their intervention strategies as a way to help explain the phenomenon (Lavelle, Hollywood, et al., 2017). Answering the call for more research into self-

efficacy in relation to cooking, a few studies indicated a positive relationship between cooking and self-efficacy among both children and adults.

For children, self-efficacy in cooking was tied to family interactions and/or the teaching of CS. Woodruff et al. (2013) found that children helping with meal preparation at home led to more fruit and vegetable consumption and increased self-efficacy. In teaching CS, researchers (Black et al., 2018) found a short-term positive effect on self-efficacy in a 5-day cooking camp for adolescents.

Even though cooking programs appear to be aimed at children and teenagers, some programs targeted adults, which is appropriate because of the continued decline in CS among older generations. Self-efficacy in cooking among adults was found to produce healthier eating behaviors (Flego et al., 2014). For example, the Australian program, Jamie's Ministry of Food developed by celebrity chef, Jamie Oliver, aimed to improve CS among adults, followed participants from the beginning of the program to six months after the program completion (Flego et al., 2014). Results indicated that the program had lasting impact on both self-efficacy in cooking and healthy eating behaviors (Flego et al., 2014). Additionally, researchers (Martins et al., 2020) noted that the more confident parents were with cooking, the less ultra-processed foods were consumed by the family. Another study also found that combining nutrition knowledge, along with improving self-efficacy can reduce the intake of saturated fat (McGowan et al., 2017b).

However, Garcia et al. (2016) reviewed several cooking intervention programs and found they only modestly improved self-efficacy but tended to be good for low-income and/or disabled adults. To improve the impact and efficacy of cooking programs, researchers (Garcia et al., 2016;

McGowan et al., 2017b) indicated a need for CS assessment and standardized definition of CS, which has been developed by Lavelle, McGowan, et al. (2017). As discussed earlier, the tool is reported to be consistent, reliable, and able to distinguish between low and high skilled subjects.

In addition to standardizing the process of assessing CS and self-efficacy, researchers have also indicated the need to make cooking programs fun and engaging while providing practical skill development (Lavelle, Hollywood, et al., 2017; Murray et al, 2016;). In a focus group with college students, Murry et al. (2016) noted several suggestions from students to help improve their CS. They discussed the need to teach foods and recipes relevant to them, address the cost and time of cooking while also offering solutions to these barriers, and provide incentives such as recipe booklets and free food to draw students into the programs. Eliminating common barriers to cooking seemed to be an effective way to build not only necessary skills but also self-efficacy in cooking.

To date, cooking intervention studies have centered on teaching all ages the benefits of cooking. What is less understood or studied is how each generation learns to cook. For instance, those in college now, who are in young adulthood, are Generation Z encompassing those born after 1995. More than any generation before them, Generation Z has grown up in the digital age and are sometimes referred to as the iGeneration (Seemiller & Grace, 2016). This generation actively seeks information via the internet and uses internet resources such as videos on YouTube as tools for learning (Seemiller & Grace, 2016). Knowing how younger generations learn and interact with technology will assist in finding appropriate strategies in teaching CS and FS.

One area of research that could incorporate self-efficacy in teaching is the FCS programs in schools. If students are not receiving cooking instruction at home, FCS may be better equipped to address the decline of CS and improve self-efficacy among adolescents, while also providing examples of more effective teaching strategies useful for teenagers and young adults.

Problem Statement and Research Questions

With negative perceptions and many cited barriers to cooking, along with the advances in technology promoting convenience foods, Generation Z may be entering adulthood without the basic CS and FL needed to stave off increases in obesity and chronic disease. In addition to health issues younger generations may encounter with poor nutrition, the rising cost of food will have impacts on eating habits both at home and outside the home. Developing strategies to give younger generations the tools and skills they need to make better choices in food consumption could also help address cited barriers such as time, food cost, and perceived skill level. These strategies may also be used to educate younger consumers the effects of reliance on the industrialized food system and the issues surrounding climate change and food waste.

The purpose of this research was to examine the perception of the decline of CS and FL among professionals such as FCS teachers and Registered Dietitians. In addition to professional's perception of CS and FL, are the perceptions and values Generation Z college students place on food and cooking in the context of a worldwide pandemic. Their perceptions and values placed on food and cooking may offer insight into the continued decline of CS seen over several generations and how cultural and society impacts have influenced their perceptions. Additionally, this research may also inform how their relationship with food and cooking is

affecting their entry into adulthood by examining it through the ecological systems theory and theory of self-efficacy.

Research Questions

(RQ1) How is cooking perceived by young adults and how does this shape what they consume?

(RQ2) Which cooking and food skills do Family and Consumer Science teachers and Registered Dietitians think young adults need and why?

(RQ3) What are young adults' perceptions of the top cooking and food skills identified by RDNs and FCS teachers

(RQ4) What factors in a young adult's culture have impacted their CS development?

(RQ5) What teaching strategies do FCS teachers and RDNs perceive as most helpful in teaching young adults to cook?

(RQ6) What teaching strategies do young adults perceive as most helpful in teaching cooking and food skills?

CHAPTER THREE

METHODOLOGY

Study Design

For the purposes of this study, a social constructivist lens was used to better understand the perceptions of food and nutrition professionals (Registered Dietitian Nutritionists [RDN] and Family and Consumer Sciences [FCS] teachers) regarding the status cooking skills (CS) among young adults, along with CS development. Additionally, this research was also used to understand how the perceptions and values of food and cooking among young adults relates to American culture and society.

The current dissertation was completed for degree requirements in the American Studies, which is an interdisciplinary field. The document blends a humanities discipline with the social sciences. Started in the 1920s, American Studies is a relatively new academic discipline that seeks to understand what it means to be an American (Bronner, 2018). Through interdisciplinary scholarship:

American studies identifies and interprets themes, patterns, trends, behaviors, traditions, and ideas that characterize the United States as a nation, an experience, a rhetoric, and peoples - past, present, and future, at home and abroad, and in thought and action (Bronner, 2018, para. 6).

This dissertation aimed to situate the Cooking Skills (CS) and Food Skills (FS) in the United States through the introduction and literature review. Then, in line with American Studies' objectives, sought to contribute knowledge to the present experience with CS and FS. As the focus on people's experiences is central to the purpose of American Studies, a qualitative design was selected as the social science methodology to focus on human experiences.

Specifically, a phenomenological qualitative approach was used to understand the shared experience of a phenomenon, that of the loss of CS and food skills (FS) among young adults in the United States (Creswell & Poth, 2018). The majority of previous research regarding the decline of CS and the perceptions of cooking have relied on quantitative designs (McGowan et al., 2017b). With few qualitative studies available, this study expands qualitative studies beyond a focus on the overall decline of cooking skills among older generations (Kopetsky et al., 2021; Wolfson et al., 2016) and shifts the focus to experiences within young adulthood. Qualitative methods assist in gaining a better understanding of the overall state of the CS and FS development and decline from the perspective of food professional, along with young adult's perceptions on cooking and how their perceptions have been influenced by modern technology, current pandemic, and education. Exploring professional and young adult experiences may provide valuable information regarding best practices and possible solutions to address the state of CS and FS in the United States.

Procedures

Sample: Food and Nutrition Professionals

The aim of research questions 2 and 5 was to determine professionals' perceptions of essential CS/FS and effective ways of teaching these to young adults. Participants included food and nutrition professionals who are licensed as RDNs and FCS teachers at the middle school and high school levels.

Registered Dietitian Nutritionists (RDNs). Considered food and nutrition experts (Academy of Nutrition and Dietetics, n.d.), RDNs work in many areas from clinical practice to

food service management. They are specially trained in educating the public on matters centering on food and nutrition. The accrediting agency for dietetics is the Accrediting Council for Education in Nutrition and Dietetics (ACEND), who compiles competency requirements for both the undergraduate dietetic programs and the dietetic internships. The competencies encompass many areas of practice in nutrition and include specific items in relation to food such as "develop nutritionally sound meals, menus, and meal plans that promote health and disease management and meet client's/patient's needs (ACEND, 2021)." It was expected that the majority of the RDN participants will be white and female, as the demographics of the dietetics profession is 92% female and 80% white (Rogers, 2021). It was also expected that the majority of RDN participants will work in areas such as clinical nutrition, either through a hospital, ambulatory care center, or through private practice, as this accounts for the areas of practice for most dietitians (Rogers, 2021).

Family and Consumer Sciences Teachers. FCS teachers teach in middle and high schools, covering a set of curricula which include culinary arts, nutrition, food safety, and other life skills such as personal finance and budgeting (American Association of Family and Consumer Sciences, n.d.). Even though programs may vary, FCS teachers receive training in areas in which they teach and carry teacher certification required for their state. It was expected that the majority of the FCS teacher participants would be white and female, as the demographics of these teachers is 85% female and 75% white (Zippia: The Career Experts, n.d.).

Sample: Young Adults

Research questions 1, 3,4, and 6 aim to understand young adults' personal experiences with CS/FS, with the top CS/FS identified by professionals, their environmental influences in

relation to cooking, and to document young adults' perceptions on the best ways to teach cooking skills. To accomplish this, young adults (ages 18-25) attending college at a land-grant university in the northwestern United States were recruited. The convenience sample of young adults was from different majors across campus. The land-grant university was chosen due to its diversity of degree programs and a moderate size student population size of 16,000-17,000. The current young adults are considered to be in Generation Z or the digital generation (Seemiller & Grace, 2016).

Measurement

Food and Nutrition Professionals. Surveys were developed to answer the research questions 2 and 5 (i.e., professional perspectives on top CS/FS and best approaches for teaching young adults these skills). Surveys with open-ended questions were created for RDNs and FCS teachers. Although, most questions were the same, two unique surveys (one for RDNs and one for FCS teachers) were developed to account for different demographic information for each group (e.g., only RDNs were asked if they were Registered Dietitians).

Across the two surveys, questions covered the following categories – basic demographic information and their perceptions of cooking and the CS and FS they think young adults need as they get older (Appendix A). The questions were based on key concepts and information obtained in the literature review. Many previous studies (i.e., Kopetsky et al., 2021) identified CS, FS, and nutritional concepts for various populations such as parents of young children. Additionally, through the literature review, strategies and best practices for teaching CS and FS were noted, along with suggestions for the most appropriate age groups to receive CS. Based on this, the focus of the questions aimed to understand RDN and FCS teacher's perceptions

regarding the decline in CS and FS, along with their suggestions of skills young adults need. Their perspective and insight will help provide context and inform the phenomenon.

In the surveys, participants were asked to define cooking, as this definition appears to be fluid and interpreted differently (Short, 2003; Short, 2006). The definition of cooking was asked in order to relate food and nutrition professionals' understanding of cooking to other definitions. Participants were also asked to rank the top five CS and FS young adults need. Although several researchers (Lavelle, McGowan et al., 2017; Martins et al., 2019; de Borba et al., 2020) developed or used varying lists of CS and FS, a consensus of the definition of cooking, CS, FS, and food literacy has not been established. It is unclear if the CS and FS used in these studies are appropriate for young adults, even though some of the researchers targeted this population (de Borba et al., 2020). To this end, it is important to understand food and nutrition educators' perceptions on the most important FS and CS for young adults to have.

Additional survey questions focused on education related to CS and FS for young adults. These included questions related to who should be teaching young adults, how they should be taught, the best age for teaching cooking skills, and any successes/barriers the food and nutrition professionals have encountered. To put the survey responses into context, a set of 5-point Likert scale (*strongly disagree* to *strongly agree*) questions were also included to assess personal and basic perceptions of the professionals' CS (e.g., *Cooking is important to me*).

To achieve clarity and ensure the surveys achieve their intended purpose, cognitive pretesting (Collins, 2003) was completed by sending the survey to three RDNs and two FCS teachers. The dietitians and teachers were presented with the full survey items and asked to

comment on survey design, questions (e.g., clarity, importance), and length of time to take the survey. Small changes were made based on this process.

Young Adults. Online surveys and semi-structured interviews with young adults were conducted to answer research questions 1 (i.e., How is cooking perceived by young adults and how does this shape what they consume?), 3 (i.e., What are young adults' perceptions of the top cooking and food skills identified by RDNs and FCS teachers?), 4 (i.e., What factors in a young adult's culture have impacted their CS development?), and 6 (i.e., What teaching strategies do young adults perceive as most helpful in teaching cooking and food skills?). The online survey included a list of questions pertaining to CS and FS based on the results of the RDN and FCS teacher surveys, along with questions regarding perceptions of cooking, living situation, dietary habits, cooking skill development, and suggestions for teaching strategies. From the survey results, participants were identified and contacted to complete a semi-structured interview (Appendix B).

The semi-structured interview schedule provided more in-depth discussion with participants and included questions that covered many areas regarding participants thoughts and perceptions on food and cooking, including questions regarding FCS education, teaching strategies, and social media usage. To assess young adults' perceptions of food and cooking, participants were asked to define cooking, describe what they eat, and discuss their confidence level in the kitchen. They were also asked about kitchen equipment and resources available to them for cooking which will help identify barriers to cooking.

To assess their self-efficacy and skill level in cooking, participants were given hypothetical set of food ingredients and asked to explain how they would approach making a

meal from these ingredients. The first set of hypothetical ingredients included a basic protein (i.e., chicken breast), common vegetable (i.e., broccoli), and a basic grain (i.e., rice). These ingredients are commonly found in grocery stores. The second set of hypothetical food ingredients included more specialized and perhaps less familiar food items such as a more expensive protein (i.e., pork loin or trout), a less commonly used vegetable (i.e., Brussels sprouts), and a less familiar grain (i.e., polenta). In each scenario, participants were asked how they would approach making a dinner with the ingredients and explain their process.

To gauge previous cooking involvement and education, participants were asked about cooking at home with family (i.e., If mom or dad cooked on a regular basis) and cooking classes offered in middle or high school (i.e., FCS culinary classes). If they completed FCS classes, participants were asked to elaborate on their experience. Lastly, participants were asked about social media usage and best strategies for teaching CS and FS. Understanding social media usage among this age group in terms of cooking will help better understand their relationship to online platforms and if they are an effective medium for teaching. Questions regarding educational strategies were asked to assess how they feel CS and FS should be taught to their age group.

To achieve clarity and ensure the surveys and interviews achieve their intended purpose, cognitive pretesting (Collins, 2003) was completed by having a group of young adults pilot the interview questions. The pilot group was given the interview and survey questions and asked to attempt to answer each question. The students were asked to comment on the questions (e.g., clarity, understanding, importance) and length of time to conduct the interview or survey. Based on their responses, changes were made to the interview and survey questions.

Data Collection

Food and Nutrition Professionals. Prior to data collection, IRB approval for study procedures was received. All participants were provided with an informed consent form as the first page of the survey. Consent provided access to the survey items (Appendix C). The surveys (one for RDNs and one for FCS teachers) were developed in Qualtrics and distributed to their respective professional social media pages with permission of page administrators (Appendix CD). Two social media pages, LinkedIn and Facebook for RD/RDNs were used for survey recruitment. Both social media pages have approximately 15,000 members. Surveys for RDNs were also sent to an email listserv administered by a director of a dietetic internship.

The survey for FCS teachers was sent through a Facebook page for teachers with approximately 4500 of members. The social media sites of LinkedIn and Facebook helped ensure people from around the country for each professional group. Data was collected until saturation was reached (Creswell & Poth, 2018). To incentivize participation, six \$25 Amazon gift cards were distributed randomly to participants (three RD/RDNs and three FCS teachers). Data was stored under password protection.

Young Adults. Prior to implementation of procedures, IRB approval was received. Recruitment of participants occurred through invitations distributed to instructors teaching a 100-level survey/general education course representing a variety of majors and disciplines. Survey participants were given extra credit in the course which was administered at the discretion of the instructor. Interview participants received a \$25 gift card to Amazon for their participation. Participants in the course were asked to complete an online pre-survey. From the survey results, participants were identified to be interviewed. The interviews were conducted either through

Zoom or in person. If conducted via Zoom, permission to record was sought before proceeding. Based on preference, young adult participants also had the option for in-person interviews in a safe and secure location on campus such as a private meeting room in the university library with appropriate health protocols for COVID-19 in place. These interviews were audio recorded with permission of the participant. Providing various options ensured students felt comfortable and safe during the interview. The participants were also be given the option of opting out of answering any questions and ending the interview early if they felt uncomfortable answering the questions.

A researcher trained in qualitative interviewing conducted the interviews. The recorded interviews were transcribed verbatim for data analysis. Participants were asked to read through their transcript for accuracy and provide clarification if needed (i.e., member checking). The initial plan was to interview 10 undergraduate students (i.e., 5 females and 5 males), but data collection continued until data saturation was reached (Creswell & Poth, 2018). To ensure anonymity of the participants, only pseudonyms were used. Participant codes were used to match pre-survey and interview data. All data from the surveys and interviews were kept on a password protected computer and only researchers associated with the study had access to the data.

Data Analysis

The surveys from the RDNs and FCS teachers and the transcripts of the interviews with young adults were analyzed via phenomenological qualitative analysis, which is an inductive approach. Phenomenological research is concerned with the lived experience of humans (van Manen, 1990). As van Manen (1990) states, "Phenomenology is a human science (rather than a natural science) since the subject matter of phenomenological research is always the structures of

meaning of the lived human world” (p. 11). In this study, the phenomenon experienced is that of the loss of CS and FS among young adults in the United States.

Role of the Researcher. My background of working in the culinary industry as a chef and working as a RDN, along with my current position as assistant teaching professor in hospitality management gives me a unique perspective on the issues regarding food and cooking among young adults. Since 2010, I have been teaching basic culinary courses to students across various disciplines – culinary arts, food and nutrition, hospitality management, FCS, sustainable food systems, nursing, and medical school. Due to the nature of the majors I teach, most of the students come to my classes with an interest in food and nutrition. However, based on informal questions to the students, I have seen a decrease in their perceived knowledge and skills in the kitchen. Even with an interest in nutrition, many students enter my basic cooking classes with very little knowledge regarding basic cooking techniques such as cooking poultry or meal planning. All data analysis included a minimum of two researchers to ensure my own experience and biases were managed. Prior to beginning the analysis, another researcher and myself met to discuss our positionalities and potential biases that influenced the analysis process.

Based on initial review of data, it was determined that dividing the data into two analyses would best represent the data and research questions. Analysis 1 focused on research questions 1-4, which discuss the perceptions of cooking, the necessary cooking skills, and young adults’ environment affecting cooking skill development. Analysis 2 addressed research questions 5 and 6, which focus on teaching strategies for cooking skill development. Due to the similarities of the questions, the survey responses for the RDNs and FCS teachers were merged to make a broader group of “food and nutrition professionals.” The young adult survey and interview data were

matched for participants who completed interviews. For each analysis, all relevant data from the food and nutrition professional and young adult surveys and young adult interviews was used. Questions from the surveys and interviews were placed into either analysis based on the subject matter and topic the question was asking.

Analysis 1. To begin, two independent researchers immersed themselves in the data to begin to uncover the “thematic elements of [the] phenomenon” in the text (van Manen, 1984, p. 60). In this process each researcher engaged in van Manen’s (1984) recommended highlighting approach (i.e., reading and re-reading the responses, looking for and highlighting “statements or phrases” that are revealing and essential to the experience) and the line-by-line approach (i.e., looking at every single sentence while asking, ““What does this sentence or statement reveal about the experience being described?””) (p. 61). This process led to the emergence of themes. Dew et al.’s (2017) approach to phenomenological analysis was implemented at this point with the two researchers (a) discussing commonalities and initial themes, (b) agreeing on themes and create coding rules, and (c) refining the coding scheme/rules by independently coding and comparing 10-15 participant responses. The researchers then independently coded all of the data (see Appendix E for coding schemes). The percentage of agreement between coders was 93.9% for the food and nutrition professionals’ data and 90.8% for the young adults’ surveys/interview data, which is above the 80% threshold of standard recommendation for qualitative research (Creswell & Poth, 2018). Disagreements between coders was discussed to find how the responses in the data best represented what the participants intended.

Analysis 2. A phenomenological qualitative analytic approach was also implemented for research questions 5 and 6. Two researchers began with data immersion, engaging in the

highlighting and line-by-line approaches (van Manen, 1984). Then, consistent with Dew et al. (2017), the two researchers met to discuss their observations, determine themes that accurately represented the participants' experiences, established coding rules, and tested and refined the coding rules by coding 10-15 participants' responses. The researchers then independently coded all of the data (see Appendix F for coding schemes). The percentage of agreement between coders was 90.7% for the food and nutrition professionals' data and 97.2% for the young adults' surveys/interview data, which is above the 80% threshold of standard recommendation for qualitative research (Creswell & Poth, 2018). Disagreements between coders was discussed to find how the responses in the data best represented what the participants intended.

Methods of Achieving Authenticity, Trustworthiness, Credibility, and Transferability

To establish trustworthiness, techniques were used to ensure credibility and transferability (Maxwell, 2013). A triangulation of data collected through recorded and transcribed interviews, descriptive statistics, and document and curriculum review aimed to establish credibility. Transferability was ensured through thick description in the findings as well as providing a detailed description of the methodology. Member checking was used for both the surveys to food and nutrition professionals and young adults which ensured accuracy and credibility to the data (Creswell & Poth, 2018). A summary of the survey data was sent to 65 young adult survey participants and 76 food and nutrition professionals for review. The participants were asked to read the data and comment on the accuracy obtained and if it best represents their peers or profession's understanding of the phenomenon. Based on the member checking, a food and nutrition professional replied, "This represents the experiences I have; I am

not surprised that other people have had similar experiences." Among the responses from young adults regarding member checking, one replied "I believe this accurately represents my experiences and similar experiences of my peers." Transcripts of each interview were sent to the respective participant for them to review for accuracy.

CHAPTER FOUR

STUDY RESULTS

Introduction

The purpose of this research study was to examine the perception of the status of CS and FL among younger generations. The participants, food and nutrition professionals and young adults, offer insight into status of CS and FL and how it has impacted their perceptions of cooking and how young adults' culture and environment have influenced their cooking skill development. This study attempted to address six research questions: (1) How is cooking perceived by young adults and how does this shape what they consume? (2) Which cooking and food skills do food and nutrition professionals (e.g., FCS teachers and RDNs) think young adults need and why? (3) What are young adults' perceptions of the top cooking and food skills identified by food and nutrition professionals? (4) What factors in a young adult's culture have impacted their CS development? (5) What teaching strategies do food and nutrition professionals perceive as the most helpful in teaching young adults to cook? (6) What teaching strategies do young adults perceive as most helpful in teaching cooking and food skills?

Descriptive statistics of the food and nutrition professionals and young adults are presented first. From the results of the data analysis, two separate analyses following the same method of coding and analysis were conducted to address the six research questions. Analysis 1 examines the perceptions of cooking, the necessary cooking skills for young adults, and the cultural and environmental influences on young adults' cooking skill development (i.e., research questions 1-4). Analysis 2 explores the best strategies for developing cooking skills in young

adults and provides insight into obstacles facing educators as they teach young adults and other youth how to cook (i.e., research questions 5 and 6).

Participant Characteristics

Food and Nutrition Professionals

Surveys were sent to RDNs and FCS teachers via multiple channels (e.g., social media and email). A total of 82 surveys were attempted by RDNs and 70 from FCS teachers. Several surveys from each group were discarded for not agreeing to the consent form or for being incomplete. The completion rate (i.e., those who started the survey and finished the survey) for the RDN survey was 69.5% and 51.4% for FCS teachers. Because of the similarities of the surveys, the responses of both surveys were analyzed together as a broad group of food and nutrition professionals.

The majority of participants were female (98.9%). The years of practice or teaching varied but 55.9% of participants reported working 0-10 years in their respective positions (see Table 4.1). For RDNs, 40.4% indicated they worked in higher education with clinical outpatient (17.5%) and clinical inpatient (14.0%) rounding out the top three practice areas. Food and nutrition professionals represented many states in the United States with the largest portion of the sample coming from Montana.

Table 4.1

Participant Characteristics: Food and Nutrition Professionals (n=93)

Study Sample	n=93	%	RDNs (n=57)	RDNs (%)
Gender				
Male	1	1.1		
Female	92	98.9		
Years of Practice or Teaching				
0-5	29	31.2		
5-10	23	24.7		

Table 4.1 (continued)

10-15	12	12.9	
15-20	13	14.0	
20 or more	16	17.2	
Practice Areas (RDNs)			
Higher Education			23 40.4
Clinical Outpatient			10 17.5
Clinical Inpatient			8 14.0
Private Practice			4 7.0
Community Nutrition			4 7.0
Public Health			3 5.3
Student			2 3.5
Foodservice			1 1.8
Administrative			1 1.8
Global			1 1.8
Top States of Residence			
Montana	20	21.5	
Ohio	6	6.5	
Iowa	5	5.4	
Pennsylvania	5	5.4	
California	4	4.3	
Virginia	4	4.3	

Young Adults

A total of 411 surveys were sent to young adults enrolled over four sections of a 100-level course. The response rate was 70.3%. Responses who indicated an age over 25 (i.e., 26+) were discarded, along with incomplete responses, bringing the completed response rate down to 65.7%.

Among the completed surveys, more females than males (75.6% vs 22.5%) completed the survey (see Table 4.2). The majority of participants (90.0%) identified as White (Caucasian). First year students (57.5%) were the largest group of young adults participating and most participants were ages 18-19 (66.9%). Many different majors were represented but nursing/pre-nursing was the most popular (37.3%) among young adults. Even though students' hometowns are in many different states, most students completing the survey lived in Montana (37.7%).

Table 4.2*Participant Characteristics: Young Adults (n=270)*

Study Sample	n	%
Gender		
Male	61	22.5
Female	204	75.6
Non-binary	4	1.5
Prefer not to answer	1	0.4
Ethnicity		
Caucasian	243	90.0
African American	2	0.7
Latinx or Hispanic	7	2.6
Asian	2	0.7
Native American	10	3.7
Native Hawaiian/Pacific Islander	1	0.4
Indian	1	0.4
Bi-or Multiracial	4	1.5
Year in college		
First year	157	57.9
Second year	75	27.7
Third year	27	10.0
Fourth year or beyond	9	3.3
Graduate student	2	0.7
Age of Young Adults		
18	109	40.4
19	72	26.7
20	38	14.1
21	14	5.2
22	7	2.6
23	5	1.9
24	8	3.0
25	5	1.7
No age provided	12	4.4
Top 10 College Majors		
Nursing (including pre-nursing)	100	37.0
Psychology	39	14.4
English (including teaching and literature)	13	4.8
Agricultural Education	11	4.1
Community Health	11	4.1
Human Development Family Science (including teaching option)	10	3.7
Undecided	8	3.0
Business	7	2.6
Engineering	6	2.2
Food and Nutrition (including Nutrition Science)	6	2.2
Top States of Residence (hometown)		
Montana	101	37.4
California	33	12.2
Colorado	26	9.6
Washington	26	9.6
Minnesota	12	4.4
Oregon	10	3.7

Young adults were asked a series of questions regarding work, living situation, and eating habits (see Table 3). Of the responses, 53.8% ($n=146$) of young adults work outside of school, with just over one-third ($n=106$; 39.1%) reporting working 0-20 hours per week. Most of the young adults responding to the survey live on campus ($n=158$; 58.3%) and nearly all these participants have a meal plan with the university and consume most of their meals in the dining halls. Many dorms on campus have common area kitchens available for students to use. Of the on-campus students, about one-third ($n=50$; 32.5%) report using these kitchens. For young adults living off campus, they were asked to list the equipment available to them in their residence. All of these young adults have an oven and stove and nearly all have a microwave, pots and pans, knives, bowls, and measuring cups and spoons. Less than 20% ($n=22$; 18.8%) reported having a food processor and about half ($n=58$; 49.6%) have a stand or hand mixer.

Both on-campus and off-campus participants were asked about cooking for themselves and eating at restaurants. Off campus young adults reported cooking for themselves (e.g., 5 or more times per week) at a higher rate than those living on-campus. Regarding consuming meals outside of home or in foodservice operations not located on campus, slightly more off campus young adults (51.3% vs 33.2%) reported consuming restaurant meals 2-3 times per week.

Young adults also reported on their eating habits and dietary restrictions (see Table 4.3). About three-quarters of young adults ($n=197$; 73.1%) reported consuming 0-2 servings of fruit and vegetables per day. Of dietary restrictions reported, most young adults ($n=191$; 70.5%) indicate they do not have dietary restrictions. Of those reporting dietary restrictions, dairy free and gluten free were the most commonly disclosed ($n=25$ dairy free; $n=18$ gluten free). Other dietary restrictions were a combination of special diets (e.g., ketogenic, intermittent fasting),

allergies (e.g., tree nut, seafood), or for underlying health conditions (e.g., diabetes, gastroparesis).

Of the young adults agreeing to be interviewed for more in-depth information regarding food and cooking, a total of nine interviews were completed. Of the nine interviews, five identified as female and four identified as male. Their ages ranged from 18-23. Two interviewees identified as Hispanic/Latinx and one interviewee identified as Native American, with the remaining interviewees identifying as White.

Table 4.3
Living Situation and Dietary Habits of Young Adults

Living Situation and Eating Habits	Study Sample		On campus		Off campus	
	<i>n</i> =270	%	<i>n</i> =158	%	<i>n</i> =112	%
Hours per week working						
I do not work	124	45.8				
0-10	41	15.1				
10-20	65	24.0				
20-30	34	12.5				
30+	6	2.2				
Living Situation						
On campus	158	58.3				
Off campus	112	41.5				
Use common area kitchen in dorm						
Yes			50	32.5		
No			105	67.5		
Have a meal plan with the university						
Yes			153	96.8		
No			4	2.5		
Meals consumed in dining halls daily						
Breakfast			77	50.0		
Lunch			126	81.8		
Dinner			122	79.2		
Additional meals outside of normal dining times			21	13.6		
Kitchen Equipment						
Microwave					111	94.9
Oven / Stove					117	100.0
Mixer (hand or stand)					58	49.6
Food Processor					22	18.8
Blender					87	74.4
Pots and pans					115	98.3
Chef's knife					113	96.6
Measuring cups and spoons					115	98.3

Table 4.3 (continued)

Mixing bowls			106	90.6
Other cooking utensils: spatulas, whisks, spoons, etc			113	96.6
<i>On average, how often per week do you prepare your own meals while at college?</i>				
0-1x/week	84	54.5	10	8.5
2-3x/week	51	33.1	34	28.8
4-5x/week	10	6.5	35	29.7
5+x/week	9	5.8	38	32.5
<i>On average, how often do you order food from a restaurant or foodservice operation that is not run by the university?</i>				
0-1x/week	89	58.2	44	37.9
2-3x/week	50	33.2	60	51.3
4-5x/week	11	7.2	12	10.3
5+x/week	3	2.0	0	0.0
Number of servings of fruits and vegetables consumed daily				
0-1 servings	85	31.4		
2 servings	112	41.5		
3 servings	58	21.4		
4 or more servings	12	4.4		
No answer	3	1.1		
Dietary Restrictions				
I do not have dietary restrictions	191	70.5		
Gluten free	11	4.1		
Gluten free + Dairy Free	2	0.4		
Gluten free + Vegetarian	1	0.4		
Gluten free + Vegan + Tree nut allergies	1	0.4		
Gluten free + Dairy Free + No red meat	1	0.4		
Gluten free + Tree nut allergies + Peanut allergies	1	0.4		
FODMAP	1	0.4		
Dairy free (include lactose intolerance)	19	7.4		
Dairy free + Egg free + Pre-diabetic	1	0.4		
Dairy free + Egg free	1	0.4		
Diabetic	2	0.7		
Vegetarian	9	3.3		
Pescatarian	3	1.1		
Gastroparesis	1	0.4		
Tree nut allergies	2	0.7		
Peanut allergies	3	1.1		
Seafood allergies	3	1.1		
Ketogenic diet	1	0.4		
Intermittent Fasting	4	1.5		
Fitness (muscle building)	1	0.4		

Note: The FODMAP diet consists of phases of elimination and reintroduction of high FODMAP foods. It is assumed that the participant on the FODMAP diet is in full elimination phase and following a low-lactose and gluten free diet.

Analysis 1: Perceptions of Cooking and Necessary Cooking Skills for Young Adults

The focus of this data analysis is on the perceptions participants have of cooking, the necessary skills young adults should possess as they enter adulthood, and the influences of young adults' environment in their autonomy in cooking. This analysis addresses research questions 1-4. Four themes were identified through content analysis: (1) Definition of Cooking, (2) Perceptions of Cooking, (3) Foundational Cooking Skills for Young Adults, (4) Young Adults' Autonomy in Cooking.

Theme 1: Definition of Cooking

Participants (79.8% food and nutrition professionals; 76.8% young adults) conceptualized the act of cooking in some similar and different ways. At a basic level young adults and food and nutrition professionals simply described cooking as the "preparation of food" or "preparing a meal." However, many of the participants added additional phrases such as "the ability to prepare," "the skill to prepare," "the art of preparing," or "process of preparing." The food and nutrition professionals also noted that cooking is a science and requires knowledge to perform it. Participants' experiences in the theme are represented in two subthemes: (1) Skills that lead to Nourishment and (2) A Focus on Ingredients.

Skills that Lead to Nourishment. Some participants (60.0% food and nutrition professionals and 37.8% young adults) conceptualized cooking in terms of the use of specific skills that ultimately led to the nourishment of one's body. The process of 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.” A person must develop skills to use these tools. For example, 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 a skill needed by most to engage in cooking. A food and nutrition professional shared, “cooking is reading a recipe, following the directions to incorporate ingredients to make something edible” (female, FCS). Many young adults agreed that recipe was “necessary,” but a smaller group shared that cooking could occur without a recipe (e.g., “prepare a meal, 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)”

Young adults and food and nutrition professionals saw the development and use of these 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). The term sustenance was also used to describe cooking, as one RDN (female) described it as “The ability to provide oneself with sustenance in a wide variety of forms.”

A Focus on Ingredients. Participants (26.7% food and nutrition professionals 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” (non-binary, 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). One young adult (male, 18)

elaborated:

I would define cooking as making a meal for oneself. My parents told me that cooking requires at least 3 ingredients and I think I stand by that assessment, that it requires at least some level of combination of ingredients to be defined as cooking.

Cooking with "raw" ingredients was also noted, along with the term "cooking from scratch." A small group of young adults and food and nutrition professionals were adamant that raw ingredients were required for cooking, but the larger sentiment was that cooking could include scratch and "more processed forms (buying chicken stock versus making own)" (RDN, female) and "[cooking] doesn't always have to be from scratch" (female, 22). Although, participants were clear that there were ingredients or preparation of food items that would not be considered as cooking. A young adult questioned some people's definitions of cooking when he stated, "I feel that some think making ramen is cooking" (male, 25). Participants were clear that cooking was not occurring when "making something frozen" (female, 20), "ordering from a restaurant or using pre-made food (putting chicken nuggets in an oven)" (female, 21), or "just adding water and microwaving" (female, 19).

Theme 2: Perceptions of cooking

Participants (74.4% young adults; 78.7% food and nutrition professionals) shared their perceptions about the purpose of cooking to better describe the reasons young adults cook/do not cook. Some participants (48.5% young adults and 39.1% food nutrition professionals) 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" (male, 18), "to sustain healthy living" (female, 19), or to have a "healthy diet" (female, 18). Participants emphasized this perspective: "Cooking is the first step in taking care of one's health. The diet you use to maintain yourself will directly affect the lifestyle you will have." (female, 25) and "Cooking is more than just eating a meal. It's about taking care of yourself." (FCS, female).

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 myself and those around me" (female, 18). Cooking was thought to promote connection. Highlighting connection, participants shared things like: "[cooking] is a really good way to bring people together and just connect with people better" (male, 20) and "I believe that cooking is the activity that connects my mother and I the most" (male, 18). The connection afforded through cooking was interpersonal but also seen to be more expansive and holistic. For example, an RDN (female) explained that "[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."

In contrast, the conceptualization of cooking was also framed by "challenges" in cooking among young adults (74.8%) and food and nutrition professionals (82.4%). While food and nutrition professionals conceptualized cooking as "time intensive," their contributions to this part of the theme focused on how they believed young adults negatively conceptualized cooking. Cooking was thought to be "overwhelming," "expensive," "a chore," "takes too much effort," "boring," and "taking a lot of time." Those that conceptualized cooking in terms of time and money, explained that they saw cooking as a resource burden because of the "cost of certain

ingredients" (female, 20) or they did "not have money to buy groceries" (female, 18). Cooking was time intensive because it involved shopping for food, cleaning up afterwards, figuring out what to make, and "knowing where to start." Expanding on this perspective young adults shared things like:

...cooking is time consuming with preparation and cleaning up afterward, not many people my age have time to cook all their meals. It's hard to come up with what to cook, I find myself eating the same things and getting bored of them, so I decide not to eat because it takes too long to decide. (female, 20)

I would say personally, that due to my current living situation, it is hard for me to put in the effort to cook my own meals. I think that for others my age, these challenges, as well as money and time make cooking a daunting task. While take-out adds up, it is certainly cheaper to rely on microwave-meals and ramen rather than purchasing fresh produce and the tools needed to make it. As for time, I know that many of my peers are not only full-time students, but also hold down jobs to help cover their costs, and this leaves them with little time to craft intricate meals over hours. All in all, cooking is just overwhelmingly more work, and it is much easier to rely on cheaper alternatives and take-out. (female, 18)

Some food and nutritional professionals 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." Apart from time, young adults also expressed that they lacked interest or perceive cooking to be a chore. A male (18) participant lamented, "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." Food and nutrition professionals believed that early family experiences might contribute to the perception of cooking being a burden. Commenting on the family atmosphere altering young adults' perceptions of cooking, a 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 cooking skills from a young age."

Theme 3: Foundational Cooking Skills for Young Adults

Participants (94.9% young adults; 90.4% food and nutrition professionals) explained that there are "basic" or "foundational" cooking skills that are building blocks to "advanced [cooking] skills" and "knowledge." Although a few young adults described foundational cooking skills as "common sense," most believed these foundational skills would lead to more cooking, healthy meals, more variety, and independence. A young adult (female, 18) explained, the foundational cooking skills help young adults "understand healthy habits and how to achieve a positive relationship with food." Food and nutrition professionals echoed the benefits of having foundational cooking skills because they allowed "for greater understanding of other concepts" (female, FCS) and these skills "reflect the operational side of cooking and are important to have some competency regardless of the food or types of food you are preparing. Having these foundational skills will help ensure success" (female, RDN). The foundational skills were also described as a way to improve other skills such as "simple mathematics, simple rule following/listening to instructions. These skills are a lot more applicable to things outside of cooking" (male, 24).

To understand perceived foundational cooking skills in young adulthood, young adults and food and nutrition professionals reported their top five cooking and food skills they felt young adults needed. The top skills for each participant group varied (see Table 4.4). Food and nutrition professionals most frequently reported "reading and following a recipe (67.9%)," "food safety" (57.1%), "basic knife skills" (45.2%), "using measuring cups, spoons, and scales"

(43.0%), and "understanding basic nutrition" (39.8%) as the five foundational cooking skills young adults should have. Young adults most frequently mentioned skills included: "cooking meat and poultry," "understanding basic nutrition" (52.6%), "food safety" (48.5%), "reading and following a recipe" (39.4%), and "using and oven and stove" (36.4%).

Table 4.4

Food and Nutrition Professionals' and Young Adults' Perceived Importance of cooking and food skills

Skill	Food and Nutrition Professionals (n = 93)		Young Adults (n = 270)	
	n	%	n	%
	Reading and following a recipe	63	67.9	107
Food safety	53	57.1	131	48.5
Basic knife skills	42	45.2	57	26.5
Using measuring cups, spoons, and scales	40	43.0	56	20.7
Understanding basic nutrition	37	39.8	142	52.6
Preparing a hot meal without a recipe	30	32.2	59	21.9
Cooking/preparing vegetables	29	31.2	94	34.6
Using an oven/stove	28	30.1	98	36.4
Preparing a shopping list for grocery store	26	28.0	62	22.9
Cooking meat and poultry	24	25.9	161	59.3
Reading a food label	22	23.8	50	18.6
Selecting other food items in the store such as meat, poultry, eggs, dairy, and processed foods	16	17.2	37	13.6
Selecting fresh produce	11	11.9	35	13.0
Cooking grains	7	7.6	11	4.1
Cooking eggs	7	7.6	48	17.8
Cooking legumes	6	6.6	3	1.5
Using small appliances such as mixers, food processors and blenders	5	5.4	21	7.8
Preparing soups or stews	2	2.2	13	4.8
Food preservation	2	2.2	0	0.0
Cooking/preparing fruit	2	2.2	19	7.0
Using a microwave	2	2.2	23	8.4
Baking cakes, cookies, muffins, and pastries	1	1.1	15	5.5
Cooking pasta	1	1.1	52	19.1
Baking yeast breads	0	0.0	5	1.5

In elaboration of their most frequent selection, food and nutrition professionals listed the skill of reading a recipe as a top foundational skill because many students struggle with reading comprehension and if "written at the 8th grade level" (FCS teacher, female) could be a tool to aid

in reading comprehension. Recipes can also be a teaching tool and expose students to additional skills because “recipes have also evolved to include a lot of extra information, compared to historical recipes, so in reading a recipe, young adults will learn about other skills” (FCS teacher, female). A majority of young adults (93.2%) reported that they had high confidence in their ability to read a recipe (see Table 4.5).

Table 4.5

Percentage of Young Adult's confidence in top 5 cooking skills chosen by Food and Nutrition Professionals (n=270)

Skill	Not at all confident		Not very confident		Somewhat confident		Quite confident		Extremely confident	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Reading and following a recipe	1	0.4	0	0.0	17	6.3	89	33.0	163	60.4
Food safety	0	0.0	7	2.6	49	18.1	112	41.5	102	37.8
Basic knife skills	1	0.4	15	5.6	62	23.0	100	37.0	92	34.1
Using measuring cups, spoons, and scales	0	0.0	2	0.7	17	6.3	58	21.5	193	71.5
Understanding basic nutrition	0	0.0	8	3.0	62	23.0	112	41.5	88	32.6

In contrast to food and nutrition professionals, many young adults indicated that learning to cook meat and poultry was a top foundational skill and explained that developing the skill could have implications for food safety and personal health. In terms of proper handling of meat and poultry, young adults did not want to "burn food," "undercook food," or cause "illness" or injury—"Cooking meat I would say is a huge skill to learn as improper cooking can lead to sickness" (male, 21). Most young adults (79.1%) reported high confidence in their food safety skills (see Table 4.5). Further, cooking meat and poultry was seen as a way to "balance protein and vegetables" and to have base knowledge on good sources of proteins. Food and nutrition professionals also felt basic nutrition was an essential skill as "Young adults need to have an understanding of what they should be eating prior to knowledge of how to prepare foods"

(female, RDN). Nearly three quarters of the young adults indicated they were confident in their basic nutrition skills (see Table 4.5).

Of less importance to young adults but important to food and nutrition professionals were "basic knife skills" (26.5% young adults; 45.2% food and nutrition professionals) and "using measuring cups, spoons, and scales" (20.7% young adults; 43.0% food and nutrition professionals). Food and nutrition professionals discussed basic knife skills to "prevent injury" and speed up the cooking process. While many young adults reported confidence in their knife skills (71.0%) and measuring abilities (92.9%) (see Table 4.5), food and nutrition professionals felt young adults lacked skills in measuring. An FCS (female) teacher described, "I just did a measuring unit with my students this year, and very few got the practical lab correct."

Food and nutrition professionals reported that, despite the benefits of foundational cooking skills, the majority agreed or strongly agreed that cooking skills have decreased among adults in the U.S. over the last 10 years (77.5%) and that the average adult (61.3%) and young adult (81.7%) do not have foundational cooking skills (see Table 4.6). Some food and nutrition professionals and young adults indicated young adults do not have cooking or food skills because they lack the "opportunity" or "experience" to learn. For instance, a young adult (male, 20) stated in terms of his own cooking skill and ability, "I guess I'd just say like I lack knowledge about [cooking]. I was never really taught any [skills]. I'm not super deft in a lot of the skills required for things." However, when young adults were asked their overall confidence in cooking a meal for themselves, they reported high confidence (69.3%) (see Table 4.7).

Table 4.6

Percentage of Food and Nutrition Professionals Perceptions of the Current Landscape of Cooking Skills (n=92)

Statement	Strongly Disagree		Somewhat Disagree		Neither Agree nor Disagree		Somewhat Agree		Strongly Agree	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
I have seen a decrease in cooking skills among US adults over the past 10 years.	1	1.1	3	3.2	16	17.2	38	40.9	34	36.6
The average <i>young adult</i> does not have cooking skills.	0	0.0	4	4.3	12	12.9	48	51.6	28	30.1
The average <i>adult</i> does not have cooking skills.	0	0.0	11	11.8	24	25.8	49	52.7	8	8.6

Table 4.7

Young Adults Confidence in Cooking (n=270)

Statement	Not at all confident		Not very confident		Somewhat confident		Quite confident		Extremely confident	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
How confident do you feel cooking a meal for yourself?	6	2.2	17	6.3	60	22.2	102	37.8	85	31.5

Theme 4: Young Adults' Autonomy in Cooking

Participants (93.0% young adults; 84.0% food and nutrition professionals) expounded on aspects of young adult's environment that either hinder or build autonomy in the kitchen. For the purposes of this theme, the idea of autonomy covers the ability of a young adult to cook a meal for themselves using basic tools and techniques. With a set of foundational skills, it is thought young adults will operate with more autonomy and self-sufficiency in the kitchen. Many young adults noted issues they faced when cooking or attempting to, but many articulated the importance of cooking for their current situation or the future. As a young adult (female, 18) explained:

I think that all of these [cooking] skills are very important (half of them made it onto my own list), and I would say that my lack of confidence in cooking vegetables

is something I desperately need to improve. Vegetables are tricky, and I grew up in a household that did not really cook them or season them or anything beyond warming them in the microwave or over rice in a rice cooker, and I think that my dislike of vegetables is closely tied to this unwillingness to try to make vegetables actually taste good... I have readily available food from both the dining halls and the various restaurants around town, and cooking my own food remains a complex process. With a combination of my limited fridge space and lack of non-common kitchen, cooking is just an ordeal I would like to avoid, despite the meals that I miss wholeheartedly from home. I definitely think there is a depressing lack of cooking amongst people my age, and I would love to see a change in this trend.

Participants, especially young adults, seemed to describe two sides affecting autonomy.

Participants' responses are presented in two subthemes: (1) Environmental Influences Hindering Young Adults' Cooking Autonomy and (2) Cooking Autonomy is Essential for Young Adults' Future.

Environmental Influences Hindering Young Adults' Cooking Autonomy. Young adults (41.9%) and food and nutrition professionals (82.3%) expressed key aspects of the young adult's environment that affect their autonomy in cooking. These included access to facilities/tools, healthy food, learning opportunities, and confidence. Participants explained that many young adults attend college and live in dorms or move away from 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" (female, 18) or "a functioning kitchen" (female, RDN), and if a kitchen was available, they often do not have adequate "equipment" or "resources" to cook in the kitchen.

Participants discussed overall issues with food access, including food insecurity, and most were concerned about young adults having access to "healthy foods." Participants reported that the food system provides too many conveniences, such as the ease of ordering takeout or

availability of prepackaged foods that are "easier to prepare" (female, 20). It was perceived that young adults believed that convenience foods cost less. A young adult (female, 18) elaborated:

A lot of the time college students see the price of the pre-packaged meal at the store and buy that. So, in their head they're saving money and time by buying it, but what they're missing is all the nutrients."

Apart from ease and convenience, some young adults and food and nutrition professionals 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, participants discussed the young adults’ upbringing regarding autonomy and cooking. Food and nutrition professionals 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 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 food and nutrition professionals 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:

My family most commonly prepared American and Mexican style cuisines during my youth, and a large percentage of meals were pre-made. I had divorced parents, and neither of them had a huge cooking background or knowledge base so cooking was always a chore to them.

Regardless of the reason, the lack of learning opportunities and reliance on pre-packed food in early life was thought to decrease young adults’ autonomy with cooking. A young adult (female, 18) concluded:

...most people my age and younger have always just relied on their parents or someone else to cook for them. Unfortunately, I find that my generation and younger are extremely dependent on others and only want instant gratification so if someone else doesn't cook for them, they will just go out to eat at a restaurant.

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 cooking 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, food and nutrition professionals explained that there were barriers in their professional fields that prevented them from better preparing young adults to develop cooking skills that would allow them to be independent. FCS teachers encountered time constraints in their classes where they teach cooking 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]). RDNs also expressed that they do not teach cooking skills (e.g., “I do not have a lot of confidence in my own cooking abilities.” [RDN, female]) or may have cooking skills, but not the needed pedagogical knowledge. A 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.

Lastly, when asked if they have received adequate training for teaching cooking skill, most food and nutrition professionals agreed (62.4%) that they wish they had more training (see Table 4.8).

Table 4.8
Food and Nutrition Professionals Perception of Training for Teaching Cooking Skills (n=90)

Statement	Strongly Disagree		Somewhat Disagree		Neither Agree nor Disagree		Somewhat Agree		Strongly Agree	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
I wish I had more training to teach cooking skills.	3	3.2	14	15.1	15	16.1	44	47.3	14	15.1

Cooking Autonomy is Essential for Young Adults' Future. More young adults (93.3%) than food and nutrition professionals (32.9%) explained the importance of young adults developing autonomy in their cooking or provided suggestions to improve or build 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 the importance of cooking and how it relates young adults’ future:

[cooking skills are important] so you can be self-sustainably healthy... [and are] what I believe to be the most essential skills for young adults. These [cooking] 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. Some young adults explained that taking a culinary FCS class in high school led to increased confidence “in my cooking skills” (male, 18). Participants believed that cooking skills should be part of “required” coursework or a part of “core studies in high school and college” (FCS, female). Community courses that focused on teaching young adults were also encouraged, and RDNs thought having some additional training would empower them to offer classes like this (e.g., “provide a webinar for professionals [on how] to teach [young adults] basic cooking skills” [RDN, female]). Participants believed increasing educational opportunities (formal and community-based) on cooking 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 and save money” (female, 18).

Table 4.9

Cooking skills, perceptions of cooking, and environmental factors: theme and quotes

Themes	Quote	
	Young Adult	Food and Nutrition Professional
<i>Theme 1: Definition of cooking</i> 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)

Table 4.9 (continued)

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)
<i>Theme 2: Perceptions of cooking</i> Motivation, Overwhelming	“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)

Table 4.9 (continued)*Theme 3: Foundational Cooking Skills
for Young Adults*

“Food safety is most important because in order to cook, you need to know basic food safety to be healthy and limit the risks of preparing your own food. Cooking meat and poultry is an important skill to have because under cooked meat and poultry can be dangerous and it is a staple of the modern diet which makes it an important skill to have. The next three things are just basic life skills that are important to being functional adult.” (female, 18)

“I consider these the foundational skills that would then lead to the others listed. I agree that all are important but chose the skills that are necessary for basic food preparation.” (female, RDN)

“I have picked these skills because I feel they are very basic. Without an understanding of Food safety or how to use an oven or stove top, you probably will not be able to do much else!” (female, 18)

“Young adults need to have an understanding of what they should be eating prior to knowing how to prepare foods. This includes basic nutrition and reading the food label. I am a huge proponent of food safety. This knowledge is applied every day with every meal. Understanding how to use utensils for measurement is necessary to follow any type of recipe.” (female, RDN)

“I chose the above skills because I feel that they are the basics necessary to begin learning how to cook because they help you to maintain good nutrition, understand the food you're eating, and what you should be eating, and preparing meals.” (female, 20)

“Food safety is very important so that you don't get sick or someone else sick. Knowing how to read a recipe and measure can lead young adults into doing more and more of their own cooking. Knowing how to read a recipe can lead to someone creating their own recipes. I also feel that learning how to shop in a grocery store is important because food is expensive so shopping carefully can save them money. Start at the very basic of skills and build from there.” (female, FCS)

Table 4.9 (continued)*Theme 4: 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 when 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)

Analysis 2: Insight into Teaching Cooking Skills

The second analysis focused on research questions 5 and 6, exploring the strategies most effective for teaching young adults how to cook. Through their experiences in the field, food and nutrition professionals provided insight into issues they face in attempting to teach cooking skills to young adults, while also providing valuable insight as to what has worked in the past. Young adults also provided information regarding what they have learned, who they have learned from, and the best methods to teach them cooking skills. Three themes were identified: (1) Life Cycle

Influences on Cooking Skill Development, (2) Cooking Skill Development and Education, and (3) Practical Strategies for Developing Cooking Skills.

Theme 1: Life Cycle Influences on Cooking Skill Development

Participants (99.3% young adults; 98.9% food and nutrition professionals) shared their opinions and experiences regarding life cycle influences on cooking skill development. For young adults, they shared their experience learning to cook and food and nutrition and professionals offered insight into the ideal age and the ideal person(s) from whom young adults should learn to cook.

Most young adults reported that they ate regularly homecooked meals (87.4%) and mothers did most of the cooking for the family (67.2%) when they were living with their families during childhood and adolescence (see Table 4.10). Participant experiences are presented in two subthemes: (1) Sources of cooking skill development and (2) Early age is best for cooking skill development.

Table 4.10
Young Adults Cooking Experiences at Home (n=270)

Survey Question	Yes		No													
	<i>n</i>	%	<i>n</i>	%												
Did your family prepare or eat homecooked meals on a regular basis (regular basis meaning 4-5 times per week)?	236	87.4	32	11.8												
Survey Question	Mother/Stepmother		Father		Both Parents		Sibling(s)		Grandparents		Uncle		Split among family		Self	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Who does most of the cooking in your family household?	18	68.1	5	21.9	8	3.0	5	1.9	2	0.7	1	0.4	7	2.6	3	1.1

Sources of cooking skill development. Food and nutrition professionals (91.3%) discussed the ideal person(s) from whom young adults should learn to cook and young adults

(97.0%) provided insight into who taught them how to cook. For both groups, family was the primary and most instrumental source for developing cooking skills in young adults. For instance, young adults shared their experiences learning to cook and most of them (92.7%) learned from family (e.g., mother, father, grandparents). Young adults expounded on the specific skills learned from their parents. A young adult (female, 18) explained,

“[Mom and dad] have always tried to involve us kids in the cooking process, letting us learn the intricacies of cooking. We also will frequently make special meals, where we look up a recipe for something specific, and then gather the ingredients and set out to make it, adding the recipe to our books if it turns out well. From my parents I also learned the delicate nature of lightly tweaking recipes to improve them, and I also learned which recipes not to tweak, such as cake batter and other baking-dependent concoctions.”

Food and nutrition professionals also felt family as the first place to teach youth cooking skills but saw the value of having FCS teachers or other “qualified” individuals (e.g., chefs, RDNs) assist in the process. An RDN (female) reasoned, “While many people learn to cook at home, this is not always an option. Therefore, schools and educators should then provide education in this area.” Further, food and nutrition professionals felt “young adults [could] learn from other young adults [and] those who they like and admire” (female, RDN) or from “anyone with a culinary background, bonus points if you have a background in nutrition” (female, RDN).

Young adults also learned how to cook from several other sources including teachers (e.g., FCS teachers), self-taught through trial and error, in foodservice jobs, from reading recipes and cookbooks, and/or through social media or online resources (e.g., YouTube, TikTok). Some young adults described using a combination of ways to learn such as, “I learned the basics from my mom growing up and used YouTube videos to learn more about how to cook specific cuisines that I enjoyed” (male, 25).

Only a few mentioned (5.4%) not learning to cook during childhood “because my parents always cooked for us kids and I had no real reason to learn” (female, 18). Some even described regret in not learning with a young adult (female, 19) explaining, “I do really wish I learned this before I went to school so I'm not struggling.”

Early age is best for cooking skill development. Food and nutrition professionals shared the ideal ages to teach youth how to cook. The consensus among was that before age 18 was the best age to teach, with early childhood (preschool to age 7) as the ideal age to start. An FCS teacher (female) shared, “Young children (age 2-3) can help in the kitchen. They can add ingredients to a pan or bowl. They can ‘mix.’ Middle school age can start to cook more independently with minor supervision.” Some participants felt a slightly older child in middle or high school would be ideal because “these children are old enough to be around sharp knives and hot ovens and stoves while cooking. This age group is also left alone many times while the parents are gone, so if they learn to cook, they will be able to take care of themselves better” (female, FCS). For a few food and nutrition professionals, a specific age was not provided, but explained that cooking skill development can begin “as soon as children can understand kitchen safety” (female, FCS).

Very few of the young adults (1.5%) discussed the ideal age to teach cooking skills to youth. Those that did focused on how learning at younger ages led to increased confidence in young adulthood. A young adult (female, 18) explained her experience as a child learning from her mother and how it improved her confidence as she got older,

“My mom taught me first thing when I was young. When I was barely walking, she made sure to have me be a part of the cooking process and meals in our home. She would give me options from each food group, and I would pick which one I wanted from each. We then worked together to make each meal. This made me feel

involved and helped me better understand what my body needed for each meal. As I grew older, I knew what was needed in each meal and I was able to have confidence in doing it myself.”

Theme 2: Cooking Skill Development and Education

Participants (54.4% young adults; 84.9% food and nutrition professionals) discussed the role of education in cooking skill development. The consensus among most of the participants was that a cooking class should be offered in high school or college, with some calling for the classes to be “mandatory” or “required.” An FCS teacher (female) stated, “Family & Consumer Sciences class should be a required class starting in 4th grade and continue with a graduation requirement in high school.” Another suggestion for creating cooking education during college was offering not-for-credit on-campus cooking courses— “[offer] an easy 1-hour class, or like once a week hold a cooking class somewhere on campus” (female, 18).

Approximately one-third (32.8%) of the young adults reported that they completed FCS classes in middle or high school (see Table 4.11). Young adults who completed FCS classes described learning the basics of cooking such as “proper food storage, how to follow a recipe, how to use basic cooking utensils, the reaction of foods and heat, working with others in a kitchen, and understanding basic nutrition” (female, 18). While a smaller number reported difficulty remembering what the class covered, others described learning how to make a specific food item. A young adult (non-binary, 24) described,

“I took a Home Ec class in 8th grade. I mostly learned sewing, but I did learn how to make an omelet. That skill was never even close to mastered and is not a skill I am confident with performing successfully.”

A few young adults mentioned that FCS classes were not available to them due to teacher shortage, it was not part of the curriculum, or they did not have the time to take it. Some young adults

expressed regret in not taking these courses (e.g., “I didn't take any of these classes but looking back I wish I would have.” [female, 19]).

When cooking classes were offered, food and nutrition professionals provided insight into their struggles in teaching cooking skills. Students were reported to have a lack of interest in learning to cook or students believed they already knew everything. An FCS teacher (female) explained, “A lot of students think they know what they're doing in the kitchen because they've maybe watched a parent or adult do it at home but with actual execution, they have no idea what to do.” Other struggles for educators were students who were unwilling “take risks” or try new things. The “inability to read and follow directions” (female, RDN) was also mentioned by food and nutrition professionals. For an FCS teacher (female), the age of the students (middle or high school students) was an issue, as “students just don't take the course seriously as young adults.” Other issues facing educators are the resources available to them, such as lack time to teach, lack of supplies and equipment, and “overcrowded classrooms.”

In addition to the challenges food and nutrition professionals face, they also described successes they have encountered when teaching. For some it was “seeing it click.” An RDN (female) witnessed the growth and confidence of her students over the course of a semester in a college-level culinary course,

“In my class, I can see the growth in my students from week 1 to week 16. They have more confidence in their abilities and actually love to take pictures of their dishes to post on social media so I know they appreciate their learning and new skill set.”

Other successes came “from the [students'] enthusiasm of eating something they made themselves” (female, FCS).

Table 4.11

Percentage of Young Adults who took FCS courses (n=270)

Survey Question	Yes		No	
	<i>n</i>	%	<i>n</i>	%
Did you take FCS classes in Middle or High School?	89	32.8	187	67.0

Theme 3: Practical Strategies for Developing Cooking Skills

Participants (78.1% young adults; 88.2% food and nutrition professionals) provided suggestions for the most effective methods to teach young adults cooking skills. The emphasis from most respondents was on the practical side of instruction, utilizing a hands-on approach with simple recipes. A RDN (female) shared:

“Young adults are often pressed for time and lack resources like money and equipment. In a classroom (like where I teach) students can try out recipes, equipment, and ingredients with low risk, i.e., if they burn their assignment, it doesn't mean they have no food for dinner. I think this helps young adults be more willing to try new foods and techniques. Another technique would be to start with simple foods, and get more complex, but make the simple foods into complete meals. Don't just make chicken stock - make the stock into soup, rice pilaf, or risotto.”

To best represent participants’ responses, this theme is divided into two subthemes: (1)

Emphasize Practical Cooking Content and (2) Hands-on Learning is Key.

Emphasize Practical Cooking Content. Participants (38.4% young adults; 28.0% food and nutrition professionals) discussed the content that should be covered in cooking classes. The emphasis was on basic foundational skills such as reading a recipe, menu planning, and a focus on preparing healthy foods. A young adult (female, 23) suggested, “Show them the basics, making pasta, sautéing, seasoning, and cooking meat properly. Can make many dishes with some very basic skills.” Basic skills also included showing “easy recipes that can be made with little to no equipment” (male, 19) and “how to use the appliances in the kitchen” (female, 19). While the

emphasis was still on basic skills, some recommended more specific methods. For instance, teach “five and five,” where “you teach someone how to cook five proteins, and then five different vegetables, and then basic grains like rice” (male, 20). The context where young adults would be living was also an important consideration instruction could focus “on recipes that can be made in a dorm using only a microwave and refrigerator” (female, RDN).

Finally, participants explained that cooking instruction should be integrative—teaching cooking skills while also teaching budgeting/money management, nutrition, and time management. An FCS teacher (female) recommended to teach meal planning,

“so that the student understands how to grocery shop how to plan for the week and how to budget. I think that would be the most effective teaching strategy. From there you can then teach them proper knife skills safety and sanitation how to read a recipe and how to get the best outcome of their dish.”

A few young adults mentioned the need to learn time management due to busy schedules or proper timing of meals— “offer recipes and techniques to get the timing right while cooking a meal” (female, 18).

Hands-on Learning is Key. Participants (71.6% young adults; 90.2% food and nutrition professionals) discussed the most effective teaching strategies to reach young adults. Hands-on through a classroom setting was the most popular mode of teaching, as many called for demonstrations where young adults see a technique from an instructor and then practice it themselves. A young adult (female, 19) explained her experience with learning,

“I think definitely having access to practical learning where you’re doing the things instead of just learning about them, because that definitely implements it more on your brain. When I think back to the learning about folding in the butter and making sure it’s cold, I remember doing that and I don’t think I would remember that as well if I hadn’t gotten the chance to do it if it would’ve just been a lecture. Yes, a practical aspect is definitely really important. Then I think with lecture-type stuff,

having materials to supplement that, like a workbook, or just sheets to help consolidate all the information can be really helpful too.”

Participants indicated that hands-on classes should be, “exciting, relevant, and enjoyable” (female, RDN). In making the content more relevant, suggestions from food and nutrition professionals were to have “students select their own recipes” (female, FCS) and to teach “them to cook foods they enjoy” (female, FCS). Hands on learning, to some young adults, should provide “free cookbooks” (male, 24) or that the content could be taught “through family recipes and stories” (female, 18). To help make the environment more engaging, suggestions from some food and nutrition professionals, was to make sure it was done in group social settings with “peers” or “community members.”

Participants also recognized the value in utilizing social media platforms such as YouTube and TikTok to provide video instruction on cooking for young adults. The social media videos were thought to be most effective when they were “interactive” and provided “step-by-step” instruction, showing the entire process through one video or a series of videos. Social media videos for cooking should be “short, to-the-point videos with multiple steps” (female, RDN). As step-by-step instructional methods were thought to be most effective, participants also recommended using deliverable meal kit services to instruct young adults on cooking— “learning to cook might also happen in a 'boxed meals' program such as "Hello Fresh" that includes recipes, videos, ingredients, etc.” (RDN, female).

Table 4.12*Insight into teaching cooking skills: theme and quotes*

Themes	Quote	
	Young Adult	Food and Nutrition Professional
<i>Theme 1: Life cycle influences on cooking skill development</i>		
Family	<p>“I learned my cooking skills from my mother when she would cook. Sometimes I would help her but sometimes I also just tried to cook by myself so I could make food because I was hungry. I really just had to push myself to cook things while my mother was there with me to help. I watched my mom's basic skills but, sometimes, as I got older, started trying to cook things and had her there to help me figure out what I'm doing correctly and what I could change.” (female, 19)</p>	<p>“Families should be the first to teach young adults to cook, high school courses and then introductory college courses are great environments to learn to cook.” (female, RDN)</p>
Learning early	<p>“I think teaching young adults to cook is kind of difficult and a skill that needs to be addressed earlier in life, through high school by offering culinary classes or cooking clubs while kids are younger.” (female, 18)</p>	<p>“Involving children in the cooking process and everything associated with cooking is beneficial in building interest in food and what the child will eat. If they are involved, they feel like they are part of the process and they can then build on these skills to make healthy choices in the future.” (female, RDN)</p>
<i>Theme 2: Cooking skill development and education</i>		
	<p>“Learning to cook in college or the stage after high school through classes in your community could be helpful. In these classes I would imagine all the students being the same age (18-25) and the same skill level when they enter.” (female, 18)</p>	<p>“Biggest barrier I have found is people's ability to follow a recipe. Many students tend to rush and do not read the directions first and just start adding ingredients, even though they have been told many times not to do that. Some people have never been to the grocery store to help shop or been allowed in the kitchen to cut things up for a recipe. Therefore, it is very hard to teach them about ingredients that they have never seen or been able to pick out.” (female, FCS)</p>

Table 4.12 (continued)

	<p>In FCS classes, “I learned how to bake and cook basic food, use knives and other kitchen utensils properly, and also how to safely perform many skills that are needed when cooking a lot of different recipes.” (female, 18)</p>	<p>“The time. I don't have enough time to teach.” (female, FCS)</p>
	<p>“I think there should be a required class in high school and college to make sure adults know how to provide for themselves.” (female, 20)</p>	<p>“One major barrier I face to teaching cooking classes is finding a space that has a stove, oven, sink, and other basic supplies. I always have to bring stuff from my own home when I teach because the place we meet only has a stove, oven, and microwave, but not enough stuff for every kid to be active all the time. We always split into groups and then take turn measuring, pouring, stirring, etc. I would love a space that had all the needed equipment to teach 10-15 people how to cook at once.” (female, RDN)</p>
	<p>“We had to take [FCS] in middle school where we made things like monkey bread, did not take in high school or college.” (female, 25)</p>	<p>“Successes: pride in accomplishing a successful meal, learning how easy it can be, enjoying new foods and interest in making again.” (female, RDN)</p>
<p><i>Theme 3: Practical strategies for developing cooking skills</i></p> <p>Practical cooking content</p>	<p>“Teaching simple ingredient meals and then slowly becoming more advanced.” (male, 25)</p>	<p>“Providing quick, easy, cost-effective ideas of how to make food at home. These ideas should use minimal cookware (whether a microwave or a single burner stovetop), minimal dishware as many young adults do not have the space or money for a full set of cookware and be quick enough to manage between other responsibilities held by these young adults that capture their time.” (female, RDN)</p>

Table 4.12 (continued)

Teaching strategies	<p>“Starting with easy recipes for foods that they would normally purchase at a restaurant/order.” (female, 19)</p> <p>“By teaching them in person or with videos.” (female, 18)</p>	<p>“Teaching them the importance of nutrition for their health, as well as showing them cooking healthy meals can be easy and how to cook and eat healthy on a budget.” (female, RDN)</p> <p>“Holding cooking classes that start by teaching the basics (knife skills, measuring, reading a recipe) and then can elevate into more complex dishes if the participants want. It is important to keep it interactive and allow them to eat what they've made.” (female, RDN)</p>
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CHAPTER FIVE

DISCUSSION

Introduction

The purpose of this research study was to examine RDN and FCS teacher's perceptions of the status of CS and FL of young adults, in addition to young adults' perception of CS and FL development. The perceptions of participants may offer insight into CS and FL development how culture and society have impacted the perceptions of study participants.

From the results of the study, young adults seemed to understand the importance of CS as it relates to good nutrition and better eating habits. Family has played a central role in their CS and FL development, even as they find themselves unsure as to where to begin in the kitchen. They desire simplicity when it comes to cooking, since they are busy with school, work, and socializing with friends. Cooking can be a daunting and overwhelming task and young adults seek convenience even if they define cooking as "not just reheating something in the microwave."

Food and nutrition professionals were asked specific questions regarding their own perceptions of young adults and cooking and what they have encountered when teaching these skills. Their understanding is that young adults need additional guidance, and it needs to start earlier in life in the home. For food and nutrition professionals, FCS classes or culinary classes should be offered during middle and high school. Food and nutrition professionals seem to desire more respect in their professions as they feel there is a lack of funding and attention given to

their subject matter. In this section the results are discussed in relation to existing research and theory.

Dietary Habits of Young Adults

In the current study, most young adults reported consuming 0-2 servings of fruits and vegetables per day, which is consistent with the average American adult who does not take in the recommended daily amount (i.e., 1-2 cups of fruit and 2-3 cups of vegetables) of fruits and vegetables per day (Lee-Kwan et al., 2017). Additionally, of the dietary restrictions reported by young adults, several mentioned being dairy free or gluten free. However, it is uncertain how many of these young adults are gluten free due to celiac disease or gluten allergy or if being dairy free was for lactose issues, allergies, or a dietary choice.

Analysis 1: Research Questions 1-4

The first data set addresses research questions 1-4, which focus on the cooking skills, perceptions of cooking, and the environmental aspects affecting cooking in young adults' lives. Participants offered their definitions of cooking, which seemed consistent with the Oxford English Dictionary of to "prepare food." Where provided definitions diverged was when participants added words such as "from scratch" or using "raw" ingredients. The specific number of ingredients (e.g., 2 or more ingredients) or a specified amount of time (e.g., 20 minutes to cook a meal) was also mentioned in participant's definitions. Participants also had opinions constituting the aspects that do not involve cooking (e.g., heating things up in the microwave).

The varying definitions from participants' responses are consistent with previous research. As Short (2003, 2006) explained, defining cooking is complex and different for

everyone, as it takes in the person's own ability and their access to ingredients. Daniels et al. (2012) agreed with Short and found that several factors influence the definition of cooking, such as social and family connections, along with cooking-related acts. When participants discussed the aspects of what does not constitute cooking (e.g., just heating things up), it brought up similarities to writers such as Michael Pollan (2013), who may agree with these sentiments and 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).

The health benefits of cooking were widely mentioned by young adults and food and nutrition professionals. Young adults valued the nutritional aspect of cooking, and a few mentioned finding it enjoyable. The connection to family and friends was frequently mentioned, evoking the need to share meals with others. In French culture, this connection through food is called conviviality or the sharing of good food with good company (Pettinger et al., 2006). What brings people together is food and participants recognize this as an important aspect of life.

However, young adults seem pressed for time. Their time constraints due to busy school, work, and life schedules leaves them little time to cook. Their responses about the time-consuming nature of cooking a meal and the perceived higher cost of healthy foods was consistent with previous research where parents did not have the time cook complex meals (Kopetsky et al., 2021). The 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. Young adults' responses regarding their perceptions of cooking are reminiscent of a previous study in Canada, where college students noted the health and social aspects of cooking but were also experiencing heavy school schedules that prevented them from cooking (Marquis et al., 2019).

Food and nutrition professionals were asked their opinion on the current landscape of cooking skills among U.S. adults and young adults. Most food and nutrition professionals agreed a decline in cooking skills is present in American society and that young adults do not have cooking skills. Their opinions are consistent with previous studies that have discussed a decline in cooking skills occurring over several generations (Caraher & Lang, 1999; Ronto et al., 2016; Slater, 2013). While young adults were not asked specifically about the perceived decline in cooking skills, the sentiment was implied in their statements about cooking in general, with a young adult proclaiming, "there is a depressing lack of cooking amongst people my age, and I would love to see a change in this trend" (female, 18).

The foundational skills among young adults and food and nutrition professionals differed slightly with young adults focusing on properly cooking meat and poultry for food safety and health reasons, whereas food and nutrition professionals focused on reading and following a recipe in addition to food safety. Young adults seemed very confident in their ability to follow a recipe and even listed it slightly lower in importance for them. However, food and nutrition professionals discussed the ability to read a recipe in relation to poor reading skills they often encounter with students in their classes. It is unknown if young adults feel they have practiced the skill of reading a recipe due to multitude of recipes available through online resources. By mentioning "cooking meat and poultry" first, it may show a lack of confidence in a young adult's ability to cook these items safely. They were not asked specifically about their confidence in this cooking skill but from comments alluding to avoiding making someone ill with undercooked food or desiring a better understanding of developing a balanced meal that incorporates meat and

vegetables, it seems as if young adults require some additional instruction in this skill, along with nutrition and food safety.

In terms of food safety, the CDC reported 37.2 million foodborne illnesses in 2010 (Scallan et al., 2011). Of these illnesses, 11% were caused by nontyphoidal *Salmonella*, spp and 9% from *Campylobacter*, spp, both of which are commonly linked with improperly prepared poultry. The reporting by the CDC only accounts for certain outbreaks that include commercial food operations (e.g., restaurants and manufacturing facilities) and agricultural operations. However, Canadian researchers (Diplock et al., 2019) interviewed several food safety experts regarding the need for food safety education for *all* high school students. In their experience with high school students, participants witnessed several instances of improper food handling related to reheating foods, traveling with food, poor personal hygiene, and lack of kitchen safety practices.

Their confidence levels for the top five cooking skills listed by food and nutrition professionals seems to be a mix of high confidence in the skills of reading a recipe and using measuring devices and slightly lower confidence with nutrition, food safety, and knife skills. The confidence levels of this study are mostly consistent with experiences of young adults in other studies. Wilson et al. (2017) reported participants with high confidence in preparing meals from basic ingredients, such as meat, poultry, and vegetables. In a Brazilian study, young adults had high confidence in following a recipe and using a knife (de Borba et al, 2020). Young adults in Ireland reported high confidence in cooking meat and poultry and using a knife to chop vegetables but moderate confidence in using a recipe and lower confidence in applying nutrition principles to make a healthy meal (Lavelle et al., 2016). Larson et al. (2006) found that young

adults had high confidence in mechanical skills but low confidence in meal planning and other conceptual or perceptual skills. The young adults in the current study indicate a mix of confidence among mechanical and conceptual skills. In this case, the overarching term of “food literacy,” which encompasses cooking skills, food skills, sustainability, and health (Cullen et al., 2015) seems appropriate to use.

Although, when teaching food literacy, it is important to not lose the focus of practical (or mechanical) skills that constitute cooking, as these seem to be what young adults are missing the most. This was suggested by Benn (2014) who felt food literacy should include four levels of food, which include cooking and meal preparation. The varying lists of CS and FS in several studies (McGowan et al., 2017a) speaks to the need for a standardized list of CS and FS. The skills listed in the current study were compiled from many sources (e.g., Lavelle, McGowan, et al., 2017; Martins et al., 2019) and are standard in culinary education in the U.S. (American Culinary Federation Foundation [ACFF], n.d.).

With ecological systems theory, the environment plays as significant role in childhood development (Bronfenbrenner, 1979). When examining the environment of the young adults in this study, their family life, food system, and educational system all played roles in their cooking skill development. The family was a crucial in determining eating habits and developing autonomy in the kitchen. Food and nutrition professionals felt that home life was not always conducive to a good learning environment due to several factors including access to proper equipment and food. Additionally, food and nutrition professionals discussed parents who may not have cooking skills and therefore may not be passing this knowledge down to their children. In some cases, they felt parents did not allow children to cook, which is consistent with earlier

studies where parents did not want to deal with the messes created by having children in the kitchen (Lavelle et al., 2019). Young adults also mentioned relying on others such as their parents or university meal plans for their meals. It seems natural for students who reside on campus to rely on university food service for their meals. However, the reliance on parents for making meals may have affected their ability to be autonomous and self-sufficient (Lahey, 2015).

For many families and young adults, it seems more efficient to purchase prepackaged items because they are easier to prepare (Kopetsky et al., 2021). Young adults living in dorms do not always have access to kitchens and for many young adults, tight financial resources have made affording food a difficulty. As the cost of food increases due to several issues such as inflation (Lucas, 2022), food access will continue to be an issue for many young adults. The food system has increasingly made ordering out easier to do with companies such as Uber Eats and DoorDash.

Related to the theory of self-efficacy, some young adults mentioned their lack of confidence in cooking, which led them to not enjoy cooking. If they did not grow up cooking or have a chance to learn from an adult or in an educational setting, this seems to have affected their self-efficacy in the kitchen. Bandura (1977) related past experiences, including negative ones, with a person's self-efficacy for completing a task such as cooking. A student with less confidence and less self-efficacy in cooking may have had negative experiences in the past.

Young adults explained their experiences with divorced parents or working parents who did not have the time nor resources to cook regularly. This is consistent with previous research which found that women are still responsible for meal preparation in families (Sharif et al.,

2017). Moreover, in two parent households, women who worked outside the home were less likely to prepare dinner for the family (Sharif et al., 2017). Sharif et al. (2017) also noted that single fathers were also less likely to prepare dinner for their children. With a focus on convenience, the food system offers many quick and easy methods of cooking, which seems to have affected some young adults' ability in the kitchen.

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 non-existent or difficult to find (Arnett-Hartwick, 2017). This is consistent with the historical perspective of home economics/FCS. Since the 1940s, home economics/FSC has been in decline for many reasons including the opinion it is not academically challenging enough (Elias, 2008) and young women in the 20th century were encouraged to major in business or science (Dreilinger, 2021). The negative stigma of home economics/FCS seems to continue to affect programs around the country.

Additionally, RDNs often felt at a loss for teaching cooking skills, as some reported not having adequate training to teach the skills or 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. Coursework centering on food and cooking must include the following topics:

"Food science and food systems, food safety and sanitation, environmental sustainability, global nutrition, principles and techniques of food preparation, and development, modification, and evaluation of recipes, menus and food products acceptable to diverse populations (p 9)."

This differs from accredited culinary arts programs where specific CS (e.g., sauteing meat, steaming vegetables) are required for future chefs (ACFF, n.d.). For the current dietitians in this study who felt they had inadequate training in cooking, offering additional coursework in culinary arts may address this issue.

Participants commonly mentioned that food and kitchen access hindered young adults' ability to cook for themselves. While this study did not specifically ask about food insecurity among young adults, it is estimated that 41% of college students in the U.S. are food insecure (Nikolas et al., 2020). According to the Economic Research Service of the USDA (2022a), food security is "access by all people at all times to enough food for an active, healthy life." Another study (Hagedorn et al., 2022) explored the effects of the COVID-19 pandemic on food insecurity in young adults residing in Appalachia and found that the pandemic caused additional food security burdens on young adults. Additionally, food insecurity among young adults has been linked to negative health outcomes such as increases in chronic disease prevalence as they enter adulthood (Nagata et al., 2019). Researchers (Nagata et al., 2019) speculated reasons for negative health outcomes from from insecurity were the consequences of several factors including increased chronic stress and an increase consumption of ultra-processed foods, which are more available for people to buy. Food insecurity among young adults was also linked to increased depression, anxiety, and other mental health issues (Oh et al., 2022). It was suggested by Peppone et al. (2021) that increasing food skills among young adults could help reduce reliance on ultra-processed foods in food insecure households.

Young adults discussed the importance of cooking and building CS and FS. They recognized the benefits of learning for their own futures as it leads to better health outcomes,

more confidence, and greater independence either from relying on others to cook for them (e.g., parents, dining halls) or from the food system catering to quick and convenient meals and food. Story et al. (2008) discussed the multitude of food policy and food culture factors influencing young adults' food consumption. Addressing some of these factors may reduce the reliance on the food system and lead to greater autonomy in the kitchen.

Analysis 2: Research Questions 5, 6

The second analysis focuses on strategies to improve cooking skill status among young adults. According to food and nutrition professionals, the ideal person(s) for developing cooking skills are families. A specific family member was not mentioned, but rather families in general, even though mothers are still the main person cooking food in the home for these participants and she was the first person mentioned by young adults as to who they learned from. This was consistent with a previous study (Wolfson et al., 2017) where participants named families or the home as the first place to teach youth how to cook. Larson et al. (2006) concluded that where mothers are the ones most responsible for teaching cooking skills. Food and nutrition professionals often discussed the role of FCS classes, as being the next place to young adults to learn CS and FS.

Young adults discussed learning how to cook from their families, namely mothers and at times, this learning fell along gendered roles (e.g., mom teaching baking; dad teaching cooking). For many participants, several other avenues of learning to cook were utilized from employing methods of trial and error to using social media (e.g., YouTube videos) to finding recipes online. This seemed to be consistent with how older generations (Wolfson et al., 2016) learned, except

that older adults used cookbooks. This generation of young adults rarely mentioned cookbooks whereas the older generation relied on them as a resource.

For food and nutrition professionals, the ideal age to teach cooking skills starts early. They described an ideal situation where children are in the kitchen at a young age, helping out in an age-appropriate manner and continuing to assist with kitchen duties as they grew older. Starting early, from these professionals' perspectives, would lead to increases in not only skill development but increases in self-efficacy. This is consistent with previous research (Woodruff et al., 2013), which found that when children help with food preparation, it leads to increases in self-efficacy and more consumption of fruits and vegetables.

Food and nutrition professionals reported facing a myriad of challenges with cooking education. They expressed concern of overcrowded classrooms, time constraints, and funding issues. Teachers discussed students who seem to have an unwillingness to learn or to take risks and try new things. The teachers struggle to reach youth may be related with the declines in FCS education and FCS losing funding to STEM education due to the No Child Left Behind legislation in the early 2000s (Dreilinger, 2021). The same struggles (i.e., lack of respect for women's work) that have encountered home economics from its inception in the early 20th century seems to continue today. Some of FCS teacher struggles are reminiscent of previous studies (Ronto et al., 2016; Slater 2013) in Australia and Canada where this education is not prioritized by school administrators, other teachers, and parents.

In contrast to the struggles encountered by educators are the successes. They enjoyed “seeing it click” and witnessing the growth in CS ability over the course of a term. To achieve a better educational environment, they employ methods that lead to successful outcomes such as

basic recipes using minimal ingredients. The teaching of basic skills was remembered by young adults who took the classes when asked to describe what they learned in the class.

In the end, young adults desire practicality when it comes to cooking. They seek easy, simple, and relevant recipes and classes. Food and nutrition professionals and young adults agree that hands-on cooking classes are essential to cooking skill development, but a consensus was not reached if these classes should be mandatory. Often mentioned as another educational tool, social media could assist with hands-on learning and if used wisely, it could be a good way to reach a generation accustomed to watching videos on TikTok and YouTube. Surgenor et al. (2021) studied the impact of videos on CS confidence and development in school-aged children. They found students retained more knowledge if the information was discussed in an explicit manner and if there was a combination of verbal explanation and visual effects. The study also noted that cooking videos promoted independent learning (Surgenor et al., 2021). Whichever route, video and/or class, the method employed needs to be engaging and relevant (Murray et al., 2016).

Implications

Potential interventions should consider using frameworks of ecological systems theory and theory of self-efficacy to further inform and guide future directions of status of cooking skills in young adults. Since Bronfenbrenner's (1979, 1994) ecological systems theory centers itself on a young adult's environment and how the systems surrounding the individual (i.e., microsystem, macrosystem) impact development and learning, this theory could be further used in a variety of ways by encouraging cooking at home and at school, creating public health initiatives (e.g., Extension services) that promote cooking skill development, and working with

the multitude of organizations in the food system and the governmental policies influencing cooking and food habits. Lessons of the past, the sociohistorical perspective (chronosystem) of cooking skill development, illustrated the ways in which the food system, American culture and society, kitchen technology, and the history of home economics have informed the status of cooking skills among young adults. It is at this point where parents, educators, and policy makers can address areas of a young adult's environment by promoting more cooking and healthful eating patterns that may lead to more autonomy in the kitchen.

The theory of self-efficacy also contributes to cooking skill development by providing a platform of success and behavior change (Bandura, 1978). This theory is useful for families and the education system who teach young adults and children how to cook. Suggestions from participants not only highlighted the importance of parents in cooking skill development but also mentioned FCS teachers and anyone else who students respect as being effective instructors. Interventions to build self-efficacy in the kitchen would first help foster positive relationships between the child and parent/teacher and provide parents and teachers with resources to be effective role models, along with skills to give feedback and encouragement to the child as they learn. Learning foundational skills initially would help build success leading to lasting behavior change, in addition to producing motivation to continue learning more skills in the kitchen. Taking these steps ultimately helps build self-efficacy in the kitchen among children and young adults and encourages the enjoyment of cooking.

As American society becomes more digitized, more convenient food options are encountered, and lifestyles continue to be busy, the need to build self-efficacy and autonomy in the kitchen seems vital for young adults. In the present study, young adults understood the

benefits of cooking and eating healthy but were unsure about how to implement this in their daily lives. Even though many students learned to cook from a family member, many of their responses focused on cooking as being *overwhelming*.

Families should be encouraged to start teaching young children how to cook, as it seems appropriate to get them started early. However, because American families seem busier than ever with a varying array of work, school, and other commitments (Van Kessel, 2020), additional strategies should be employed to improve the confidence in practical cooking skills (e.g., cooking meat and poultry). Even though cooking skill education in families has traditionally been the work of women in the household (Wolfson et al., 2016), male household figures should also participate in the teaching of food and culinary skills. Consideration should be made for single parent households and how best to support their needs as they provide for and teach their children. As an example, the Cooking Matters program, which teaches cooking skills over a six-week period, has shown positive results in terms of improving shopping habits for low-income families (Pooler et al., 2017). This program has the potential to improve food skills for parents that they can model for their children, starting the foundation for building self-efficacy in children in relation to cooking.

In education, FCS could focus on building foundational skills earlier in school curriculum where *all* students could participate in the course. FCS curriculum standards include a variety of CS and FS development across many domains, which could be adapted for students with very little CS knowledge (National Association of State Administrators of Family and Consumer Sciences, 2018a, 2018b) However, most of these classes, if available, are only offered as electives are not required for all students to take.

In addition to FCS education, Extension services could also provide educational resources for families and young adults by the way of informational graphics, videos, and informative and engaging websites. Currently, the Extension service in Montana has created several "MontGuides" which educate the public on several topics from agriculture to nutrition (see <https://store.msueextension.org>). Additional resources, similar to MontGuides could also be created and implemented to educate the public on cooking and food skills.

This type of education and skill-building needs to be a multi-pronged approach utilizing online resources (e.g., simple recipes, step-by-step videos), classes for all incomes and age levels, and resources for parents to encourage cooking at home. *Hello Fresh* (see www.hellofresh.com), with their meal in a box business, is a potential way to implement some of this content. However, Hello Fresh is not affordable, especially for those in lower income brackets. Since young adults requested simplicity, the materials (e.g., videos, recipes, and classes) need to be streamlined and easy to read and follow. For instance, videos should be short format and no longer than five minutes in length. Classes, especially ones offered in the community or on campus, should be held to one hour but offered over the course of 12-15 weeks. Recipes need to be streamlined using basic equipment young adults typically have access to. Simple step-by-step recipes or a no-recipe recipes (Sifton, 2021) encourage people to use their best judgements for measuring and allow some freedom in cooking, which may increase enjoyment and skill.

Perhaps by employing simple strategies and methods aimed at all young adults and adapting these strategies in a culturally appropriate manner, the U.S. can get closer to the original intention of the founders of Home Economics who wanted to ensure everyone has a base

knowledge of cooking skills (Goldstein, 2012). This has the potential for staving off chronic disease and reducing the rates of obesity in the U.S. The American food culture, as varied and diverse as it is, may end up changing its values and trends towards more home cooking, not less.

Future Research

Areas for future research include exploring ways to improve educators (e.g., RDNs) ability to teach cooking skills. Currently RDN undergraduate education and internships may only include 1-2 courses focused on cooking in a kitchen (depending on the undergraduate or internship program), leaving some RDNs without the skills to cook or to teach cooking (ACEND, 2021). Developing a “train the trainer” model may help improve RDN’s cooking skill ability and provide them additional methods to educate their patients on food and nutrition.

Another area of research centers on recipes themselves. Researchers have noted that complicated recipes have been a barrier for parents to implement healthier eating patterns (Miller et al., 2017). Recipes found online or in cookbooks follow a similar format with a full ingredient list first and then instructions typically written in paragraph form. Proposing a new recipe format, such as a roadmap where people would learn the recipe via individual steps would need to be tested. A new recipe format could incorporate food safety information, but in a more streamlined manner. In addition to revising recipes, using a method of 5 plus 5 (5 proteins + 5 vegetables) would be a good avenue to start building cooking skills with young adults, especially those living on their own, as it has the potential to simplify meals even more.

To be most effective, cooking interventions should be longer in implementation. Some short-term intervention (e.g., 1-2 weeks) studies indicate behavioral change among participants but in other cases, the longer the intervention, the more lasting change has occurred (Garcia et

al., 2016). A suggestion would be cooking interventions that take the form of one-hour classes held once per week over the period of 6-10 weeks. This could be based on a model such as a Culinary Boot Camp where researchers taught college students over a four-week period about cooking, nutrition, and grocery shopping (Szczepanski et al., 2022). Researchers of the boot camp noted improved cooking skills and self-efficacy in the kitchen, along with increases of fruit and vegetable intake among participants (Szczepanski et al., 2022). Additional intervention strategies utilizing a few of these ideas have been implemented with some success in improving self-efficacy in younger kids (Soldavini et al., 2022). The intervention used by Soldavini and colleagues (2022) was the Cooking Matters for Kids program, which offers six 2-hour lessons to students in grades 3-5. Another intervention program, targeted towards college student was the CENTS (Cost of Eating Nutritiously during Time as a Student) program that aimed to address cooking barriers (e.g., cost, time) experienced by young adults by offering ways to incorporate healthy cooking and eating habits (Wright et al., 2021). Since young adults in the current study seem pressed for time, a similar strategy could be implemented on campus to encourage healthier eating habits and more cooking. Based on these studies, curriculum for this class would concentrate on cooking basics with food safety embedded into the content. Cooking basics would include mechanical cooking skills such as cooking meat, poultry, vegetables, and grains/pasta, while showcasing how to build a meal with these ingredients. Grocery store tours would also be used as these cover conceptual and perceptual skills such as meal planning, budgeting, and selecting food for purchase.

Due to the history of dietetics and home economics, which largely excluded people of color and other cultural groups that were not White, future research could replicate this study

with more people of color and students from other cultural groups to find best practices and needs for young adults in the kitchen. The skills listed in this study were compiled from several sources rooted in European cooking methods (e.g., McGowan et al., 2017a). While these cooking methods are standard in culinary schools around the country (ACFF, n.d.), they may not be appropriate for all cultural groups, including Native Americans. Finding appropriate CS and FS for other cultural groups will help build food sovereignty, defined as "the right to healthy and sustainable food and the right of people to define their own food and agricultural systems" (pg. 28, Renwick & Powell, 2019). For many advocates of food sovereignty, the definition also includes social justice and building communities around food (Renwick & Powell, 2019). Programs have begun to emerge and be implemented in Native American communities to promote food sovereignty and build FS (Delormier & Marquis, 2019).

Diversifying the field of dietetics has been a topic of discussion in the profession, with the Academy of Nutrition and Dietetics by developing a strategic plan to address the issue (Academy of Nutrition and Dietetics, 2022). The majority of RDNs practicing in the U.S. are White and female, even though the population of the U.S. is continuing to diversify (Academy of Nutrition and Dietetics, 2022). Similarly, FCS instructors tend to be White and female (Zippia: The Career Experts, n.d.). It is important for dietitians and FCS educators to learn cultural competency and for the professions to become racially and gender diverse to be able to educate all Americans in matters of food and nutrition.

Limitations

Limitations of this research include the demographics of the participants. Nearly all the food and nutrition professionals identified as female, which is a slightly higher percentage than the average for RDNs (92%, Rogers, 2021) and FCS teachers (85%, Zippia: The Career Experts, n.d.). Because of the method employed to deliver the survey through Montana State University and other higher education resources (e.g., via email listservs), a higher percentage of food and nutrition professionals (mainly RDNs) were from Montana and worked in higher education, compared to the national average of RDNs who typically work in clinical inpatient or outpatient care and reside in more populous states (Rogers, 2021).

The population of young adults in this study were chosen from a campus located on a predominantly white campus. The majority of young adults were female, and the highest number of majors represented was in nursing, which typically attracts more females than males (Smiley et al., 2021). Those majoring in nursing may be more knowledgeable about health and wellness and have a vested interest in the subject matter. To ensure a more representative sample, it would be good to include more people of color, those living in an urban setting, more gender representation, and a more diverse group of majors if done on a college campus. Other limitations include not surveying young adults who reside in the community who do not go to college or who may be just out of college. Hearing their experiences would give a better understanding of the status of CS and food literacy among young adults in American culture.

Conclusion

Well over 100 years ago, universities around the U.S. started offering courses for women centered on domestic life. The courses covered subject matter such as textiles and sewing and food and nutrition (Dreilinger, 2021). Many educators at the time gathered in Lake Placid, New York to discuss the future of the courses and the development of university degrees in what they named as "home economics" (Dreilinger, 2021). The food and nutrition professionals of this study are part of this lineage of educators. Family and Consumer Sciences teachers are the new home economics teachers, and the field of dietetics was developed by home economists to fill the need for more nutrition-based education in hospitals.

The sentiments mentioned by Ellen Swallow Richards and others during the Lake Placid conferences and subsequent writings about home economics reverberate today. When Richards discussed the lack of cooking knowledge and skill of young women in the late 19th century (Richards, 1911), the same concerns were heard in this study. Even though the concerns of cooking skill decline seem similar, the issues facing a woman in 1900 are not the same as present day. In fact, the concern in 1900 was for women to be educated on these matters in order to make them better consumers and to manage the onslaught of new home technology as a result of electricity and indoor plumbing entering their homes (Goldstein, 2012).

However, for today's young adults, no matter the gender, the issues facing them in the kitchen are a culmination of technological and societal changes spanning 120 years. Young adults have more variety of food available to them, much of it offered in convenient methods (e.g., microwaveable meals, takeout meals, boxed dinner kits). These convenient processed foods are due to government programs which subsidized the raw ingredients (i.e., soy, corn, wheat)

that create these products and make them cheaper to produce (Hesterman, 2011). Even though the U.S. is becoming more diverse (Jensen et al., 2021) and regional cuisines are still in existence, parts of the food system remain homogenized with the plethora of fast-food restaurants and similarities in grocery stores across the country.¹²

In terms of valuing women's work at home, the founders of home economics sought to address this by educating women in domestic duties and creating potential career paths (Goldstein, 2012). However, it may not have fully succeeded, as work in the home, typically dubbed "women's work" is still undervalued and left up for much debate among economists (Hirshmann, 2018). For some economists, work in the home is valued when done for pay by a servant (Hirshmann, 2018), which is reminiscent of Marx and Braverman's views of paid labor.

Despite the on-going debate on the value of women's work, life at home has changed over the years. In 1900, most White women did not work outside the home (Bowers, 2000), whereas today's young adults are more likely to come from households where both parents work (Pew Research Center, 2015). Women entered the workforce in greater numbers in the latter half of the 20th century, leaving them less time to spend on making dinner, let alone teaching their children how to cook (Pew Research Center, 2015). Parents are busy, but the majority of household duties still fall on women (Sayer & Pepin, 2019). American women are educated but seem busier than ever (Elsesser, 2019). Even so, many young adults in this study found instances to credit their mothers for cooking at home and teaching them a few cooking skills.

¹² There are nearly 2800 Kroger stores (Kroger, 2017), 4742 Walmart stores (Walmart, 2022), and nearly 14,000 McDonalds (Andrews, 2018) across the United States.

In the end, young adults in the United States deserve to be educated on cooking, food, and nutrition, especially as it relates to autonomy and health. The American food system will continue to develop convenient ways to create and sell food. As Americans continue to see increased prices at the grocery store and in restaurants (Economic Research Service, 2022b), the need to address issues of declining cooking skills, lack of nutrition knowledge, and food insecurity will become of greater importance. Enhancing cooking skills in a practical manner will lead to more autonomy and self-efficacy, may increase the consumption of more balanced and healthy meals, and may address issues of food insecurity.

Understanding the historical causes of CS decline aligned with the participant experiences in this study, this research indicated that young adults want to learn CS and FS that are relevant to their own lives as they enter adulthood. With the focus on health in CS development, young adults understood the nutritional implications of consuming a diet consisting of ultra-processed foods. By utilizing practical teaching solutions and concentrating on the foundational CS, this could give young adults a better understanding of food and nutrition and will attempt to address the diet-related health issues facing the United States.

A multitude of factors in young adults' lives have guided their perceptions of cooking, leading to a feeling of being overwhelmed despite the fact they understand the importance of cooking. Young adults are busy, and it would be best to develop strategies to meet them where they are by incorporating simple, basic recipes with step-by-step instructions and utilize videos in addition to hands-on learning opportunities. The need of hands-on education coexists with the need for kitchen space and funding to teach these skills. Cooking labs and classes require financial investment and finding the appropriate space can be an issue.

This speaks to a greater issue in American culture, that of valuing food and cooking. As food values shift with more emphasis on local foods and plant-based proteins, increasing access and affordability will become necessary to make an overall change in the food system. Despite the shifts towards more healthful foods, the American food system still emphasizes convenience. The values toward cooking need to change if people are to change the way they eat and cook.

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APPENDICES

APPENDIX A

RDN AND FCS TEACHER SURVEY QUESTIONS

RDN Survey Questions

1. Consent Form info
 - a.I do consent
 - b.I do not consent (If do not consent, skip to end of survey)
2. Are you a Registered Dietitian Nutritionist?
 - a. Yes
 - b.No
 - i.(if no, skip to end of survey)
3. How long have you been practicing as an RD/RDN?
 - a.0-5 years
 - b.5-10 years
 - c.10-15 years
 - d.15-20 year
 - e.20+ years
4. What is your main area of practice?
 - a.Higher education
 - b.Clinical – in patient
 - c.Clinical – outpatient
 - d.Private practice
 - e.Community Nutrition
 - f. Food Service
 - g.Public Health
 - h.Policy
 - i. Retail
 - j. Student
 - k.Other _____
5. Which gender do you identify with?
 - a.Male
 - b.Female
 - c.Non-binary/third gender
 - d.Other _____
 - e.Prefer not to say
6. In which state are you located?
7. How would you define cooking?
8. Please select the top 5 cooking skills you think young adults (ages 18-25) need:
 - a.Cooking meat and poultry
 - b.Cooking/preparing vegetables
 - c.Cooking/preparing fruit
 - d.Cooking grains
 - e.Cooking legumes
 - f. Cooking pasta
 - g.Cooking eggs
 - h.Baking cakes, cookies, muffins, and pastries
 - i. Baking yeast breads

- j. Preparing a hot meal without a recipe
 - k. Preparing soups or stews
 - l. Using measuring spoons, cups, and scales
 - m. Reading a food label
 - n. Understanding basic nutrition
 - o. Reading and following a recipe
 - p. Preparing a shopping list for grocery store
 - q. Selecting fresh produce
 - r. Selecting other food items in the store such as meat, poultry, eggs, dairy, and processed foods
 - s. Using a microwave
 - t. Using an oven and stove
 - u. Using small appliances such as mixers, food processors, and blenders
 - v. Basic knife skills
 - w. Food Safety
 - x. Other skills not listed here _____
9. Based on the previous question, please explain why you chose these as the 5 most important cooking skills for young adults (ages 18-25) to have.
 10. In your opinion, who should teach young adults how to cook?
 11. In your opinion, what strategies would be most effective in teaching young adults (ages 18-25) to cook?
 12. Please rate the following statements (Likert Scale – Strong agree to strongly disagree)
 - a. The average adult does not have cooking skills.
 - b. The average young adult (ages 18-25) does not have cooking skills.
 - c. I have seen a decrease in cooking skills among US adults over the past 10 years
 - d. I wish I had more training to teach cooking skills.
 13. In your opinion, what age is the most important in teaching cooking skills? Please explain your response.
 14. In your opinion, what barriers do you think young adults (ages 18-25) have to cooking on a regular basis?
 15. Please describe any successes and/or barriers you've encountered when teaching people of all ages how to cook.
 16. Please provide any additional comments regarding cooking and teaching cooking skills that you would like to share
 17. Please provide an email to be entered into a raffle for a \$25
 - a. My email address is:
 - b. I would like to opt out of the raffle.

FCS Survey Questions

1. Consent Form info
 - a.I do consent
 - b.I do not consent (If do not consent, skip to end of survey)
2. Are you a current HS or middle school Family and Consumer Science Teacher?
 - a. Yes
 - b.No
 - i.(if no, skip to end of survey)
3. How long have you been teaching FCS classes?
 - a.0-5 years
 - b.5-10 years
 - c.10-15 years
 - d.15-20 year
 - e.20+ years
4. Which gender do you identify with?
 - a.Male
 - b.Female
 - c.Non-binary/third gender
 - d.Other _____
 - e.Prefer not to say
5. In which state are you located?
6. How would you define cooking?
7. Please select the top 5 cooking skills you think young adults (ages 18-25) need:
 - a.Cooking meat and poultry
 - b.Cooking/preparing vegetables
 - c.Cooking/preparing fruit
 - d.Cooking grains
 - e.Cooking legumes
 - f. Cooking pasta
 - g.Cooking eggs
 - h.Baking cakes, cookies, muffins, and pastries
 - i. Baking yeast breads
 - j. Preparing a hot meal without a recipe
 - k.Preparing soups or stews
 - l. Using measuring spoons, cups, and scales
 - m. Reading a food label
 - n.Understanding basic nutrition
 - o.Reading and following a recipe
 - p.Preparing a shopping list for grocery store
 - q.Selecting fresh produce
 - r. Selecting other food items in the store such as meal, poultry, eggs, dairy, and processed foods
 - s. Using a microwave
 - t. Using an oven and stove

- u. Using small appliances such as mixers, food processors, and blenders
 - v. Basic knife skills
 - w. Food Safety
 - x. Other skills not listed here _____
8. Based on the previous question, please explain why you chose these as the 5 most important cooking skills for young adults (ages 18-25) to have.
 9. In your opinion, who should teach young adults how to cook?
 10. In your opinion, what strategies would be most effective in teaching young adults (ages 18-25) to cook?
 11. Please rate the following statements (Likert Scale – Strong agree to strongly disagree)
 - a. The average adult does not have cooking skills.
 - b. The average young adult (ages 18-25) does not have cooking skills.
 - c. I have seen a decrease in cooking skills among US adults over the past 10 years
 - d. I wish I had more training to teach cooking skills.
 12. In your opinion, what age is the most important in teaching cooking skills? Please explain your response.
 13. In your opinion, what barriers do you think young adults (ages 18-25) have to cooking on a regular basis?
 14. Please describe any successes and/or barriers you've encountered when teaching people of all ages how to cook.
 15. Please provide any additional comments regarding cooking and teaching cooking skills that you would like to share
 16. Please provide an email to be entered into a raffle for a \$25
 - a. My email address is:
 - b. I would like to opt out of the raffle.

APPENDIX B

YOUNG ADULT PRE-SURVEY AND INTERVIEW QUESTIONS

Young Adult Survey Questions

1. Consent Form info
 - a. I do consent
 - b. I do not consent (If do not consent, skip to end of survey)
2. Which gender do you identify with?
 - a. Male
 - b. Female
 - c. Non-binary/third gender
 - d. Other _____
 - e. Prefer not to say
3. What is your ethnicity?
 - a. Caucasian
 - b. African American
 - c. Latino or Hispanic
 - d. Asian
 - e. Native American
 - f. Native Hawaiian or Pacific Islander
 - g. Other _____
4. What is the zip code of your hometown or the town in which you graduated from high school?
5. What is your age?
6. What year are you at Montana State University?
 - a. Freshman (First year)
 - b. Sophomore (Second year)
 - c. Junior (Third year)
 - d. Senior (Fourth Year) or beyond
 - e. Graduate student
7. What is your current major and minor (if applicable)?
8. How many hours do you work in paid employment each week?
 - a. I do not work
 - b. 0-10
 - c. 10-20
 - d. 20-30
 - e. 30+
9. Do you live on campus or off campus? (the answer will route them to another set of questions)
 - a. Off campus questions:
 - i. What types of equipment do you have in your kitchen. Check all that apply:
 - ii. Microwave
 - iii. Oven/Stove
 - iv. Hand or Stand Mixer

- v. Food Processor
 - vi. Blender
 - vii. Pots and Pans
 - viii. Chef's knife
 - ix. Measuring cups / spoons
 - x. Mixing bowls
 - xi. Other cooking utensils: spatulas, whisks, spoons, etc
 - xii. On average, how often do you prepare your own meals at home?
 - 1. 0-1 times per week
 - 2. 2-3 times per week
 - 3. 4-5 times per week
 - 4. 5 or more times per week
 - xiii. On average, how often do you order food from a restaurant or commercial foodservice operation?
 - 1. 0-1 times per week
 - 2. 2-3 times per week
 - 3. 4-5 times per week
 - 4. 5 or more times per week
- b. On campus questions
- i. Do you have a meal plan with the university?
 - ii. In a typical day, which meals do you eat in the dining halls? (check all that apply)
 - 1. Breakfast
 - 2. Lunch
 - 3. Dinner
 - 4. Additional meals (outside of normal dining times)
 - iii. If available, do you use the common area kitchen in your dorm? Yes, no
 - iv. On average, how often do you prepare your own meals while at college?
 - 1. 0-1 times per week
 - 2. 2-3 times per week
 - 3. 4-5 times per week
 - 4. 5 or more times per week
 - v. On average, how often do you order food from a restaurant or commercial foodservice operation that is NOT run by the university?
 - 1. 0-1 times per week
 - 2. 2-3 times per week
 - 3. 4-5 times per week
 - 4. 5 or more times per week
10. Do you follow any special diets or have any dietary restrictions? If yes, please check all that apply.
- a. Diabetic
 - b. Vegan
 - c. Vegetarian
 - d. Paleo

- e. Keto
 - f. Intermittent Fasting
 - g. Dairy free
 - h. Soy free
 - i. Egg free
 - j. Tree nut allergy
 - k. Peanut allergy
 - l. Seafood allergy
 - m. Gluten free
 - n. Other (please explain)
11. How do you define cooking?
12. What do you recommend as the best way(s) to teach young adults (18–25-year-olds) to cook?
13. How confident do you feel cooking a meal for yourself?
- a. Not at all confident
 - b. Not very confident
 - c. Somewhat confident
 - d. Quite confident
 - e. Extremely confident
14. Please select the top 5 cooking skills you think young adults (ages 18-25) should have:
- a. Cooking meat and poultry
 - b. Cooking/preparing vegetables
 - c. Cooking/preparing fruit
 - d. Cooking grains
 - e. Cooking legumes
 - f. Cooking pasta
 - g. Cooking eggs
 - h. Baking cakes, cookies, muffins, and pastries
 - i. Baking yeast breads
 - j. Preparing a hot meal without a recipe
 - k. Preparing soups or stews
 - l. Using measuring spoons, cups, and scales
 - m. Reading a food label
 - n. Understanding basic nutrition
 - o. Reading and following a recipe
 - p. Preparing a shopping list for grocery store
 - q. Selecting fresh produce
 - r. Selecting other food items in the store such as meal, poultry, eggs, dairy, and processed foods
 - s. Using a microwave
 - t. Using an oven and stove
 - u. Using small appliances such as mixers, food processors, and blenders
 - v. Basic knife skills
 - w. Food Safety

- x. Other skills not listed here _____
15. Please explain why you think the skills you selected are essential for young adults to have.
 16. According to a survey completed by food and nutrition professional (Family and Consumer Sciences teachers and Registered Dietitians) they chose the following top five cooking and food skills that young adults need:
 - Reading and following a recipe
 - Basic Knife Skills
 - Food Safety
 - Understanding basic nutrition
 - Using measuring cups, spoons, and scales
 - Cooking / preparing vegetables
 Please rank your confidence in doing these skills. (will be a Likert scale "not at all confident" to "completely confident")
 17. Please reflect on the skills listed in number 15. Please explain your reaction to these skills and if you find them to be relevant to you currently or in the future when you live on your own.
 18. In high school or college, did you take any culinary focused (FCS or culinary) classes?
Yes No
If yes, what types of things did you learn in the class?
 19. Where did you learn how to cook and from whom OR if you do not know how to cook, what are some of the reasons you did not learn?
 20. What challenges do you or other people your age have when it comes to cooking?
 21. In a typical day, how many servings of fruits and vegetables do you eat? A serving size is one whole piece of fruit or 1/2 cup fruit or vegetables.
 - a. 0-1 servings
 - b. 2 servings
 - c. 3 servings
 - d. 4 or more servings
 22. In your family home, describe the cuisine or types of food you ate the most.
 23. Did your family prepare and eat homecooked meals on a regular basis (regular basis meaning 4-5 times per week)? Yes No
 - a. If no, please explain the reasons the family did not prepare or eat homecooked meals on a regular basis.
 24. Who does most of the cooking in your family household?
 - a. Mother
 - b. Father
 - c. Sister
 - d. Brother
 - e. Grandmother
 - f. Grandfather
 - g. Aunt

- h. Uncle
 - i. Other caregiver
25. Please provide any additional thoughts or comments you have regarding cooking and food in young adulthood.
26. To provide credit for completing the survey please write your name
- _____
27. Which class are you completing this survey for?
- a. HDFS 101IS (001) T/R 12:15-1:30 Whitney Whittecar
 - b. HDFS 101IS (002) MWF 10:00-10:50 Whitney Whittecar
 - c. HDFS 101IS (003) MWF 9:00-9:50 Wendy Bianchini Morrison
 - d. HDFS 101IS (004) T/R 9:25-10:40 Lacey Gengenbacher
 - e. HDFS 101IS (801) Online Wendy Bianchini Morrison
 - f. Other _____
28. We are looking for students to provide additional information regard food and cooking. If you are interested in participating in a 30-minute interview, please provide your email address. After the completion of the interview, each student will receive a \$25 Amazon gift card.
- a. Yes, I am interested in the interview. Here is my email:
 - b. No thank you, I am not interested in the interview.
29. In qualitative research (research with narrative/words) it is best practice to have participants review the summarized results (about 5 pages). This allows for researchers to further identify the accuracy of results. This process is called "member checking." This would all occur through email and take 15-20 minutes of your time. Would you be willing to do this?
- a. Yes. Here is my email:
 - b. No thank you.

Interview Questions

Semi-Structured

Basic Info

Year in school:

Major/Minor:

Current Job (if any):

Food

1. Describe your favorite food to eat. What sets this apart from other foods?
 - a. Who generally makes this favorite food?
2. Describe a memorable meal you've eaten.
 - a. Who was there?

- b. What was served?
 - c. What made it memorable?
3. What does food mean to you?
4. What does the word *cooking* mean to you?
 - a. How would I know if someone was cooking?
5. Do you follow any special diets or have dietary restrictions? If so, please elaborate.

Cooking

1. Please explain how frequent you cook for yourself (e.g., Daily, A couple times per week, Weekly, Not at all)
 - a. Describe any barriers to cooking you are experiencing now.
2. Describe a typical grocery shopping trip right now – what sorts of things end up in your cart?
3. How confident do you feel in your cooking skills?
 - a. The following skills were ranked as the most important by RDs and FCS teachers.
 - i. Reading and following a recipe
 - ii. Basic Knife Skills
 - iii. Food Safety
 - iv. Understanding basic nutrition
 - v. Using measuring cups, spoons, and scales
 - vi. Cooking / preparing vegetables
 1. How do you feel about these skills? Do you agree or disagree that these are important for your age group? Do you know what they are? Do you know how to do them?
4.
 - a. Let's say I gave you a chicken breast (or protein based on dietary preference), fresh broccoli (or other vegetable), and rice. Describe how you would approach these items. What would you make? If you are stumped, what do you do?
 - b. Let's say, I gave you another set of ingredients: trout (or other protein based on dietary needs), quinoa (or other grain), and arugula (or other less common vegetable). Describe how you would approach these items. What would you make? If you are stumped, what do you do?
5. If you live off campus, describe what your kitchen looks like – equipment, appliances, utensils. (If they live in dorms, the question would be about their parent's home or their dorm kitchen).
6. Describe some cooking skills you would like to learn.
 - a. f/u questions based on responses including how they would like to learn them
7. Let's talk about cooking and your home growing up.
 - a. Do your parents, guardians, grandparents or other adults cook in the household?
 - i. Who does most of the food preparation?
 - b. Describe a typical week of meals in the household.
 - i. is there a big meal prep day or is there cooking each evening?

- c. What types of food/meals are eaten (homecooked or takeout or restaurant)?
- d. Does your family sit down and eat together at a specified time? Please explain why or why not.
 - i. Describe any barriers to cooking or sharing meals in your family household.
- e. Did you learn how to cook from a family member? If so, who taught you?

FCS education

1. Was FCS education offered at your middle and/or high school? (Will need to explain FCS if the participant is unaware of it.)
 - a. Did you take these classes? Why or why not?
 - i. Describe content in the classes
 - ii. (if culinary) What did you learn in these classes?
 - iii. (if culinary) What types of cooking skills were taught in these classes?

Social Media and the Internet

1. How much time do you spend on social media each day?
2. What sites or apps do you use the most?
3. What types of food / cooking content do you see or have you searched out?
 - a. What social media platforms do you see this the most?
 - b. What are your thoughts about this food/cooking content?

Learning Strategies

1. Which strategies would be most useful in teaching cooking and food skills to young adults (ages 18-25)?
 - a. f/u questions regarding the strategies and learning style

APPENDIX C

CONSENT FORMS

Consent Form - Survey

SUBJECT CONSENT FORM FOR PARTICIPATION IN HUMAN RESEARCH AT
MONTANA STATE UNIVERSITY**Registered Dietitian Nutritionist's Perceptions of Cooking Skills Among Young Adults**

You are being asked to participate in a research study regarding perceptions of cooking skills among young adults, ages 18-25. Information obtained from this interview may help us determine the scope of decline of cooking skills among youth and any barriers or challenges young adults may face when learning how to cook. We are asking you to participate because you are a Registered Dietitian Nutritionist (RDN) and have expertise in food and nutrition. Participation in this study is completely voluntary. Please read this form carefully and ask any questions you may have before agreeing to allow you to take part in this study.

What the study is about: The purpose of this study is to understand Registered Dietitian Nutritionist's perceptions of cooking skills among young adults.

What we will ask you to do: Participation is voluntary. If you agree to allow you to participate, your survey responses will be utilized within the study. All data will be kept confidential, and no one outside the study staff will have access to your data. You may choose to withdraw from the study at any time.

Risks: Although the risks in this study are low, you may feel uncomfortable with the some of the questions in the interview or survey. You are free not to answer any questions that cause discomfort, and you can withdraw participation at any time.

Benefits: Although there are no direct benefits, results of this study will be used to address issues related to the decline of cooking skills among young adults (ages 18-25).

Compensation: Participants in the survey will have a chance to win one of three \$25 Amazon gift cards.

Cost to you: There is no cost to participate in this study.

Confidentiality of records: The records of this study will be kept private. Any report we make public we will not include any information that will make it possible to identify you. Only de-identified records will be maintained by the researchers. Such records will be stored in a secure file on a private computer.

If you have questions: The researcher conducting this study is Marcy Gaston from Montana State University. If you have any questions, you may contact Ms. Gaston (email: marcy.gaston@montana.edu ; phone: (406) 994-4616) or her mentor: Mitch Vaterlaus, PhD (email: j.vaterlaus@montana.edu). If you have additional questions about the rights of human

subjects please contact the Chair of the Institutional Review Board, Mark Quinn, (406) 994-4707 [mquinn@montana.edu].

AUTHORIZATION: I have read the above and understand the discomforts, inconvenience, and risk of this study. I, _____ agree to participate in this research. I understand that I may later refuse participation in this research. I have received a copy of this consent form for my own records.

Participant Signature:

Date:

Investigator:

Date:

SUBJECT CONSENT FORM FOR PARTICIPATION IN HUMAN RESEARCH AT
MONTANA STATE UNIVERSITY

Family and Consumer Sciences Teacher's Perceptions of Cooking Skills Among Young Adults

You are being asked to participate in a research study regarding perceptions of cooking skills among young adults, ages 18-25. Information obtained from this interview may help us determine the scope of decline of cooking skills among youth and any barriers or challenges young adults may face when learning how to cook. We are asking you to participate because you are a Family and Consumer Sciences Teacher and have expertise in teaching food, culinary arts, and nutrition. Participation in this study is completely voluntary. Please read this form carefully and ask any questions you may have before agreeing to allow you to take part in this study.

What the study is about: The purpose of this study is to understand Family and Consumer Sciences Teacher's perceptions of cooking skills among young adults.

What we will ask you to do: Participation is voluntary. If you agree to allow you to participate, your survey responses will be utilized within the study. All data will be kept confidential, and no one outside the study staff will have access to your data. You may choose to withdraw from the study at any time.

Risks: Although the risks in this study are low, you may feel uncomfortable with the some of the questions in the interview or survey. You are free not to answer any questions that cause discomfort, and you can withdraw participation at any time.

Benefits: Although there are no direct benefits, results of this study will be used to address issues related to the decline of cooking skills among young adults (ages 18-25).

Compensation: Participants in the survey will have a chance to win one of three \$25 Amazon gift cards.

Cost to you: There is no cost to participate in this study.

Confidentiality of records: The records of this study will be kept private. Any report we make public we will not include any information that will make it possible to identify you. All original records will be retained by your instructor. Only de-identified records will be maintained by the researcher. Such records will be stored in a secure file on a private computer.

If you have questions: The researcher conducting this study is Marcy Gaston from Montana State University. If you have any questions, you may contact Ms. Gaston (email: marcy.gaston@montana.edu ; phone: (406) 994-4616) or her mentor: Mitch Vaterlaus, PhD (email: j.vaterlaus@montana.edu). If you have additional questions about the rights of human

subjects please contact the Chair of the Institutional Review Board, Mark Quinn, (406) 994-4707 [mquinn@montana.edu].

AUTHORIZATION: I have read the above and understand the discomforts, inconvenience and risk of this study. I, _____ agree to participate in this research. I understand that I may later refuse participation in this research. I have received a copy of this consent form for my own records.

Participant Signature:

Date:

Investigator:

Date:

Consent Form – Survey and Interview

SUBJECT CONSENT FORM FOR PARTICIPATION IN HUMAN RESEARCH AT
MONTANA STATE UNIVERSITY**Status of Cooking and Food Skills Among Young Adults**

You are being asked to participate in a research study regarding perceptions of cooking skills among young adults, ages 18-25. Information obtained from this interview may help us determine the scope of decline of cooking skills among youth and any barriers or challenges young adults may face when learning how to cook. We are asking you to participate because you are a young adult and will be able to provide information into the status of cooking and food skills among your age group. Participation in this study is completely voluntary. Please read this form carefully and ask any questions you may have before agreeing to allow you to take part in this study.

What the study is about: The purpose of this study is to understand young adults perceptions of cooking skills.

What we will ask you to do: Participation is voluntary. If you agree to participate, your survey responses will be utilized within the study. All data will be kept confidential, and no one outside the study staff will have access to your data. You may choose to withdraw from the study at any time. At the conclusion of the survey participants will be invited to participate in 30-45 minute interviews. This is not required. If participants volunteer for interviews they will be given the choice to be interviewed in person or via Zoom. These interviews will be recorded.

Risks: Although the risks in this study are low, you may feel uncomfortable with the some of the questions in the interview or survey. You are free not to answer any questions that cause discomfort, and you can withdraw participation at any time.

Benefits: Although there are no direct benefits, results of this study will be used to address issues related to the decline of cooking skills among young adults (ages 18-25).

Compensation: Participants in the survey will be given extra credit in the course for which they are enrolled. Those who volunteer and complete interviews will receive \$25 gift cards for their participation.

Cost to you: There is no cost to participate in this study.

Confidentiality of records: Your name and class will be collected in the survey to document participation. These will be removed from the data immediately after participation is documented. The records of this study will be kept private. Any report we make public we will not include any information that will make it possible to identify you. Only de-identified records

will be maintained by the researchers. Such records will be stored in a secure file on a private computer.

If you have questions: The researcher conducting this study is Marcy Gaston from Montana State University. If you have any questions, you may contact Ms. Gaston (email: marcy.gaston@montana.edu ; phone: (406) 994-4616) or her mentor: Mitch Vaterlaus, PhD (email: j.vaterlaus@montana.edu). If you have additional questions about the rights of human subjects please contact the Chair of the Institutional Review Board, Mark Quinn, (406) 994-4707 [mquinn@montana.edu].

- I have read the consent form and agree to participate
- I decline to participate

APPENDIX D

RECRUITMENT

Recruitment for RDNs via LinkedIn Page or the FCS Teacher page on Facebook:

(will be a graphic)

Quick Text in graphic:

We want to know your opinion!

All we need is 15 minutes of your time!

Share your thoughts on cooking skills for young adults.

You could win 1 of 3 \$25 Amazon gift cards.

Survey closes September 30, 2021

Click here: (link to Qualtrics survey)

Additional info below the graphic –

Researchers at Montana State University are collecting data regarding cooking skills among young adults. Your opinion as a Registered Dietitian (or FCS teacher) matters for the purpose of my study which is to understand the perspectives of cooking skills of food and nutrition professionals and young adults. The survey is voluntary and anonymous. If you have any questions regarding this research project, please contact Marcy Gaston at marcy.gaston@montana.edu or my mentor Mitch Vaterlaus at j.vaterlaus@montana.edu.

Thank you for your time --

Recruitment for Young Adults

I am a PhD candidate at Montana State University collecting data regarding cooking skills among young adults.

Your opinion as a student at MSU matters for the purpose of my study which is to understand the perspectives of food and cooking, along with the associated skills young adults may need. Your instructor has agreed to provide extra credit points for your participation. If you wish to decline but still want credit, may contact me (Marcy) for an alternative opportunity that will take the same amount of time and effort as the survey.

The survey is voluntary and anonymous. If you have any questions regarding this research project, please contact me at marcy.gaston@montana.edu or my mentor Mitch Vaterlaus at j.vaterlaus@montana.edu. The opportunity is now open and closes on December 5, 2021.

The survey link: https://montana.qualtrics.com/jfe/form/SV_87FoIg49VBAqm90

Thank you for your time --

APPENDIX E

CODING DOCUMENT: DATA ANALYSIS 1

Themes

Autonomy (what is affecting cooking skill development)

- Family
- Food System
- Education
- Individual

Foundational Cooking Skills

- What are the skills necessary for YA?
- Why these skills?

Perceptions of Cooking

- Motivation
- Overwhelming
- Money, cost, affordability
- Cooking for health
- Community
- Holistic views

Definition of Cooking

- Technical definition

Questions

Survey and Interview Questions: Young Adults

- Do you live on campus or off campus?
 - Off Campus:
 - What types of equipment do you have in your kitchen? (List provided)
 - On average, how often do you prepare your own meals at home?
 - On average, how often do you order food from a restaurant or commercial food service operation?
 - On Campus:
 - Do you have a meal plan with the university?
 - In a typical day, which meals do you eat in the dining halls?
 - If available, do you use the common area kitchen in your dorm?
 - On average, how often do you prepare your own meals while at college?
 - On average, how often do you order food from a restaurant or commercial food service operation that is NOT run by the university?
- How do you define cooking?
- How confident do you feel cooking a meal for yourself?
- Please select the top 5 cooking skill you think young adults need
- Please explain why you think the skills you selected are essential for young adults to have
- Confidence scale:

- Reading and following a recipe
- basic knife skills
- food safety
- understanding basic nutrition
- using measuring cups, spoons, and scales
- cooking/preparing vegetables
- Please reflect on the skills listed in number 15. Please explain your reaction to these skills and if you find them to be relevant to your currently or in the future when you live on your own.
- What challenges do you or other people your age have when it comes to cooking?
- In your family home, describe the cuisine or types of food you ate the most.
- Did your family prepare or eat homecooked meals on a regular basis (regular basis meaning 4-5 times per week)?
- If no, please explain the reasons the family did not prepare or eat homecooked meals on a regular basis.
- Who does most of the cooking in your family household? (list provided)
- Please provide any additional thoughts or comments you have regarding cooking and food in young adulthood.
- Describe your favorite food to eat. What sets this apart from other food? Who generally makes this food?
- Describe a memorable meal you've eaten. Who was there? What was served? What made it memorable?
- What does food mean to you?
- What does the word cooking mean to you? How would I know if someone was cooking?
- Please explain how frequent you cook for yourself.
- Describe any barriers to cooking you are experiencing right now.
- Describe a typical grocery shopping trip right now. What sorts of things end up in your cart?
- How confident do you feel in your cooking skills?
- The following skills were ranked as the most important by RDs and FCS teachers (list of skills read). How do you feel about these skills? Do you agree/disagree? Do you know how to do them or feel confident in doing them?
- If you live off campus, describe what your kitchen looks like - equipment, appliances, utensils. (If they live in dorms, the question would be about their parent's home or their dorm kitchen).
- Describe some cooking skills you would like to learn.
- Do your parents, guardians, grandparents, or other adults cook in the household? Who does most of the food preparation?
- Describe a typical week of meals in the household. Is there a meal prep day or cooking each evening? What types of food/meals are eaten? Does your family sit down and eat together at a specified time? Why or why not?
- Describe any barriers to cooking or sharing meals in your family household.

Survey Questions: Food and Nutrition Professionals

- How would you define cooking?
- Please select the top 5 cooking skill you think young adults need.
- Based on previous question, please explain why you chose these as the 5 most important skills for young adults to have.
- Likert Scale (Strongly disagree to Strongly Agree)
- The average adult does not have cooking skills.
- The average young adult does not have cooking skills.
- I have seen a decrease in cooking skills among US adults over the past 10 years.
- In your opinion, what barriers do you think young adults have to cooking on a regular basis?
- Please provide any additional comments regarding cooking and teaching cooking skills that you would like to share.

APPENDIX F

CODING DOCUMENT: DATA ANALYSIS 2

Themes

Life Cycle (Where, Why)

- Who did students learn from?
- Where did they learn?
- The ideal age they should learn.
- Family process

Education System

- Barriers to teaching
- What did students learn in FCS?
- Who should teach them?

Practical Strategies

- Teaching -- what is the best method to use for teaching?
- Content -- what CS and FS content is necessary for YA?

Questions

Survey and Interview Questions: Young Adults

- What do you recommend as the best way to teach young adults to cook?
- In high school or college, did you take any culinary focused (FCS or culinary) classes? (Yes, No)
- If yes, what types of things did you learn in the class?
- Where did you learn how to cook and from whom OR if you did not learn how to cook, what are some reasons you did not learn?
- Let's say I gave you a chicken breast (or protein based on dietary preference), fresh broccoli, and rice. Describe how you would approach these items. What would you make? If you are stumped, what do you do?
- Let's say I gave you another set of ingredients: trout (or protein based on dietary preference), quinoa, and arugula. Describe how you would approach these items. What would you make? If you are stumped, what do you do?
- F/u question regarding how students would like to learn cooking skills
- Did you learn to cook from a family member? If so, who taught you?
- Was FCS education offered at your middle or high school? Did you take these classes? Why or why not? If yes - describe content in the classes. What did you learn? What types of cooking skills were taught in the classes?
- How much time do you spend on social media each day?
- What sites or apps do you use the most?
- What types of food or cooking content do you see or have you searched out? f/u questions regarding their answer.
Which strategies would be most useful in teaching cooking and food skills to young adults? F/u questions regarding the strategies and learning style.

Survey Questions: Food and Nutrition Professionals

- In your opinion, who should teach young adults how to cook?
- In your opinion, what strategies would be most effective in teaching young adults to cook?
- I wish I had more training to teach cooking skills. (Likert Scale - agreement)
- In your opinion, what age is the most important in teaching cooking skills? Please explain your response.
- Please describe any successes and/or barriers you've encountered when teaching people of all ages how to cook.