“I enjoy eating, so I enjoy cooking. It has to get on the plate somehow.”
Emerging Food Management Approaches of Undergraduate Students

Isabella Herold
Louis Levine
Caroline Quentin
Nolan Reese
Olivia Roche
“I enjoy eating, so I enjoy cooking. It has to get on the plate somehow.”
Emerging Food Management Approaches of Undergraduate Students

A report of the undergraduate Food Choice Research Group at Cornell University *

Isabella Herold
Louis Levine
Caroline Quentin
Nolan Reese
Olivia Roche

Past participants to the research group who contributed to designing the project, conducting interviews and analyzing data:

McKenzie Caldwell
Rachel DeMel
Samantha Giertych
Camille Kapaun
Janet Kim
Jessica Lebovits
Paige Mintz
Annelise Quinn
Aly Thompson

*Authors and past researchers are listed alphabetically

The group thanks the following for guidance in this research:
Carole A. Bisogni, In memoriam - Faculty advisor and mentor
Stephanie M. Bostic, PhD candidate, Division of Nutritional Sciences, Cornell University
Jeffery Sobal, Current faculty advisor
Meg Jastran, Research support

Acknowledgements: The authors thank the Division of Nutritional Sciences at Cornell University for support in reporting this research.

Key words: College students, transitions, cooking, food choice, food preparation, food management
ABSTRACT

Many undergraduates move out of their residence halls and begin to cook independently for the first time in an apartment. In going through this transition, they establish persistent routines and habits that may come to affect lifetime health. This topic has limited research, and our team wanted to observe how undergraduates manage this life course change. A mixed group of 38 students at a large university in the Northeast were interviewed in depth by other undergraduate students. Although food choice management is highly individualized and varies from person to person and within different contexts, analysis of the interview transcripts revealed five interrelated factors: perceptions, social relationships, learning, prioritization of values, and time saving strategies. Each student’s perception of the difficulty of cooking, the timing of cooking, and the act of cooking itself shaped their decision-making with respect to other aspects of food management. Some participants arrived at college with more culinary knowledge and experience than others but all seemed to learn and develop new food preferences and skills. Social relationships provided material resources and expanded awareness of additional food management routines. Preparing food with others often promoted enjoyment of the process of cooking. Participants also weighed values such as cost, health, and time when deciding what to cook. Time was an especially important limiting factor that many students had to balance. Therefore, it was essential for participants to identify time-saving, meal planning, and cooking strategies, including multi-tasking, the use of frozen food, and planning ahead so that cooking and eating could fit more easily into their routines. The five factors identified in this study can be applied to the understanding of food management in different transitions throughout the life course. Further study would be useful to understand how individuals manage their food and eating at different transitional stages after college.

INTRODUCTION

Emerging adulthood has been suggested as an important and often overlooked period when people establish health behavior patterns that may persist over a lifetime (Nelson et al. 2008). It is a life stage in which long term food behaviors begin to be routinized (Blichfeldt & Gram 2012). Some researchers have found that young adults who helped prepare food while living at home were not only more likely to prepare food when living on their own but also more likely to enjoy preparing food (Laska et al. 2012).

College students who move off campus are usually managing food and meals for themselves for the first time. Preparing food involves new roles and responsibilities requiring time management, in addition to new types of planning. Food acquisition, food storage, and cooking are complex tasks that can be unfamiliar to students living on their own for the first time. Students tend to bring experiences and practices from home and consider what friends and roommates are doing. As they navigate this transition, students often learn new ways to routinize management of food and eating (Blichfeldt & Gram 2012). Blichfeldt and Gram (2012) found that habitualization (or routinization of daily habits) was an important step for college students in managing everyday food activities and was necessary for a successful transition.
Cooking skills are complex, involving perceptual, mechanical, conceptual, academic, and planning skills (Short 2003). Frances Short (2003) also describes these skills as “person-centered.” Fitting meal preparation around other activities, having dishes ready at the same time, working on multiple tasks at the same time, planning skills, and provisioning of ingredients are a few of the abstract organizational skills people develop (Short 2003). Having good skills around food increases a person’s flexibility and resiliency as they deal with life’s changing circumstances (Bisogni et al. 2005).

Food related skills grow over time and are retained for a lifetime. Skills provide feelings of self-esteem and can provide a basis for power (e.g. “I decide what we all will eat”). Caring can be expressed through food and some people develop an identity related to showing concern for other’s food preferences (Bisogni et al. 2005).

Meanings for cooking are personally constructed and vary across individuals (Simmons & Chapman 2012). Cooking is seen as more than for improving personal health. People feel cooking gives them control over their food, facilitates independence, is a means for them to connect with others, and helps them learn about cultures – their own and those of others (Simmons & Chapman 2012).

Jones (2014) found undergraduate students reported that cooking saves money, provides a sense of pride, and can be enjoyable. These students felt that having a parent who modeled cooking actually motivated them to cook. Being familiar with cooking terms and equipment also facilitated cooking. Students said they found it positive to be able to prepare food for others and to eat a healthier diet by preparing it themselves.

Connecting with others is a significant part of cooking. When preparing food, some people keep in mind the likes and dislikes of those who will eat the food. Cooking is also viewed as a way to preserve cultural heritage (Simmons & Chapman 2012). Often, food management skills are acquired through social relationships but few researchers have studied how skills for managing food and eating develop (Bisogni et al. 2005).

Development of strong beliefs and feelings about the proper way to eat and manage food is common (Bisogni, et al. 2005) and often reflect ideals built on earlier childhood memories. Values for taste, food quality and healthfulness of food are reflected in a person’s standards as well. Some individuals use their standards to evaluate current eating behavior and may actively develop strategies to meet their expectations (Bisogni et al. 2005). People also have some level of food choice capacity, defined as the ability to manage food according to their own standards. This is similar to food literacy, which is feeling empowered to manage food and eating for oneself in a satisfactory manner and involves a set of skills that match individually constructed expectations (Vidgen & Gallegos 2012). Both concepts depend on a person’s resources, which include financial resources, available time and food management skills, learned through life experiences. The skills and expectations of an individual may not match those preferred by nutrition professionals. Increasingly though, food literacy describes the habits and skills necessary to meet health recommendations (Vidgen & Gallegos 2012).

Lack of time has been acknowledged as a factor in food choice (Connors et al. 2001; Furst et al. 1996). People feel they have less time for cooking meals and there are more quick meals. Time pressure is due to busy schedules and the demands of work and family responsibilities (Jabs & Devine 2006). Time scarcity sometimes results in prioritizing convenience over health (Connors et al. 2001).
Studies have found that college is an important time in the life course and development of food practices at this stage of life is an indicator of future trajectories. The few studies in this area have not gone very far in explaining how young adults manage food and eating when first living on their own and how they progress in managing this daily activity. In this study, undergraduate researchers decided to conduct an investigation of students newly living off campus and managing their own food and eating. They chose to interview fellow undergraduate students at Cornell University, a large, academically demanding university in Ithaca, NY.

Nearly one-half of Cornell’s undergraduates live off-campus, representing a sizable portion of the student population. Most off-campus students reside in apartments in various locations around the campus, including the area known as Collegetown. Most participants in this sample live in Collegetown. Due to the location, access to grocery stores for food is a challenge for many students, especially those without automobiles. The nearest major grocery store is about a fifteen-minute bus ride away, with limited weekend service. Many off-campus students find it vital to have a car or find someone with a car to get them to the grocery store. With few exceptions, in off-campus apartments, most students share a kitchen with their housemates. This includes food storage space, eating location, appliances, and sometimes food itself. Each apartment is equipped with its own set of diverse facilities, varying in quality and quantity. Off-campus students, when not cooking, find and pay for food in various ways at Cornell. Big Red Bucks (BRBs) are ubiquitous for undergraduates; this type of meal plan gives the student credit on their ID card to use at a la carte Cornell dining facilities. In addition, many students opt to use the CornellCard, which is linked to the student’s bursar bill. With about one-third of Cornell undergraduates participating in fraternity and sorority life, some members of the Greek letter organization community often find that they can get a decent meal from their fraternity or sorority house.

The context of the study is vital to understanding the food choice process for this population. Many of the external factors described here play a large role in how a Cornell undergraduate manages food and eating, as described in the results.

METHODS

Approach

In this study, researchers took an integrated, holistic approach to seek to examine the ways in which students think about food is linked to underlying social, cultural, and physical contexts apparent in students’ lives. Following the methodology of the existing Food Choice Process Model (Sobal et al. 2006), the researchers utilized a constructivist approach in order to analyze individual food choice. This approach generated new insights as the team looked through the student lens to inductively understand the mental processes of undergraduates and their perception of the world. Interacting with the relevant population directly and understanding their thoughts on food will advance the understanding of food choice.

The inductive research process itself uses the set of many observations from data collection to develop overarching, generalizable themes and hypotheses. The inductive approach is vital to qualitative research, where hypotheses are not typically being tested, but rather conclusions are generated from observations.

Sampling and Population
Convenience and snowball sampling procedures, in which participants answered advertisements to be interviewed or participants were referred to the researchers, were used in the selection of research participants. Posters were hung around the university campus to get a wide variety of students in different major areas of study. Investigators attempted to seek a diverse sample of individuals, targeting only Cornell undergraduates between the ages of 18 and 22 years old that lived off-campus and prepared at least some of their own food.

Forty-three participants were initially recruited. Two participants’ interview data were unused due to reporting a lack of experience with food preparation at the start of their interviews. Data from three participants was not included due to issues concerning consent.

The participants ranged in age from 19 to 22 years of age, with nine male participants and twenty-nine female participants. 15 of the 38 participants grew up in New York State. One of the participants grew up in China, and one grew up in Brazil. Participants ranged in their areas of study (see Table 1).

Table 1. Participant Demographics

<table>
<thead>
<tr>
<th>Demographic</th>
<th>Participant Data</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>19-22 years old</td>
</tr>
<tr>
<td>Gender</td>
<td>9 male 29 female</td>
</tr>
<tr>
<td>Home of origin</td>
<td>15 New York State 21 Other US States 1 China 1 Brazil</td>
</tr>
<tr>
<td>Cultural Influences</td>
<td>Chinese French Spanish South American Mediterranean Italian Jamaican Indian Greek Jewish Latin American</td>
</tr>
<tr>
<td>Race/ethnicity</td>
<td>7 Asian 3 Black 1 Latino 27 White</td>
</tr>
</tbody>
</table>
The researchers interviewed thirty-eight participants from August 2013 until December 2014 by using a semi-structured, frequently revised interview guide. All members of the Food Choice Research group engaged in conducting interviews. Care was taken to ensure the locations provided a quiet and private environment for the interview, and informed consent was obtained from each participant prior to the initiation of the interview process. The interviews were recorded on two tape recorders that were stored in a secure location after the interview. Interviews were approximately 45 minutes to one hour in length. Participants were provided with a $10 honorarium for their participation in the research project.

In some cases, the researcher knew the participant personally, an advantageous attribute for establishing rapport. Participants were asked to speak about their daily cooking and eating routines, grocery shopping habits, and how they first learned to cook. Participants were also asked to evaluate the influence of social factors, time, and cost on their preparation of meals.

The researchers asked open ended questions in order to further explore topics of interest. In the initial interviews, participants were first asked, “Can you go through a typical day of managing food and eating so I can get an idea of what it’s like for you?” The researchers then asked participants to describe their current eating practices, including meal patterns, cooking habits, planning in terms of meals, methods of obtaining food, past experiences, learning to cook, and enjoyment of the cooking process (Table 2). Participants were also asked to speak about the influence of social factors, time, and cost on their cooking and eating habits. Throughout the interviews, probes were used to elicit additional detail.

**Table 2.** Examples of questions used in initial and follow-up interviews

<table>
<thead>
<tr>
<th>Category</th>
<th>Example Question</th>
</tr>
</thead>
<tbody>
<tr>
<td>Meal patterns</td>
<td>How are different days of the week the same or different for you?</td>
</tr>
</tbody>
</table>
Cooking habits
Do you prepare food for yourself?

Planning
How do you create a list when you shop for food?

Methods of obtaining food
When do you go food shopping?

Past experiences
How was cooking and eating managed in your family of origin?

Learning to cook
How did you learn to prepare food?

Enjoyment of the cooking process
How do you feel about preparing food?

Social factors
How do friends or family influence what you decide to eat? What you prepare?

Time
How does having enough time or being short on time influence the way you manage food for yourself?

Cost
How do you save money with managing food and eating?

The initial interview guide was revised in February 2014, to focus the open-ended questions more deeply on emergent themes. We asked participants to describe their use of frozen foods, stir-fry, pasta, and beans in cooking for themselves, and to explain their definition of certain foods ("Pasta means different things to different people – what does it mean for you?"). The questions in the revised interview guide probed further about learning to cook through observation ("Have you learned anything about dishes and recipes or become inspired by watching dining-hall display cooks?"), social influences ("Are there occasions when you make food for someone else?"), adding variety to meals ("Do you ever add anything such as vegetables or cheese to a basic dish to make it more interesting?"), and planning ("Is there anything you do with food ahead of time, to plan for eating later on?"). Participants were specifically asked about their perceptions of cooking, satisfaction with their cooking and eating, and their ideal cooking situations.

After analysis of data from initial interviews, 19 participants were interviewed a second time. In these second interviews, participants were asked to reflect upon the way their cooking changed over time, through probes such as, “Tell me about how you did it before.” Interviewers also clarified topics that were not answered well or missed in the first interview. These participants provided consent for a follow up interview and received another $10 honorarium. This subset of the study may be considered longitudinal, since many follow-up interviews took place six months to over a year after the initial interview.

Many questions for second interviews were tailored to the individual participant, based on the need to clarify comments made in initial interviews. Participants were asked to keep a weekly food log to discuss during follow-up interviews. Participants were also asked to elaborate on their social
influences on cooking, planning, perceptions of cooking, and ideals. These questions mirrored many of the questions asked in the revised first interview guide.

Digital interview recordings were uploaded to a secure computer and transcribed verbatim by student researchers. In some cases, interviews were transcribed by a professional transcriptionist. These transcripts were verified for accuracy by the interviewer. Once transcribed, all research group members read the interview transcripts. Themes and ideas in the interviews were discussed at weekly group meetings.

The researchers coded interviews using Atlas.ti software on a secure research server. The constant comparative method was used to identify emergent themes. Codes were added, merged, and deleted based on the iterative discussions of the research team. Coded segments that were difficult to categorize were resolved through team discussions. Many interview transcripts were coded by two different students to reduce bias and increase dependability in coding. Lists of quotes from each code were created using Atlas.ti, and these quotes were analyzed for common themes by student researchers.

RESULTS

Five factors were identified as important influences on the food management systems of these college students: Perceptions, Social Factors, Learning, Prioritization of Values, and Time Saving Strategies. These will be explained separately in each of the following sections and are also integrated in a model of emerging food management approaches of undergraduate students.

Factor 1: Perceptions

Management of food and eating amongst the college student demographic proved to be a highly individualized process. Each participant described their own unique, specific way of accomplishing tasks relating to their food choice process, and commonalities existed for certain individuals. According to the data, it was clear that each student’s understanding, or perception, of relevant factors, including the difficulty of cooking, the timing of cooking, and the act of cooking itself, was what was driving their decision-making with respect to all facets of food and eating.

Perception of difficulty

The difficulty level of preparation of a dish was one perception formed by the individual. In general, when a student wanted to make something confidently, they resorted to preparing meals that they considered easier. Easy was a term used by participants to refer to all types of dishes. One student’s “easy” was another student’s “challenging”. Pasta was just one dish that exemplified this discrepancy in perception regarding the definition of “easy”: (Boldface font indicates emphasis added by the author)

“I mean I like pasta but it’s also probably the easiest thing to prepare out of all the things that I do eat.”

“There are definitely meals with pasta that are more complex.”
These two examples were more polar beliefs in the spectrum of the perception of difficulty explained by the participants for specific dishes. The level of difficulty the students classified a dish as was unique to them, influenced by several external factors pertaining to the individual.

**Perception of timing**

The actual amount of time it took to prepare, cook and clean up a meal was a major influence for all students in deciding what they ate. Furthermore, where students differed was in their perception of the timing to complete a certain meal. When a student was working under time constraints and needed to eat fast, they prepared a meal that they considered quick. Similar to spectrum of difficulty presented in the previous section, the definition of the term “quick” entailed a multitude of dishes and cooking methods. When asked what the participant thought was a quick food to prepare, responses varied widely, but both **quantitative** and **qualitative** aspects of “quick” were described.

Many times, “quick” food was quantitatively identified. Depending on external circumstances, such as the participant’s schedule, confidence in cooking and skill set, a “quick” meal, including preparation, cooking and cleanup, could be one that took 2 minutes or one that took 30 minutes. Participants explained what we would call a sort of time limit on completing their meal:

“I really don’t like spending more than like 20 minutes on cooking a meal."

“There’s stuff out there that can be done in two minutes.”

The other important way of defining “quick” food was related to the cooking methods involved. Relevant characteristics that came to mind were whether the meal was prepared fresh or frozen and the use of different appliances. For example, some students defined a “quick” meal as something like a frozen meal, which required minimal cooking on the student’s part:

“Honestly, something quicker would just be like a veggie burger that I have in my freezer.”

This student associated quick meals with frozen meals that were already fully cooked and just needed to be heated in some way. Of importance was the use of a microwave (instead of a stove, oven, or other appliance) as a requirement for a “quick” meal:

“...or eat my like soup that’s already in the container and put that in the microwave if I really am running out of time.

In a time crunch, this student resorted to their quick meal, which was one that could be heated in the microwave. Still others deviated from this pattern and believed that certain dishes were quick to prepare on the stove:

“I: If it took you 10 or 15 minutes but you still had to use a stove or an oven...
R: I would still count it as a quick meal.”
This participant did not discriminate between cooking methods, but rather determined the definition of quick by focusing on the amount of actual time it took for the food to be prepared and consumed.

Timing, an all-important value in the lives of this study’s population, exerted its influence, then, in terms of food and eating. Participants perceived the time it took to fix together a certain dish in their own way, as described in this section, identifying both quantitative and qualitative aspects of timing. This observation contributed to the concept that the food choice process is highly individualized amongst college students living off-campus.

**Perception of cooking**

Participants presented a psychological component to cooking: they had certain personal feelings about cooking. How the participants felt about the act of cooking affected several downstream decisions, such as what to cook, when to cook, how long to cook, with whom to cook and others. The perception of cooking was informed, again, by outside factors relating to the individual, and thus varied between each of the students. Patterns did exist in the sample however, and most of the feelings about cooking can be categorized into **positive perceptions** and **negative perceptions**.

A large portion of the sample discussed food and cooking in a positive light. Some considered it an integral part of their lives at this point in time because they are living on their own and responsible for their own food, as emphasized by this sentiment:

“You can’t just like order in dinner all of the time. I need to be able to cook and then hopefully for my family one day.”

These participants felt a sense of responsibility for meals, understanding that in the future they will need to cook for a family. Others emphasized cooking as a chance to step away from all of the understandable academic and professional pressures apparent in a college student’s life. Preparing meals served a relaxing, stress-relieving purpose, in this way:

“I: How do you feel about food preparing?  
R: It is very therapeutic.”

“The other day, I was just in the mood to cook because I was feeling stressed out and I just wanted something to do.”

Some participants also enjoyed having a sense of control of food components when they cooked. By preparing their own meals, they could be fully aware of what was going in their food:

“I like cooking because I like knowing what goes into my food, um, like I like knowing that someone’s not putting like a pound of butter in my food and making it that way.”

Not all participants perceived cooking to have a beneficial purpose. In fact, a handful of the sample had strong negative feelings about cooking. The general sentiment for these students was that cooking was not on the list of priorities; rather, it instead was something akin to a chore:
“I’m thinking of all the other things I could be doing while I’m cooking. It’s never going to be my priority.”

“[Cooking] is also time-consuming sometimes, and I think if it’s [sigh], especially, the more, um, intense classes get I feel I’m probably gonna be doing more like really simple dishes or heating up frozen food than, um, more intensive cooking.”

“For me it’s very much a means to an end.”

“It’s more of an inconvenience than anything. It’s just so much easier to like pick up food and like be done with it.”

Understandably busy with other responsibilities, these students were burdened by the fact that they had to prepare their own meals on a daily basis.

How students perceived cooking itself had implications for decision-making in the food choice process. For instance, a participant who viewed cooking as a chore would be more likely to find other sources of meals when pressed for time on the day of an exam (take-out meals, dining halls), simply as a way to avoid the inconvenience of cooking. On the other hand, a student who described cooking meals as necessary and important would handle the situation differently. On the day of an exam, they might eat something that they managed to prepare ahead of time, or perhaps multitask by studying for the exam while a fresh meal was cooking.

This was just one example of how the perception of cooking plays a role in the food choice process. Similar to the other perceptions described, the perception of cooking was an individually derived belief that varied among participants.

The factors that influenced participants’ perceptions were numerous and included their personal experiences growing up, as well as the confidence they had in their cooking abilities. The individual formed perceptions of a dish’s difficulty, its timing and the cooking process itself. Understanding a student’s perception of these relevant parts of the food choice process was critical to how they make food-related decisions. The other major findings of this study, such as the food-related values, sources of knowledge, social connections and strategies to save time while cooking, are all inherently linked to these significant perceptions that participants develop over time (Figure 1).

**Factor 2: Social Factors**

Social influences had a strong effect on participants’ food choices and behaviors. While each participant had their own style of accomplishing tasks related to the food choice process (see “perceptions”), these behaviors and attitudes both influenced and were largely affected by social interactions.

Participants increased the complexity of their own cooking through various social interactions. Sharing both food and equipment were significant motivators for increased cooking. Friendships,
significant others, and additional social relationships were seen as resources that would enhance their standard cooking ability. Some of these examples are included in Table 3.

### Table 3. Shared Resources

| Sharing Food | “Uh we share the rice, the spices um all the cooking wares...we have a spreadsheet of like who owes who.”
|              | “But, I have a lot of stuff like in the freezer...or I could use one of my roommate’s stuff.”
| Sharing Space/Equipment | “I was [cooking] at my friend’s house...they have more like utensils and stuff like more pots and pans and things like that (chuckle).”
|              | “So for all my meals if I do want to cook it’s at her place because she has a really nice kitchen...just an overall bigger and spacier kitchen.”

Participants held similar opinions on the effects of social eating. Participants agreed that eating together led to changes in their normal eating pattern. One participant explained that her friends could convince her to eat more junk food, using frozen yogurt as an example. Another participant said that she was affected by “group-think,” (Table 4) meaning that she was more apt to eat in a way that reflected what her friends were doing at the time.

The participants talked about how cooking together led to an expansion of their cooking repertoires and increased frequency of cooking. One participant said that although he had never eaten beets before, he cooked and ate them for the first time with a friend. Another participant talked about having greater motivation to cook food with others compared to cooking alone. Participants clearly enjoyed cooking with others, some even named these social experiences. One participant discussed an event called “Wine Wednesdays,” where they drank wine and cooked with their friends. Another described a group cooking night as “steak and cake” night, where the participant cooked steak and baked a cake with friends.

One participant explained that she made a certain dish only with her boyfriend, yet when the relationship ended with her boyfriend, she stopped preparing such complex dishes. Social interaction is clearly a strong motivation for cooking, and it can lead to preparation of dishes one might not make on their own.

Participants might also use their social relationships to accomplish different tasks in the kitchen. Several people might work together on various parts of a dish with the same end goal. This teamwork led to the creation of dishes that might otherwise not be made alone. One such case is a participant who described cooking for friends if they cleaned up after the meal. This bargaining system also appeared with other participants. They made deals with their friends to complete only the tasks they wanted to, with the common goal of creating a meal together.

Participants saw the act of preparing food for someone else as entertaining and rewarding. The act of cooking was a way to show off one’s skill to their friends. One participant described it as a
“performance,” indicating that people placed value on what others thought of their cooking ability. Cooking for others was also a way to show affection and appreciation. Participants described cooking as a way to “show love,” and situations where they cooked for friends who were stressed.

Both positive and negative effects of social interactions were seen across the study participants. One participant discussed how a large number of social interactions during the day prevented her from cooking, which did not seem ideal for her. Another participant said that she started consuming less meat while living with friends who were vegetarian. She said she felt “less comfortable” having meat in her house. Finally, one participant said that she began “getting healthier” after being surrounded by certain friends. The participants’ experiences with eating and cooking together are summarized in Table 4.

<table>
<thead>
<tr>
<th>Table 4. Experiences with Others</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Eating Together</strong></td>
</tr>
<tr>
<td>“You should invite someone to have dinner with you.”</td>
</tr>
<tr>
<td>“… if you’re with a group of people, like widely diving into wings, you’ll probably dive in also...So I think that group-think mentality definitely does affect me.”</td>
</tr>
</tbody>
</table>

| **Cooking Together**              |
| “…like I’ve never cooked with beets before or ever ... and I made beets the other day with her.” |
| “I’m always cooking with (my girlfriend), and I’ll cook on my own and it’ll be like less good...when we’re together it’s like fun to cook together...I just like don’t have as much motivation to make something like really good.” |
| “We called it like ‘Wine Wednesdays’ because we had one class on Wednesdays...we would go to the grocery store and buy all the necessary ingredients and like three bottles of wine [both laugh] and we would just cook and eat and drink for six hours.” |
| “Well [the] recipe thing at the beginning was with my boyfriend (chuckle) at the time which I don’t have any more. So that’s probably why um the recipes stopped...’cause I didn’t want to like make them on my own...” |

| **Sharing Responsibility**        |
| “We had this great agreement going where like [roommate] never did her dishes but that was okay... because she gave me food all the time.” |
| “I would joke about having all my little sous chefs. You know, I’d be like ‘alright you chop up these mushrooms and if you can do the peppers, I’ll work on the chicken right now but I do need somebody to keep stirring the sauce over there’ so...” |

| **Cooking for Someone**           |
| “I think that’s a way I like to show love, is by making food for other people.” |
And sometimes people cook and will like cook for everyone or cook for like one or two people when like we know each other’s stressed.”

“Um, but yeah when you are cooking for someone it’s kind of, yeah I don’t know, a performance? I’m not sure if that’s the right term, but you’re, yeah.”

Affecting a Food Choice/ Pattern

“Like today I’m thinking of what I’m going to make for dinner. And I just made a commitment to talk to another friend and then study with another friend [chuckling], and I’m trying to think where cooking dinner would be [uhuh], sort of realizing that I’ll sort of just order food tonight [uhuh] while I’m studying...yeah”

“...I live with 3 vegetarians... So even though I’m not a vegetarian...I just feel less comfortable like buying like frozen meat or like cooking meat in the apartment...”

“And being surrounded by people that are health conscious and you know care about not wanting to be so unhealthy. I think that...I start to reflect on that. And kind of slowly become a little healthier.”

Eating and cooking alone were overall seen as a negative influence on cooking and eating. This supports the importance of social interaction in food behaviors with this population. Participants said that they ate significantly less when eating alone, describing a lack of motivation when nobody was with them. They also described going out of their way to have someone be there while they were eating. Social interaction and eating are closely linked for this age group. The quotes below support that social facilitation was an important factor for our participants (Table 5).

Cooking alone was also a negative influence on the cooking process for some students. Participants described a large difference in cooking for themselves compared to cooking for others. One participant said he didn’t have to make a meal “as nice” when he cooked for himself. This indicates that perhaps not as much thought or preparation goes into cooking for oneself. Another participant said that cooking alone was a “back-up afterthought,” and only did it when he didn’t have plans with friends. Having social interaction during the cooking process is a strong motivator to create and prepare a variety of meals. One participant had a different viewpoint, saying she found cooking alone to be relaxing. This may be true of other participants, although it is seemed that both variety and creativity in meal preparation decreased with less social interaction.

Table 5. Experiences Alone

<table>
<thead>
<tr>
<th>Eating Alone</th>
<th>“Um, I definitely think I eat less when I’m alone...And I’m more inclined to eat when other... more people are eating I think.”</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>“Versus when I’m eating by myself, I probably eat a lot less because I’m just sitting there alone and eating. I don’t like to eat by myself though...”</td>
</tr>
</tbody>
</table>
Cooking Alone

“...I only cook for myself when I don’t go out with other people. So that’s kind of just like a back-up afterthought.”

“I like cooking kind of by myself. It’s a little like sort of relaxing (chuckle) type of thing too. So I like cooking by myself and then everyone else can eat it. I don’t even have to eat it. I just enjoy cooking (chuckle).”

“...when I’m eating alone, I feel like I don’t really care about making it as nice. I kinda just want to eat something I guess. It’s more beneficial for me if there’s someone else that’s eating it, like I feel better.”

Some participants compared their food behaviors or skills to other individuals. These comparisons ranged from simply acknowledging a difference to saying they were better or “more competent” than other people in their lives. Comparing themselves to others seemed to boost the participant’s confidence in their own cooking ability, making a dish like grilled chicken with vegetables seem more in-depth and complex than it might be (Table 6).

Table 6. Comparison to Others

<table>
<thead>
<tr>
<th>Recognizing Social Differences</th>
<th>“…But then my other roommate...she started the restaurant food (chuckle) and making like ...smoothie for dinners. Very different from me (chuckle).”</th>
</tr>
</thead>
<tbody>
<tr>
<td>Identify as “Being Better”/Perceptions of Others</td>
<td>“…when I make pasta I might do something like grilled chicken and sautéed vegetables...whereas my other roommate who’s cooking might be like taking a box of Kraft macaroni and cheese and like whipping that together.”</td>
</tr>
<tr>
<td></td>
<td>“Um, I think my mom thinks I’m cooking more than I actually am...But, my friends don’t really cook that much. So I guess compared to them I probably cook more.”</td>
</tr>
</tbody>
</table>

It is worth noting that some participants reflected on a lack of social influence on their cooking behavior, although this sentiment was rare amongst the majority of participants. One participant said that even if other people were eating differently, she would “still get what I want.” This person went on to say that this had to do with being “comfortable” with her eating decisions (Table 7).

Table 7. Lack of Social Influence

<table>
<thead>
<tr>
<th>Lack of Social Influence</th>
<th>“Um, it doesn’t change that much. I think even if other people are eating differently or not getting as much, I’ll still get what I want.”</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>“And I think becoming comfortable a lot with mine[food habits]...I can still order what I want.”</td>
</tr>
</tbody>
</table>

Participants also talked about their social environment before coming to college. The experiences that students had managing their own food prior to college had a powerful influence on the
frequency and type of food they prepared now. Students often prepared food that echoed the traditions of the culture they grew up in. Students who lived in India and China in the past, for example, discussed the Indian and Chinese food dishes that they enjoyed making. Some participants shared that the food prepared for them as a child was similar to what they currently prepared. One said that she “could not imagine” frequently eating pasta because she grew up eating salad and chicken with her health oriented mother. Another said that she learned to make chicken cutlets because they were a food made by her babysitter. Other examples are presented in Table 8.

Table 8. Social Environment Prior to College

| Ethnic/Cultural Food                      | “...the things that I make and that I’m comfortable making are very much a product of what I made when I was growing up...like Indian and Chinese cooking, is really intuitive to me because I grew up with those flavors and so I know when things taste right and when they taste kind of off so yeah”
|                                         | “I’ve moved 8 times...and I’ve lived in 6 countries, spanning 2 continents so...I use a lot of flavors, it’s always like a curry or stir fry or something of that sort. Yeah.”
| Social Environment Growing up           | “I learned to make like chicken cutlets, just because that’s what my babysitter would make me all the time.”
|                                         | “My mom is a health nut. So I grew up eating salad and chicken and very, very plain food...So, here I can’t imagine eating pasta every day, I can’t imagine what my mom would say about that.”

Students in this study described a range of food management and culinary skills. Some students arrived at this transition point with skills learned while living at home, while others reported coming to college with little to no culinary skills or knowledge. Some had prepared their own lunch and breakfast daily and even family dinners during high school. Others were not expected to prepare any of their own meals when they lived at home. A few participants reported doing some of the family food shopping, and adopted the role of food preparers and influences on others in their pre-college homes.

The researchers saw these two experiences as very important ends of a spectrum that affected how food was managed by students when living on their own in college. Although the students in the sample exemplified a broad range of skill and experience across this spectrum, most described a common recent learning experience - most had learned to cook a new dish or modify an old one. This indicates that learning to manage food is a continuously changing and adapting process.

**Factor 3: Learning**

**Source of Culinary Knowledge and Food Choice: College Experiences**
Those participants who came to college with almost no culinary background or knowledge reported being influenced by peers. For example, many students described that when living with friends who were vegetarians, they were influenced by their friends’ food choice and changed their own eating practices to fit in with their peers. One student who lived with a health conscious roommate in Washington D.C. for the summer reported changing to healthier eating in general (from their perspective) and learning how to prepare some of the dishes her roommate consumed regularly. Another participant, who described herself as fairly picky about food and not that interested in cooking, started off preparing what she thought were very easy meals, such as chicken fingers, French fries, and frozen entrees. Teasing from her friends prompted her to ask her mother for recipes for favorite dishes she liked eating at home. By the second interview, she was preparing some of these and enjoying cooking. Another participant was dating a person from Brazil and learned how to make some of his authentic dishes. The frequency of her cooking while dating him also increased. There were other couples in the sample who shared similar experiences, and enjoyed learning from one another while cooking together. Participants all seemed excited to learn something new, and were happy to interact with their friends and other social resources to do so. They learned through observing the preparation of these dishes. Not only did participants use social relationships to further their cooking frequency and ability, their friends helped them learn new techniques and dishes. Social learning was a way for participants to enhance and further their cooking ability, as shown in examples in Table 9.

Table 9. Source of Culinary Knowledge and Food Choice: College Experiences

<table>
<thead>
<tr>
<th>New cooking techniques and food choice</th>
<th>“...Influenced me a lot because I, she like taught me how to make stir fry...”</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>“Um, I never used a rice cooker before this year. My boyfriend taught me how to use them...Um, some of my roommates have been teaching me dishes that their parents made.”</td>
</tr>
<tr>
<td></td>
<td>“I think just from watching my friends in the apartment, even a simple thing like making the kale. That’s something I had no idea how to do before like last year. And then I saw my roommates doing it, so I started copying them.”</td>
</tr>
<tr>
<td></td>
<td>“...I really only started being conscious of like healthy eating last semester ‘cause one of my roommates from D.C was like really into healthy eating [...] that really changed my lifestyle and I’m actually like have seen the effects of it...”</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Changing food choices</th>
<th>“...okay so the biggest thing that’s like affected my decisions is that I live with 3 vegetarians... I just feel less comfortable like buying like frozen meat or like cooking meat in the apartment. Um so I wouldn’t say that that’s like completely changed how I eat but it definitely has had some effect.”</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>“I’ve tried to make Brussels sprouts...”</td>
</tr>
</tbody>
</table>
Influenced to try new foods

“Just seeing my friends try different things and realizing that you don’t really have to have pasta and chicken. That you can make interesting stir fry dishes or different things that are quick and easy on the television...So I find myself usually taking the food that my roommates make. So whenever they’re cooking something, I’ll take their food”

Pre-college experience – Home and Family

Other students came to college with prior culinary skills and had specific ideas about managing meals on their own. They described finding a particular niche in their social group by being a good cook, which also gave them a sense of confidence, which was used as social capital in the participant’s social circle. One student described shopping for herself and roommates since she had a lot of confidence in this task from her experiences doing it for her family at home. Some students talked about teaching friends and roommates how to prepare certain dishes since they had more culinary experience and skills that they learned while still in high school. Participants learned to cook from their parents, grandparents, and sometimes from their part time jobs (food service). Many participants who had previous skills were comfortable enough to prepare food for others and seemed to enjoy being good with food and being able to please their friends through preparing delicious food (Table 10).

Table 10. Source of culinary knowledge: Pre-College experiences at home and with family

| Confidence in cooking | “So we have three or four fryers going and three or four of us preparing it [...] and um so... Um, so then my mom and I will usually bake the fish [...] she was always in the kitchen too...”

  “[With friends] I just decide what I feel like eating that night and they [roommates & friends] just have to deal [...] half of them didn’t like Mexican food [...] but they still ate it anyway.”

| Confidence in shopping | “I’m an expert food shopper, born and raised...I’m organized. I make a list before. I know what to buy of what products. I know what quantity to buy that’s gonna... um that’s not very perishable over time or that I’m going to be able to eat within the time frame that I have. And I’m efficient.”

| Influencing others’ | “But anytime we had family dinner, I was cooking with her [mom]. That was a good chance for her to kind of bond with me... or ... my mom would...” |
Students were asked in the interviews if they had learned to make anything new lately. Most remembered some new dish or a different way to make something that they had picked up recently. Learning how to manage was an on-going experience.

Factor 4: Prioritization of Values

For undergraduates living off-campus, managing cooking for themselves for the first time involved balancing and negotiating personal values. The value that participants in this study placed on cooking directly impacted the frequency with which they cooked and the complexity of the meals they chose to make. Participants with higher standards for food choice, based on the food choice capacity model (Bisogni, et al. 2005), prioritized cooking for themselves and cooked more complex meals more frequently than those with less stringent standards for food choice and cooking.

The satisfaction, pleasure, and control derived from cooking for oneself motivated participants to highly value cooking, as did the desire to save money and eat healthfully. However, between participants, and at different periods of time for the same participant, other values competed for priority over cooking. Time constraints, especially those imposed by their college workload, often took priority over cooking.

**Value trade offs impact food choice**

Value prioritization was a strategy by which participants described their cooking and eating. Participants weighed values such as time, cost, and health, when deciding what to cook (Table 11).

**Table 11. Factors which influence food choice management**

<table>
<thead>
<tr>
<th>Time</th>
<th>“Last night it worked pretty smoothly where I was able to manage my run, manage getting ready for my test and manage eating all in the same hour span.”</th>
</tr>
</thead>
<tbody>
<tr>
<td>School commitments</td>
<td></td>
</tr>
<tr>
<td>Health</td>
<td>“...if I have a grilled cheese for dinner that’s definitely less healthy than if I like, made vegetables and rice, um, yeah. I definitely sometimes have to</td>
</tr>
<tr>
<td>Time</td>
<td></td>
</tr>
</tbody>
</table>
trade, uh, convenience for health.”

<table>
<thead>
<tr>
<th>Health</th>
<th>“I’m like really strict about health cause I feel guilty after eating something considered to be unhealthy so I’d rather either spend more money for the healthier product or take more time out to make something that’s not complete garbage.”</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time</td>
<td></td>
</tr>
<tr>
<td>Cost</td>
<td></td>
</tr>
</tbody>
</table>

Values resulting in more frequent and more complex cooking

Participants who desired to eat healthfully often noted that cooking for themselves allowed them to control their food intake (Table 12). When control was valued more highly than other factors, such as time, participants cooked more frequently for themselves. Participants with high food choice capacity, who derived pleasure from cooking, also tended to prioritize cooking, and cooked more complex meals (Table 12). Factors such as health and cost, when highly valued by participants, served as motivation for cooking.

Table 12. Priorities that result in increased cooking

| Pleasure in cooking | “I’d say I’m usually the one who shows other people how to cook... Just because I really enjoy cooking and doing like high tech not high tech...more high skilled things than my other friends.” |
| More free time | “Weekend nights we usually cook and it’s like more, it’s like a little more elaborate ... than ... weeknights, ‘cuz we have more time on our hands.” |
| Higher health standards | “I’m definitely trying to eat more like fresh food and like vegetables and stuff than I did before... I think part of that is like being in control of my own food... I feel more responsible and more like that I should be eating healthier but also that like I want to ... I like can determine my own food...” |

Values resulting in less frequent and less complex cooking

When discussing interviews as a whole, the researchers noticed a general trend in how values changed as the school year progressed. In general, participants were more likely to place higher value in cooking for themselves at the beginning of the school year and the beginning of each semester. As the year progressed, other priorities, especially allotting time toward schoolwork, superseded the desire to prepare food for oneself.

The researchers also saw a general shift in value prioritization based on schoolwork cycles, such as exam weeks and weekends. Participants were less likely to prepare food for themselves, especially complex foods, during weeks when they had evening exams or heavier workloads, such as exam weeks.
Periods of time in which students generally had less school work, such as weekends, were reported as times when students would choose to prepare more complex foods.

Factors such as health and cost, when not highly valued by participants, were often sacrificed for the sake of time. In such situations, when time or convenience were more important, participants were more likely to eat out (Table 13).

**Table 13. Priorities resulting in decreased cooking**

| Time pressure                                                                 | “The summer is the time where I try new recipes. So like now how I mentioned I do the shrimp and pasta. I first tried that over the summer and kind of like got the hang of it... over the summer I’ll make like stuffed peppers. ‘Cause it’s just more time consuming but I really like it.” |
| Convenienc of pre-prepare food                                               | “I’d probably use money to help my situation where I have no time, you know.” |
|                                                                                | “I try not to get take out a lot. Just cause it’s really easy for me to like, once I do it, I’m like ‘Wow that was so convenient.’ And then next thing I know, I have spent like 50 dollars in one week on take out.” |
| Clean up time                                                                 | “I honestly enjoy cooking for myself. Um, I mean I think the biggest barrier with doing it is just the time commitment and also the time commitment with having to like set up, and then cook, and then eat, and then clean up. Um, you know like, for instance if I’m crunched for time I can run somewhere and grab a sandwich and, you know, eat in 15 minutes, whereas cooking for myself is easily, like, from start to finish, finish being once the dishes are done, that can easily be like an hour long process.” |

Factors such as the control and pleasure derived from cooking drove some participants to highly value cooking for themselves, but time constraints, especially those from school, often took a higher priority over cooking. The participants who consistently valued cooking over school-related time constraints had high standards for their food and eating and derived significant intrinsic motivation from cooking. These participants usually had high confidence with cooking. Other skilled, confident participants reported deriving pleasure from cooking, but prioritized school and the convenience of take-out and restaurant foods over taking the time to cook for themselves. The prioritization of cooking varied on different timescales: on a weekly basis, students cooked more on weekends and less during exam weeks, and from year to year, students more highly valued cooking at the beginning of the year than towards the end. Undergraduates in their last year of college found more time to cook for themselves and more highly prioritized cooking for themselves.

**Factor 5: Time-Saving Strategies**
Throughout the interview process, the researchers uncovered a variety of strategies that undergraduates employed to cope with the time strain surrounding their mealtimes. The researchers divided these strategies into several main categories: Multi-Tasking, Utilization of Frozen Foods, and Planning Ahead.

Students who multitasked tended to assimilate cooking into routines already in place, to cook several different dishes at the same time, or to complete other chores and activities while they waited for their meals to cook (Table 14).

**Table 14. Methods by which Undergraduates Multitask when Cooking**

<table>
<thead>
<tr>
<th>Assimilation of Cooking into In-Place Routines: The Morning Routine</th>
<th>“I’ll get up and put coffee on and um then I’ll like go take a shower...”</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>“I eat it [the breakfast sandwich] while walking [to class]...”</td>
</tr>
<tr>
<td>Assimilation of Cooking into In-Place Routines: The Homework Routine</td>
<td>“The time to thaw takes 2 hours...I just go do my homework.”</td>
</tr>
<tr>
<td></td>
<td>“I’m doing homework while I’m cooking.”</td>
</tr>
<tr>
<td>Cooking Multiple Dishes at Once</td>
<td>“I’ll usually put the rice on so it’s cooking while I’m making the curry so everything’s kind of done at the same time.”</td>
</tr>
<tr>
<td></td>
<td>“And then while I’m making the rice, I’m thawing the meat um in the microwave.”</td>
</tr>
<tr>
<td>Multi-Tasking as a Function of the Length of Time it Takes to Cook A Dish</td>
<td>“If it takes 5 minutes for water to boil I can leave in that time and go do something else...”</td>
</tr>
<tr>
<td></td>
<td>“You can like throw it on the stove and then go do something else for 10 minutes while it cooks.”</td>
</tr>
</tbody>
</table>

Multi-taskers often assimilated morning cooking into in-place morning routines. These students established routinized ways by which to prepare their first meal while simultaneously getting ready to go to class. Additionally, many students accomplished academic tasks when there was downtime in food preparation, commenting, “I just go do my homework [while food is thawing]” or “I’m doing homework while I’m cooking.” These students therefore found strategies to incorporate cooking and eating patterns seamlessly into their daytime schedules. Cooking and eating are not afterthoughts, then, but active components of their daily routines.

Several students multtasked cooking with other responsibilities. These students either multi-tasked as they cooked (doing homework or completing tasks depending on how long a dish will take to prepare, as mentioned) or they prepared multiple food items at once to ensure that multiple dishes were all ready at the same time. In contrast with the first group of multi-taskers, for these students,
cooking was not seamlessly incorporated into a daily routine. Instead, cooking and eating were their own separate activities that took up notable amounts of time.

Interview participants viewed frozen foods as an easy option and “safety net” that “keeps” for longer periods of time than fresh foods, making it a "go-to" item available whenever needed (Table 15).

Table 15. Determinants of Frozen Food Usage

| Frozen Food Lasts Longer | “I just bought frozen edamame beans...instead of buying fresh ones that I know will go bad...”  
| “If it needs to be frozen, then it will be frozen because then they will stay for a long period of time.” |
| Frozen Food is Always Readily Available | “...I like buying frozen food that can just be readily available whenever I am...”  
| “A lot of the times it’s easier to just buy frozen food, um, and then make it when you can...” |
| Frozen Food is Easy to Prepare | “Frozen meals...just pop them in the microwave and be done with it.”  
| “I have a frozen mix that’s...easy to toss into something or make into a stir fry.” |
| Frozen Food is an “In Case of Emergency” Food Group | “Um, I have a couple frozen things...it’s good to have them just in case of dire emergency.”  
| “...so I...probably eat more like of the frozen things that....are still there just because I don’t have like the fresh food anymore.” |

Time and again, students commented that fresh food quickly “goes bad,” and that frozen foods “stay for a long period of time.” The nature of frozen food as a long-lasting option was especially useful for undergraduates both when they had not been grocery shopping recently and if their fresh foods had spoiled due to lack of use.

Frozen food was “readily available whenever [the student] is” ready for it and could be made in a brief amount of time. This characteristic of frozen food meant that it was a staple; students could rely on frozen food to be ready for utilization whenever needed—students did not have to specifically cook it or consume it before an immediate expiration date.

Critical to the utilization of frozen food was its citation as a quick to prepare commodity. Frozen meals, one interviewee stated, can just be “popped in the microwave and be done.” Frozen foods were
thus easily heated and ready for consumption, another vital time-saving technique. Frozen foods were also referenced often as “easy to make or to toss in a stir fry.” The ease with which frozen food could be made and added into recipes was important to our participants.

One participant emphasized the relationship between cooking and planning and reflected, “That’s probably why I don’t cook that much...’Cause I don’t plan.” Without adequate planning, students revealed that cooking became an infrequent, time-wasting chore.

Those students who did pre-plan their cooking, however, relied on the utilization of leftovers, cooking in bulk, cooking or defrosting foods in advance of mealtime, packing snacks and meals, the utilization of a set list of “staple meals,” and sometimes even changed food purchasing patterns to adjust to a lack of time and to ultimately save time (Table 16).

**Table 16. Methods of Planning Ahead**

<table>
<thead>
<tr>
<th>Method</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Utilization of Leftovers As Long-Lasting Food Options</td>
<td>“I made a big batch of [quinoa]...so I kept it in Tupperware for like a week...”</td>
</tr>
<tr>
<td></td>
<td>“I cooked chicken for lunch...brought the rest of the chicken on my salad today. So I always try to think ahead a little bit and see if I could incorporate any of that into the next meal.”</td>
</tr>
<tr>
<td>Cooking in Bulk</td>
<td>“If I like have no time and I’m like really hungry I’ll make like a big thing of pasta and like keep it for the week...”</td>
</tr>
<tr>
<td></td>
<td>“I’ll make it [the roast] on a Sunday night or something--it leads to lots of good food for the week.”</td>
</tr>
<tr>
<td>Cooking or Defrosting Foods in Advance of Mealtime</td>
<td>“And then, for dinner, I defrost food in the morning usually.”</td>
</tr>
<tr>
<td>Packing Snacks and Meals</td>
<td>“If I know I’m going to be out late at night I’ll bring like an apple or nuts to hold me over...”</td>
</tr>
<tr>
<td></td>
<td>“I just make sure I always have a power bar in [my backpack] just in case...”</td>
</tr>
<tr>
<td>Reliance on Staple Meals</td>
<td>“Well usually what’s nice about... having the staple meals...they’re all pretty quick.”</td>
</tr>
<tr>
<td></td>
<td>“Um beans and rice is another big one that I do a lot of.... That’s a really easy staple that I appreciate.”</td>
</tr>
<tr>
<td>Adjusting Food Purchasing Patterns to Save Time</td>
<td>“I...always buy pre-washed stuff.”</td>
</tr>
<tr>
<td></td>
<td>“I just discovered... the family pack of broccoli florets...which is cheaper than a head of broccoli...And it’s pre-cut in perfect sizes so I’ve started getting that and then I always get the really big bag of baby carrots...”</td>
</tr>
</tbody>
</table>
Students often discussed the importance of leftovers in their weekly meal schedules. Stir fries guaranteed “enough leftovers for a meal or two afterwards” and could be cooked in “big batches” to supply food for the week. Similarly, students discussed intentionally making leftovers and cooking in bulk to supply multiple lunches and dinners. One student said, “I always try to think ahead a little bit and see if I could incorporate any of that [food from previous meals] into the next meal.” This practice of “thinking ahead’ and pre-planning was especially applicable to the purposeful production of leftovers or “bulk” foods.

Pre-planning also included defrosting dinner items in the morning in preparation for nighttime usage. Although some students regretted forgetting to defrost food items in the morning, others were able to fit the defrosting process into their morning routine and therefore established a mental map and schedule of their food choices for the day. Some students pre-planned the packing of snacks or lunches for the day, too, in order to purposefully schedule eating time during busy days.

Reliance on staple meals was another key tactic by which to pre-plan cooking and eating. One student commented that staple meals were “nice” because they’re “pretty quick.” Another participant similarly cited beans and rice as an “easy staple that I appreciate.” The ability to cook and pre-plan to have certain staple meals on hand was especially useful to students during weekly meal-planning due to the ease with which students were able to prepare and cook these items.

Finally, the move off campus and the beginning of frequent personal grocery shopping prompted some interviewees to adjust their grocery shopping habits to meet their new cooking and consumption patterns. One participant especially altered her purchasing habits; in order to pre-plan for meals that would be quick and easy to prepare, she began purchasing pre-washed vegetables, bags of broccoli florets, and baby carrots in bulk, each of which saved her time during the actual cooking process. Pre-planning as a means of time-saving, then, begins at the grocery store.

Confronted with consistently busy schedules, it was essential for undergraduates to identify timesaving meal planning and cooking strategies that worked best for them so that cooking and eating could fit more easily into their routines. Multi-tasking while cooking, utilizing frozen foods, and planning cooking and meals ahead of time were a few such successful strategies which made the move both off campus and off of meal plans more manageable for undergraduates.

A MODEL of Emerging Food Management Approaches of Undergraduate Students

Analysis of the interview data led the researchers to develop a model depicting the relationships between major factors that were important to participants as they began to manage their own food and meals. Perceptions of cooking, time, difficulty and ease of food preparation simultaneously influenced and were shaped by learning experiences, important values, time, and social relationships.

The factors were all interrelated as well as dynamic, changing over time as students developed new social connections, learned new food preparation methods, gained confidence, or shifted their values. All of these major factors are embedded within the complex and dynamic context of the participants’ daily lives. The model is depicted in Figure 1, where arrows indicate the web of influence between each factor and display how perceptions were central as important influences but also tended to be shaped by new skills and information.
Learning was an ongoing influence as students picked up ideas and priorities from friends, roommates, and family members at home. Some began to value new things, such as healthy eating, and that led them to perceive cooking in a more positive light. As students observed the ways roommates managed food, or considered the priorities and strategies of others, perceptions sometimes shifted. Students observed roommates using time saving strategies and adapted some of these into their own food management systems. Social cooking helped develop new understandings of the ease, difficulty, or pleasure of cooking and reinforced confidence for some who saw themselves as being good with food. This model is situated within the life course and reflects the factors reported as important by young adults in this college setting.

All of the factors in this model continuously interacted with each other, with reciprocal relationships between them. For example, perceptions of social factors shaped the prioritization of values, but perceptions about the values of cooking partners also shaped the operation of social factors. Similarly, people brought time-saving strategies with them from prior cooking with their parents and families, but learned new ways to save time from those who they cooked with at their apartments. All of these factors were embedded within the context of availability of cooking facilities in student apartments and the difficulty of accessing grocery stores, as well as being situated within the pressure of classes and other student activities.

DISCUSSION
The factors that influenced participants’ perceptions were numerous and included their personal experiences growing up, as well as the confidence they had in their cooking abilities. The individual formed perceptions of a dish’s difficulty, its timing and the cooking process itself. Understanding a student’s perception of these relevant parts of the food choice process was critical to how they make food-related decisions. The other major findings of this study, such as how students manage food-related values, where and how they gain food and cooking knowledge, how social connections affect their food preparation, and what strategies they use to save time while cooking, are all inherently linked to the perceptions that participants develop over time.

The perceptions of participants towards cooking for themselves were constructed and continuously influenced by friends and parents, participant values and priorities, time constraints and subsequent time saving strategies, and sources of learning. These influencing factors were not static, but affected each other in an ever-evolving process, and were reciprocally influenced by the participant’s perception of such factors. Such perceptions and influencing factors interact within the context of a university setting, which presents unique challenges, constraints and opportunities for managing cooking.

Strengths

In interview-based qualitative research, it is best if the participants feel comfortable opening up to the researcher (Patton 1990). In this study, the researchers who conducted initial and follow up interviews were undergraduate students. Since the researchers conducting the interviews were often experiencing similar challenges with managing cooking for the first time, participants felt comfortable sharing their experiences, including their failures. In addition, in some interviews, the interviewer was personally acquainted with the participant. These participants seemed to be especially comfortable providing details of their management styles. In many interviews, the interviewer was able to establish significant rapport with the participant, resulting in rich and nuanced qualitative material.

Furthermore, many of the participants were interviewed multiple times, with as much as a year passing between some interviews. This allowed for researchers to further examine the evolving relationship between perceptions, influencing factors, and management styles.

Comparing and contrasting information provided by participants in weekly research meetings was a form of data triangulation, contributing to credibility of these results. In addition, second interviews provided member checks to verify that researchers had appropriately understood study participants’ earlier reports.

Limitations

Not all of the participants in the study were interviewed twice, however, and often, follow-up interviews were tailored to the individual participant. Additionally, since researchers and participants were both undergraduate students, it is possible that shared understandings between the two prevented some things from being said explicitly. The focused population sample in this study limits how much it may be generalized to transfer to other places, people, and times. Norms and expectations about how to do things around food might have influenced some students to withhold or distort information about eating that did not fit the norms. While the results of this qualitative study have implications for understanding food management among all college students, they can only apply...
directly to these undergraduate students at Cornell University. Other students may have reported different experiences and views.

**Implications**

University students reported perceiving college to be a transient time in life. As such, although many participants reported feeling at least somewhat dissatisfied with their management of food and eating, few expressed motivation to entirely change their eating behavior immediately. Many participants expressed the idea that they will wait to improve their management of food and eating in a less transient, less hectic time after college. Routines and habits formed at this beginning period of managing food on their own may persist for young adults however.

This study supports the idea that college years are a potential time for exploring and changing food and eating standards. Exposure to novel foods and cooking approaches may establish new tastes and food management patterns that will last a lifetime. This opportunity to support or alter food choice trajectories should be important to health promotion programs.

Understanding Figure 1 has significant implications for nutrition therapy and care, university dining services food and grocery retailers, university administrators, and university students themselves. Such professionals may benefit from understanding the significant range in culinary skills that many undergraduates possess, as well as understanding undergraduates’ lack of motivation to change many cooking habits. For example, dietitians should pay special attention in understanding a student’s standards and abilities in food preparation to tailor their therapy.

In addition, in order to design effective nutrition programs and properly support students, university officials must also understand the significance that social interactions have in modifying the perception of food and eating. For example, interventions aimed to encourage students to eat healthier and cook more for themselves should be aimed at groups of students who may encourage each other, rather than individuals.

The rich descriptions here might allow the details about an important phase in self management of food preparation to inform professionals working with other individuals in transition (e.g. newly widowed or single adults who must change food management practices).

Ultimately, students are in a unique and often constantly evolving situation during their college years with a particular social context and, typically, changing housing and social situations. Accordingly, students develop methods of food management that work best for them during their college years, and these experiences may have long term implications.

**REFERENCES:**


