

# Constructing Food Choice Decisions

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## Abstract

**Background** Food choice decisions are frequent, multifaceted, situational, dynamic, and complex and lead to food behaviors where people acquire, prepare, serve, give away, store, eat, and clean up. Many disciplines and fields examine decision making.

**Purpose** Several classes of theories are applicable to food decision making, including social behavior, social facts, and social definition perspectives. Each offers some insights but also makes limiting assumptions that prevent fully explaining food choice decisions.

**Methods** We used constructionist social definition perspectives to inductively develop a food choice process model that organizes a broad scope of factors and dynamics involved in food behaviors.

**Results** This food choice process model includes (1) life course events and experiences that establish a food choice trajectory through transitions, turning points, timing, and contexts; (2) influences on food choices that include cultural ideals, personal factors, resources, social factors, and present contexts; and (3) a personal system that develops food choice values, negotiates and balances values, classifies foods and situations, and forms/revises food choice strategies, scripts, and routines. The parts of the model dynamically interact to make food choice decisions leading to food behaviors.

**Conclusion** No single theory can fully explain decision making in food behavior. Multiple perspectives are needed, including constructionist thinking.

**Keywords** Food · Eating · Choice · Decisions · Construction · Theories

## Introduction

Eating is necessary for survival and health, and is a universal activity that involves many different food choice decisions. Food choice decisions are often seen as mundane and arbitrary, but they may also be viewed as significant and symbolic. Food choice decisions have not been well examined by the diversity of perspectives used to study decision making.

This article describes how food choice decisions are frequent, multifaceted, situational, dynamic, and complex. Then it discusses three theoretical perspectives that can be applied in examining food choice decisions (social behavior, social facts, and social definition) and their limitations and applications. Next, a food choice process model developed using constructionist social definition perspectives is described. Finally, applications of this model and conclusions about food choice decision making are presented.

## Food Choice Decisions

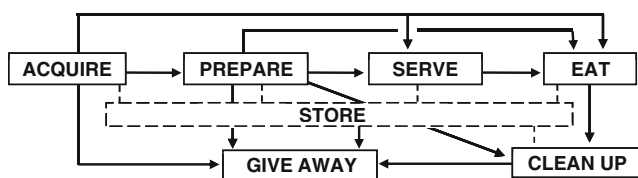
Food choice decisions are frequent in contemporary postindustrial societies. Food has become almost universally available and accessible, so that it can be acquired almost anywhere, anytime, by anyone [1]. The onslaught of options for making food choice decisions leads many people to experience too many eating opportunities, which some label as a “the tyranny of choice” [2]. Some food choice decisions do not lead to eating, but people still need to make a decision not to eat. People engage in multiple

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eating and drinking episodes per day [3], and each eating episode requires many types of decisions including whether, what, where, when, with whom, how long, how, and how much to eat. Research has estimated that most people make over 220 food decisions per day [4]. That food choice decision making is a frequent and expected part of everyday life demonstrates that it is a salient and important topic that needs careful analysis.

Food choice decisions are multifaceted, incorporating a great variety of food behaviors. These food behaviors include several stages of food handling, each of which may have different decision processes (Fig. 1). Acquiring food procures foodstuffs and foods from personal production, markets, institutions, or interpersonal exchanges [5]. Preparing food involves transforming raw materials into edible foods using a variety of techniques to change the form, temperature, and wetness/dryness of foods [6]. Serving food arranges the eating setting, presents foods, and distributes it to individuals who are eating [7]. Eating involves the intake and ingestion of food [8]. Giving away food shares it with others who are not present [9]. All of these stages involve storage, where foodstuffs, ingredients, and foods are saved and protected between stages [10]. Finally, cleaning up is typically a necessary behavior that follows the food preparation and eating behaviors [11]. This figure illustrates how food behavior is a multifaceted process that involves multiple, interrelated decisions. For example, a decision about what to eat is often linked to a decision about where to get the food and how to prepare it. A decision about acquiring food may be linked to decisions about where to store the food and how to serve it.

Food choice decisions are situational. Food behaviors involve not only decisions about the food, but also decisions about other aspects of a situation in which the food behavior occurs, such as location, social, time, or other activities [12]. For example, acquisition decisions involve which and how much food to acquire where, when, and how; preparation decisions involve when, how, and where to transform foods in which combinations and amounts; serving decisions involve how much, where, and when to serve foods to different people; eating decisions involve what, when, where, and how much food to consume; storage decisions involve how, where, and how long to keep foods; giving away decisions involve whether, when, where, and how much to share with other people not



**Fig. 1** Summary of types and sequences of food behaviors

present; and cleaning up decisions involve how, when, and where to clean up after each stage of the process. All of these situational considerations are incorporated into food and eating decision making, making it a contextualized process.

Food choice decisions are dynamic, changing over historical time and individual time. The food choice decisions of earlier generations were very different than those faced today and will differ in new ways in the future [13]. Food historians identify how the food system has changed decisions options over time [14]. People engage in different food choice decisions as they undergo personal development and pass through situations and settings in the course of their lives [15, 16]. The dynamism of food choice also occurs on a shorter temporal scale, with food choice decisions varying across the cycles of days, weeks, seasons, and years [17]. Even short episodes and events include changing moods for food choice decisions [18].

Food choice decisions are complex because they involve many different considerations about what, when, where, and with whom to eat [12]. Deciding what to eat may be involve a simple choice between few food options (e.g., sandwich or pizza) or require selection among many alternative options (e.g., a buffet with dozens of types of foods) and also may involve judgment using few attributes (e.g., taste and health) or consider many attributes (e.g., taste, health, convenience, cost, ethics, ecology, and others) [19]. Deciding when to eat may simply involve choosing whether to eat a snack immediately or not eat anything, or be more complex by considering whether to eat a snack in relationship to past, present, and future snacks and meals [20]. Deciding where to eat may consider a single setting (e.g., a cafeteria), or evaluate a multitude of settings (e.g., cafeteria, vending machine, restaurant, and others) [21]. Deciding with whom to eat may involve the simpler procedure of dining alone in isolation, or be more complex in deciding to dine with others, which involves multiple deciders making a joint decision [22]. The complexity of decision making is being examined on many fronts in the social and behavioral sciences, and the complexity of food choice decisions poses a major challenge to application of single and simple theoretical models.

### Decision Making Perspectives

The question of how people make decisions is a fundamental social and behavioral science issue that has been confronted by thinkers from virtually all disciplines and fields that examine human actions. Psychologists, economists, and philosophers have been particularly involved in conceptualizing and studying decision making [23, 24]. The interdisciplinary fields of decision science [25] and decision

analysis [26] have emerged as forums for analyzing and applying thinking about the topic of decision making.

Decision making is examined using many theoretical perspectives, so it is inappropriate to use the term “decision theory” because no single, unified perspective is used to examine decision making. Instead, analysis of decision making is polytheoretical, with many types of theories about decision making.

One way to summarize the many diverse theoretical perspectives that are available to examine decision making is to categorize them into metatheories that reflect different ontological perspectives. Ritzer [27, 28] proposed that social theories can be classified into three main metatheories: social behavior, social facts, and social definition.

A social behavior perspective takes a rationalist stance that assumes individuals make decisions to optimize benefits and minimize costs [28]. Rationalist perspectives about decision making dominate decision science and decision analysis. Psychological behaviorism provides the basic foundation for rationalism [29, 30], neoclassical microeconomics offers a complex and strong exemplar of rationalist thinking about decision making [31], and various forms of rational choice theories expand rationalist thinking [32]. Rationalist perspectives typically make several assumptions about human decision making, including that individuals have complete information about attributes of decision options and their consequences and rationally maximize their interests by pursuing benefits and avoiding harms. These assumptions do not always apply, and much recent conceptual work within a rationalist perspective has examined ways to deal with nonindividualized decisions, incomplete information and uncertainty about consequences, less than rational decision processes, consideration of other interests than those of the decider, and calculations about benefits and harms. Some of this body of work from a rationalist perspective has been brought to bear upon food choice decisions [33, 34], but much remains to be explicitly applied to food and eating.

A social facts perspective takes a structivist stance that assumes social institutions and other environments shape individual decisions by providing norms and values used in decisions and structuring physical and social constraints upon potential decisions [28]. Structivist perspectives about decision making assume that institutions and environments constrain or determine decisions of individuals who are embedded within social and physical structures. These structivist perspectives take a holistic approach to behavior, assuming that macrolevel factors provide boundaries and constraints within which individual decisions operate [35]. Macrolevel structures like societies, cultures, markets, governments, places, and other factors in the form of systems, networks, and processes are assumed to provide contexts that determine individual-level decisions. These

assumptions do not completely apply, and much recent conceptual work has examined ways that individual agency and social structure interpenetrate and interact to jointly shape decision processes and behaviors [36]. Research from a structivist perspective has examined food choices, including examination of how social, economic, cultural, political, and geographical factors both enhance and limit the scope of food choice decisions available to individuals [37, 38].

A social definition perspective takes a constructionist stance that assumes individuals actively conceptualize and interactively interpret options in the process of deciding and reconsidering choices [28]. A variety of theories including phenomenology, constructivism, symbolic interactionism, ethnomethodology, cultural idealism, and others assume that people experience, define, interpret, negotiate, manage, and symbolize the world in the process of decision making. These constructionist approaches include both individualistic microapproaches and holistic macroapproaches, assuming that both agency and structure operate together as cognitions and cultures interact to interpret and define the world [39]. These assumptions about the mind and culture do not always apply, and social scientists grapple with the boundaries of social construction in relationship to objective reality [40, 41]. Research from a constructionist perspective has examined food choices [42, 43], taking both individual and collective perspectives about how people actively consider and construct their food choice decisions.

Each of these perspectives (rationalism, structivism, and constructionism) makes different ontological assumptions about the nature of the world, and many of the assumptions are incompatible. For example, rationalism is reductionist in its focus on individual decisions [32], which is different from the holistic perspective of structivist thinking that emphasizes social institutions [44]. Constructionism is idealistic in its focus on subjective thoughts and experiences [45], which differs from the objective individualistic focus of rationalism and objective collectivist focus of structivism. Despite these potential differences, some concepts and models seek to span perspectives, for example Bourdieu's [46] concept of habitus as routine practices that he and others [47] have used to bridge constructionist and structivist thinking about food behaviors.

Overall, each of these metatheoretical perspectives offers particular but partial insights and is useful for understanding, explaining, and predicting some aspects of food choice decisions. However, each perspective also makes limiting assumptions that produce less adequate consideration of other aspects of food choice decisions. Thus, each of these perspectives has advantages and disadvantages for studying food choice decisions. There are several ways to develop and select frameworks, models, and theories about food

choice decisions, including translation, deduction, and induction [48].

Translation uses and adapts of existing perspectives to analyze food choice decision making and is the most common way of conceptualizing food choice decisions. Existing theories have been imported from a variety of behavioral and social science disciplines and fields to examine and change food choice decisions [49, 50]. A major strength of translating existing theories is that they have already been examined and tested elsewhere, which permits efficient use in nutrition. A major limitation of translation is that theories developed for other purposes may not fit well for food choice decisions.

Deduction develops new perspectives for thinking about food choice decisions when experts develop models based on their experiences and observations. Behavioral scientists and nutritionists have long developed models about food decisions, such as Lewin's [51] family food gatekeeper analysis, Randall and Sanjur's [52] model of factors influencing food preferences and consumption, and others [50, 53]. A major strength of deductive models is that they are explicitly tailored to food choice decisions, which provides focus and relevance. A major limitation is that they are limited by the orientation and experience of the developers and may not consider some important factors in food choice decision making.

Induction develops new frameworks and models by eliciting information from consumers about their food choice decisions and using those emergent concepts to construct frameworks and models about food choice decisions that are grounded in the perspectives of food consumers [54]. A growing set of inductive perspectives are emerging from the work of social and behavioral scientists like Warde and Marten's [55] model of food choices when eating away from home and from research by nutritionists like the model of Janas et al. [56] about how people manage diets to lower cholesterol and others [57]. A major strength of induction is that it provides concepts important to those being studied, while a major limitation is that the findings are also restricted to participants in the inductive analysis.

### A Food Choice Process Model

The Cornell Food Choice Research Group is an interdisciplinary collaboration of nutritionists and social scientists who have inductively developed and elaborated a food choice process model [58]. This model seeks to portray the broad range of factors and types of processes involved in making food choice decisions. Initial review of prior literature about food choices found that existing models tended to be focused on only parts of the broad scope of factors involved in food choice decisions by food consum-

ers. The group then used constructionist perspectives to inductively seek explanations from adults about how they make food choices using in-depth qualitative interviews. From this research, they developed the food choice process model [58] and verified [59] and elaborated [12, 15, 20] its components using additional qualitative research.

The food choice process model (Fig. 2) has three major components that operate together to produce the many types and sequences of food behaviors shown in Fig. 1. Life course, influences, and personal food systems represent many of the extensive range of major factors that research participants described as important in their food choice decisions, although they are not exhaustive lists of everything involved in food decisions for all individuals. Each component of the model is described in the next sections.

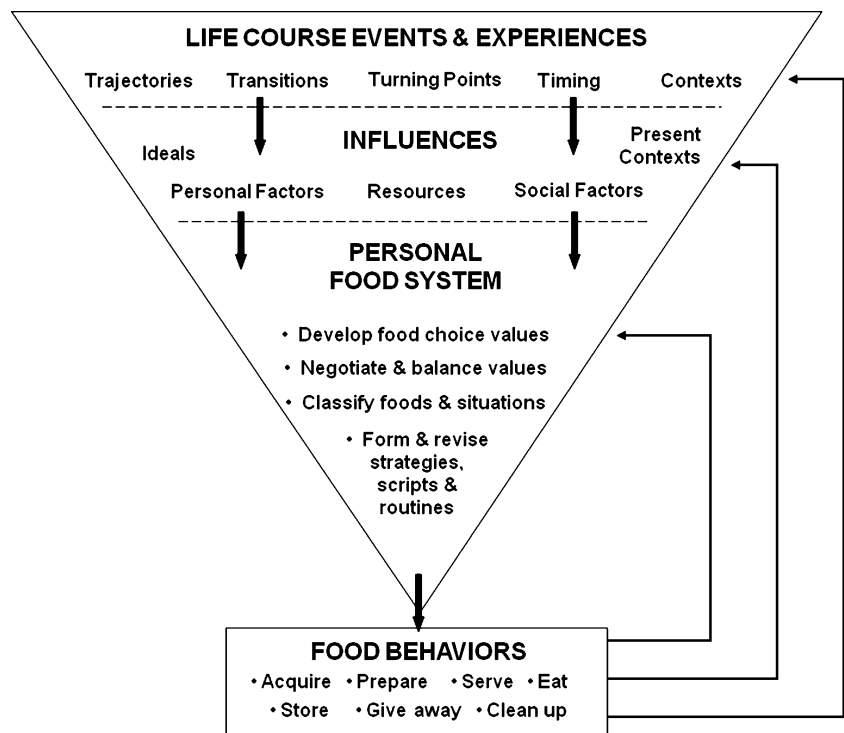
### Life Course

The life course includes the events and experiences that individuals have had prior to present food choice decisions, as well as their anticipation and expectations about future possibilities [60]. The life course is not merely life cycle development such as growth, maturation, and aging; nor is it simply progression through life stages like childhood, adolescence, and adulthood. The life course considers several dynamic processes that transcend cycles or stages, including: trajectories, transitions/turning points, timing, and contexts.

Trajectories are a key life course concept [60]. "Food choice trajectories involve a person's persistent thoughts, feelings, strategies, and actions as she/he approached food choice" ([15], p 363). People actively construct food choice trajectories as they move through life, establishing pathways that gather momentum and provide expectations for future food choice decisions. For example, early family cuisine and food preferences provide "food roots" and "food upbringing" that lead people to develop food roles and eating identities that lead to persistent patterns of food choices over time [15].

Transitions and turning points are shifts in a person's life course that lead to changes in food choice trajectories [61]. Food choice trajectories are dynamic because they are modified by events and experiences of individuals. Transitions are changes in food choice trajectories due to significant life events, for example changing residence through migration, changing family through marriage, changing work through retirement, or changing health through diagnosis of an illness. Turning points are major transitions that lead to radical reconstructions of food choices, like shifting from eating an unhealthy diet to strictly following a severely restricted fat regimen following heart bypass surgery [62].

**Fig. 2** A food choice process model



Timing of events in the life course considers when particular transitions or turning points occur [60, 61]. When a particular life course change happens, it influences how an individual constructs food choice decisions because of age norms for specific events and cultural norms about the expected order of life course changes. If life course events occur “off time,” people often feel out of step with normative life scripts and have problems adjusting their food choices [15]. For example, adolescent mothers are less mature and have more problems making healthy food choices during pregnancy than adult mothers.

Contexts are the environments in which lives are lived [48]. They provide shifting structures within which individuals exert their personal agency in making food choice decisions over time. Macrolevel contexts include social, cultural, political, economic, and other conditions that facilitate and constrain constancy and changes in the food choice trajectories of individuals. For example, people who were children during the economic depression of the early twentieth century developed into cohorts who were highly concerned about getting enough food and not wasting food, and this persisted as part of their food choice trajectory as they aged [59]. Microlevel contexts include families, friends, schools, workplaces, communities, and other social and physical structures that shape food choice trajectories. For example, people in particular ethnic communities establish persistent food choice patterns that they learned during critical periods of their lives as they were socialized into ethnic food cultures [63].

Overall, all food choice decisions are embedded within personal time and historical time. The concept of life course and its components provide ways of conceptualizing both dynamic and constant aspects of food choice decisions that are constructed with respect to past experiences, present situations, and future expectations. Every new food choice experience adds to an individual's food choice trajectory as it becomes part of the life course, and no food choice decisions can be fully understood without consideration of past events. In the food choice process model, the life course feeds into consideration of current influences.

### Influences

A diverse array of factors influences food choice decisions. Based on qualitative interviews about what affects people's food choices, Furst et al. [58] grouped influences into five categories: cultural ideals, personal factors, resources, social factors, and present contexts (Fig. 2). All of these categories are situated within the life course, interact with each other, and shape personal construction of food choice decisions.

Cultural ideals include the learned system of rules, maps, and plans shared by a group of people [64]. These ideals provide the standards used as reference points by individuals to assess and judge food behaviors as “right,” “normal,” “inappropriate,” or “unacceptable.” For example, a meal has a cultural grammar for the type and proportions of foods, like the English meal formula for a proper meal of

A+2b that represents a main dish plus two side dishes [65–67]. People are socialized and acculturated into cultural and subcultural ideals that they selectively invoke and perform in constructing food choices. For example, ethnic food cultures are among the most important factors that people report as influences on their food choice decisions [59, 63].

Personal factors are attributes or characteristics of individuals that influence their food choice decisions and behaviors. Personal factors are biopsychosocial [68] and include physiological factors (e.g., genetic predisposition to disease, sensory sensitivity to food tastes), psychological factors (e.g., food preferences, personality), and social factors (e.g., gender roles, parent responsibilities). One personal factor is the identities that people develop and enact in their food behaviors [69], with “picky eater,” “vegetarian,” “good cook,” “flexible eater,” and “healthiest eater I know” examples of ways people describe themselves [69]. Personal factors develop and change over time and permit individuals to be unique in their food decisions. This sometimes leads to “dietary individualism” where personal factors lead people to eat differently than their mealtime companions [70].

Resources are the assets that individuals consider in making food choice decisions. Many types of assets are available and include various forms of capital that can be drawn upon in food choice decisions [48]. These include financial capital (income, wealth), material capital (equipment, space), human capital (skills, knowledge), social capital (relationships, connections), and cultural capital (values, traditions), as well as other forms of capital. Resources may facilitate food choices, such as wealth providing accessibility to a broad array of foods, or may inhibit food choices, such as limited human capital constraining selection of foods to those that are easy to prepare [71]. Different types of resources may be exchanged for others, like trading money for equipment, or social connections for lack of personal skills.

Social factors are the system of relationships of individuals that can constrain or facilitate food choice decisions. Most eating occurs with others in commensal units where the interests of many people are negotiated and managed [22], and food choice decisions are made not as individuals but as groups [72]. Some relationships provide opportunities for making particular food choice decisions, such as supportive families that encourage individuals to make healthy choices [73]. Other relationships constrain food choices, like obligations to eat with coworkers, and may inhibit selection of settings and foods that are tasty or considered healthy [74].

Contexts are the broader environments influencing food choice decisions. Contexts include social environments as well as physical environments. Social institutions produce economic conditions, government policies, and mass media

that shape food choice decisions. For example, the food system is a context for food choice decisions that makes particular foods available to be considered for selection by individuals [10]. Physical conditions include climate, physical structures, and other material objects that facilitate or constrain food choice decisions. For example, the built environment provides infrastructure, structures, and objects that shape food choice decisions, with food storage and display, shape of food containers, and type of eating utensils all influencing whether people eat particular foods and how much of them they consume [75, 76].

Influences on food choice decisions span a broad array of physical, psychological, and social factors that are considered and reconsidered in the process of making decisions about what, when, where, with whom, and how much to eat. Influences change over time and between situations, adding dynamic changes to the complexity of food choice decisions.

### Personal Systems

Individuals develop personal food systems as cognitive processes for food choice that guide their eating behaviors in particular settings [20, 58]. Personal food systems include the development of food choice values; negotiation and balancing of food choice values; classification of foods and situations; and development of strategies, scripts, and routines for recurring food decisions.

Food choice values are the considerations that people bring to food choice (e.g., taste, cost, health, convenience, relationships) and the particular meanings and feelings that people attach to these considerations. For example, people assign different meaning to the term “healthy eating” [77]. Research with U.S. adults reveals that salient food choice values typically relate to taste, convenience, cost, health, and managing relationships, with additional values important to particular groups or individuals (e.g., ethics, environment, religion.) [20, 58, 59]. People vary in the sets of food choice values that they develop. Values are dynamic (changing over a person's life course) and situational (selectively invoked and employed in particular settings) [31–33]. Value negotiations are largely conscious, where people mindfully consider and weigh values important to them at that time and use those deliberations to make a decision. In contrast, many decisions are less mindful, where people act subconsciously to make more automatic, less deliberated choices [48, 58].

To simplify food choice decisions, people classify foods and situations according to categories they develop based the characteristics of the foods, the contexts, or their personal experiences (e.g., preferences) [58, 78]. In a complex world, classification is necessary to determine

what is edible and among edibles to decide what to consume where, when, and with whom. Classification schemes range in scope from those that are widely culturally recognized to those that are common and socially significant, to classifications that are more narrowly personally operational, vary between individuals, and may be applied situationally [77–79]. Specific foods or eating situations are bundles of attributes that are bound together and present different characteristics that may be used in classifying foods or situations [80]. For example, classification using multiple dimensions may categorize apples into the categories of fruit, snack, healthy food, source of fiber, sweet food, etc. Food classifications are necessary for constructing food choice decisions and help people evaluate different options according to their food choice values.

Value negotiations are a crucial element in food choice decisions because it is rare for all values to be fully satisfied by a specific food or food behavior setting [58]. People negotiate and balance competing values using heuristics [19] like prioritizing values to simplify food choice decisions [20]. For example, a person with diabetes may value health above other values like taste, cost, convenience, and relationships. Value negotiations may provide boundaries that exclude some choices (like price ceilings for a particular food) and pose decision dilemmas like tradeoffs between taste and health, cost and convenience, or health and interpersonal relationships. Additionally, values are not only balanced in specific decisions, but are also balanced over other personally defined time periods, such as across meals, work days versus days off, and school year versus summer [20, 81].

Food choice strategies and scripts bring the cognitive aspects of food choice closer to behaviors. Strategies are heuristics or rules that people develop to implement food choice values in food behaviors [17, 58, 59]. Strategies simplify food choice decisions by providing guidelines that people can easily call upon, thereby expediting food choice decisions [20, 48, 59]. Several major types of strategies have been identified [48]. Elimination avoids or excludes particular foods or eating options. Limitation restricts or regulates particular foods or ingredients. Substitution replaces or exchanges one food for another. Addition augments or enhances foods by including extra foods or other substances. Modification alters or adjusts particular foods. Routinization standardizes or ritualizes food choice decisions. These major strategies, as well as other types, facilitate food choice decisions by making them more automatic or habitual so classification and value negotiations are not necessary in every choice situation. Most individuals use multiple strategies for making food choice decisions, and the personal set of strategies used by an individual constitutes a repertoire [59]. Repertoires may include use of one dominant strategy, simultaneous use of

several strategies, sequential use of different strategies, and situational use of strategies to make food choice decisions.

Food choice scripts are the procedural knowledge that people hold for food behaviors in specific situations that are familiar to them. Scripts include expectations about the situation as well as plans for acting in that situation and the specific sequences of behavior that they will enact [82]. Scripts and strategies that work well become routines for food choice because as the “best-fit solutions,” they provide predictability and comfort [17]. Routines are usually carefully constructed over time as people seek to achieve their food choice values while adapting to the other demands in their lives [20, 59].

Overall, personal food systems are the cognitive processes involved in food choice decisions and are immediately proximate to actual food behaviors, compared to more distal influences and the prior life course. In their personal systems, people construct values to consider in choices, negotiate and balance values, classify foods and situations according to their values, and form and revise strategies, scripts, and routines. In recurring food choice situations, individuals use strategies to construct decision heuristics to diminish the cognitive effort required in decision making. All of this operates as a dynamic process during decision making, which also changes over a person's life course and is situationally adapted to particular contexts and settings.

The food choice process model indicates that through their food behaviors people also shape their life course experiences, influences, and personal food system. For example, what people eat not only shapes their nutritional status and health, but also their identities [69]. Early involvement in food acquisition, preparation, and cleaning up provides knowledge and skills for future management of resources and functioning well in social roles as spouses and parents [71]. By trying out and evaluating new ways of shopping, cooking, and eating, people discover new strategies and revise their scripts [17, 56]. The routines people develop for food behaviors often provide structure for their daily schedules and the people that they may care for [17, 82].

The food choice process model was developed to broadly consider the range of factors involved in food choices, but has several limitations [48]. The breadth sought in the model does not focus on any particular influence or process. The model was developed to examine food choices of individuals, and may not apply well to collective decisions such as those of families [83]. The model was developed in the U.S. in the late twentieth century and may not apply well to other cultures, places, and historical eras. The model is grounded in a constructionist approach and may not fully represent biological, behavioral, cultural, or social structural perspectives. While this model may not be useful to every food choice decision

analysis, it offers a broad roadmap for considering the diversity of potential factors and processes involved in food choice decisions and some of the processes involved in making decisions.

## Applications

This model gives practitioners important perspectives for their work. First, the model provides a way to organize the many macro- and microlevel factors and processes involved in food choice while also maintaining a holistic view of the phenomena. It acknowledges that interventionists working to promote healthy eating at the population, community, family, and individual levels are addressing a phenomena that involves both structure and agency and that a focus on one without the other may be insufficient to produce desired changes. The model also emphasizes that food behaviors cannot be detached or extracted from many other aspects of people's lives, such as past personal experiences, broader historical events, work and family dynamics, and food culture changes. To emphasize these perspectives in educating undergraduate prehealth career students, we have used the model as the organizing framework for a course that we teach titled: Social Science Perspectives on Food and Nutrition. Most other courses for these students focus on the biological aspects of health and nutrition, so this model is useful in integrating and applying the salient perspectives on food choice from psychology, sociology, anthropology, geography, economics, political science, history, and other areas.

Second, the model emphasizes the importance of understanding the perspectives of the people whom an intervention intends to serve. The constructionist focus encourages practitioners to look past their personal experiences and beyond the assumptions and stereotypes they may hold about others, such as older adults, athletes, or immigrants. The concepts in the model can guide psychosocial assessments of groups and individuals by suggesting areas for questioning. The open-ended questions our research has used to collect data from study participant are available and have been used in developing interview guides in a class on nutrition counseling at Cornell [84].

Third, to help practitioners understand the idea that people construct food choice, we have developed activities for use in continuing education workshops for professionals and paraprofessionals. We ask people to draw their own food choice trajectories, outline their own rules and routines for eating in different settings, and explain what values they prioritize or negotiate in different food settings. In these ways, the abstract model comes alive and participants become more sensitive to the diverse and individualized ways that people may construct food choice.

Fourth, the model provides useful insights about dietary change processes by identifying the parts of the personal food system that would benefit most from change before a new behavior can be adopted and maintained. To adopt new eating behaviors, people may have to redefine food choice values, renegotiate food choice values, or discover new ways of balancing values in the context of other parts of their lives. They may have to reclassify food and eating situations. They probably have to revise scripts for sequences of food behaviors in different settings that the person has developed over time because they have been the best-fit solution for their circumstances to date [17]. People may benefit from trying out new behaviors in the settings in which they interact with food and may use a trial-and-error approach to revise a script until it fits [56, 62]. In summary, people need the time, energy, and social support from others as they work to incorporate healthy food behaviors into their existing lives. The techniques that we have used to illustrate peoples' scripts and routines may be useful in practice [17, 82].

## Conclusions

Food choice decisions are frequent, multifaceted, situational, dynamic, and complex. Many disciplines and fields offer perspectives useful for examining food decision making, and several major theoretical perspectives offer differing insights about how food choice decisions are made. There is no single unified decision theory, but instead there exist a variety of theories about decision making. Frameworks for examining food choice decisions can be developed in several ways. Existing models can be translated to examine and change food and eating, new models can be deductively developed to examine and change food and eating, or new models can be inductively developed to examine food and eating. To attempt to examine the broadest scope of factors relevant to individuals, we inductively developed a food choice process model that focuses on how individuals constructed food choice decisions. The model included the components of life course, influences, and personal food systems.

Food choice decisions are multiscalar, multicomponent, change in personal and historical time, and may be situation-specific, so no one perspective, theory, framework, or model can adequately capture the full complexity of eating behaviors. The physical sciences, life sciences, behavioral sciences, social sciences, and humanities all offer unique and important insights about decision making. It is necessary to incorporate multiple perspectives, consider a broad scope of factors, and combine specific concepts to further understand decision making. The topic of food choice decisions is truly transdisciplinary and needs to incorporate, integrate, and develop new perspectives.



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## References

- Sobal J. Food system globalization, eating transformations, and nutrition transitions. In: Grew R, ed. *Food in Global History*. Boulder: Westview Press; 1999: 171–193.
- Schwartz B. The tyranny of choice. *Sci Am*. 2004; 290(4): 70–75.
- Longnecker MP, Harper JM, Kim S. Eating frequency in the nationwide food consumption survey (U.S.A.), 1987–1988. *Appetite*. 1997; 29: 55–59.
- Wansink B, Sobal J. Mindless eating: The 200 daily food decisions we overlook. *Environ Behav*. 2007; 39(1): 106–123.
- Yoo S, Baranowski T, Missaghian M, et al. Food-purchasing patterns for home: A grocery store-intercept survey. *Public Health Nutr*. 2006; 9(3): 384–393.
- Rozin E. *Ethnic Cuisine: The Flavor-principle Cookbook*. Brattleboro: The Stephen Greene Press; 1983.
- Gittelsohn J. Opening the box: Intrahousehold food allocation in rural Nepal. *Soc Sci Med*. 1991; 33(10): 1141–1154.
- Marshall D. Eating at home: Meals and food choice. In: Marshall DW, ed. *Food Choice and the Consumer*. London: Blackie Academic; 1995: 264–291.
- Morton LW, Bitto EA, Oakland MJ, Sand M. Accessing food resources: Rural and urban patterns of giving and getting food. *Agric Human Values*. 2008; 255: 107–119.
- Sobal J, Khan LK, Bisogni CA. A conceptual model of the food and nutrition system. *Soc Sci Med*. 1998; 47(7): 853–863.
- Munro R. Disposal of the meal. In: Marshall DW, ed. *Food Choice and the Consumer*. London: Blackie Academic; 1995: 313–326.
- Bisogni CA, Falk LW, Madore E, et al. Dimensions of everyday eating and drinking episodes. *Appetite*. 2007; 48: 218–231.
- Belasco WJ. *Meals to Come: A History of the Future of Food*. Berkeley: University of California Press; 2006.
- Grew R, ed. *Food in Global History*. Boulder: Westview Press; 1999.
- Devine CM, Connors M, Bisogni C, Sobal J. Life course influences on fruit and vegetable trajectories: Qualitative analysis of food choices. *J Nutr Educ*. 1998; 30: 361–370.
- Devine CM. A life course perspective: Understanding food choices in time, social location, and history. *J Nutr Educ Behav*. 2005; 37: 121–128.
- Jastran M, Bisogni CA, Sobal J, Blake C, Devine CM. Eating routines: Embedded, value based, modifiable, and reflective. *Appetite*. 2009; 52(1): 127–136.
- Steptoe A, Pollard TM, Wardle J. Development of a measure of the motives underlying the selection of food: The food choice questionnaire. *Appetite*. 1995; 25: 267–284.
- Scheibehenne B, Meisler L, Todd PM. Fast and frugal food choices: Uncovering individual decision heuristics. *Appetite*. 2007; 49: 578–589.
- Connors MM, Bisogni CA, Sobal J, Devine C. Managing values in personal food systems. *Appetite*. 2001; 36: 189–200.
- Amiraian DE, Sobal J. Dating and eating: How university students select eating settings. *Appetite*. 2009; 52(1): 226–229.
- Sobal J. Sociability and the meal: Facilitation, commensality, and interaction. In: Meiselman H, ed. *Dimensions of the Meal*. Gaithersburg: Aspen Publishers; 2000: 119–133.
- Hogarth RM, Reder MW, eds. *Rational choice: The Contrast between Economics and Psychology*. Chicago: University of Chicago Press; 1987.
- Kaplan M. *Decision Theory as Philosophy*. New York: Cambridge University Press; 1996.
- Kleindorfer PR, Kunreuther HC, Shoemaker PJH. *Decision Sciences: An Integrative Perspective*. New York: Cambridge University Press; 1993.
- Goodman P, Wright G. *Decision Analysis for Management Judgment*. 3rd ed. New York: Wiley; 2004.
- Ritzer G. *Sociology: A Multiple Paradigm Science*. Boston: Allyn and Bacon; 1975.
- Ritzer G. *Sociological Theory*. 5th ed. New York: McGraw Hill; 2000.
- Mills JA. *Control: A History of Behavioral Psychology*. New York: New York University Press; 1998.
- Staddon J. *The New Behaviorism: Mind, Mechanism, and Society*. Philadelphia: Psychology Press; 2000.
- Becker GS. *The Economic Approach to Individual Behavior*. Chicago: University of Chicago Press; 1976.
- Coleman JS. *Foundations of Social Theory*. Boston: Belknap; 1990.
- Brinberg D, Axelson ML. Increasing the consumption of dietary fiber: A decision theory approach. *Health Educ Res*. 1990; 5: 409–420.
- Glanz K, Basil M, Maibach E, Goldberg J, Snyder D. Why Americans eat what they do: Taste, nutrition, cost, convenience, and weight control concerns as influences on food consumption. *J Am Diet Assoc*. 1998; 98: 1118–1126.
- Ritzer G, Grindoff P. Agency-structure, micro-macro, individualism-holism-relationism: A metatheoretical explanation of theoretical convergence between the United States and Europe. In: Sztompka P, ed. *Agency and Structure: Reorienting Social Theory*. London: Gordon and Breach; 1994: 3–25.
- Stones R. *Structuration Theory*. London: Palgrave Macmillan; 2004.
- McIntosh WA. *Sociologies of Food and Nutrition*. New York: Plenum; 1996.
- Senauer B, Asp E, Kinsey J. *Food Trends and the Changing Consumer*. St. Paul: Eagan Press; 1991.
- Archer MS. *Culture and Agency: The Place of Culture in Social Theory*. Cambridge: Cambridge University Press; 1988.
- Best J. But seriously folks: The limitations of a strict constructionist interpretation of social problems. In: Miller G, Holstein JA, eds. *Constructionist Controversies: Issues in Social Problems Theory*. Hawthorne: Aldine de Gruyter; 1993: 109–127.
- Hacking I. *The Social Construction of What?* Cambridge: Harvard University Press; 1999.
- Beardsworth A, Keil T. The vegetarian option: Varieties, conversions, motives, and careers. *Sociol Rev*. 1992; 40(2): 253–293.
- Maurer D, Sobal J, eds. *Eating Agendas: Food and Nutrition as Social Problems*. Hawthorne: Aldine de Gruyter; 1995.
- Parsons T. *Societies: Evolutionary and Comparative Perspectives*. Englewood Cliffs: Prentice-Hall; 1966.
- Berger P, Luckmann T. *The Social Construction of Reality: A Treatise in the Sociology of Knowledge*. New York: Anchor; 1967.
- Bourdieu P. *Distinction: A Social Critique of the Judgment of Taste*. Cambridge: Harvard University Press; 1984.
- Bava CM, Jaeger S, Park J. Constraints upon food provisioning practices in busy women's lives: Trade-offs which demand convenience. *Appetite*. 2008; 50: 486–498.
- Sobal J, Bisogni CA, Devine CM, Jastran M. A conceptual model of the food choice process over the life course. In: Shepherd R, Raats M, eds. *The Psychology of Food Choice*. Cambridge: CABI Publishing; 2006: 1–18.

49. Glanz K, Rimer BK, Lewis FM, eds. *Health Behavior and Health Education: Theory, Research, and Practice*. 3rd ed. San Francisco: Jossey-Bass; 2002.
50. Shepherd R. Factors influencing food preferences and choice. In: Shepherd R, ed. *Handbook of the Psychophysiology of Human Eating*. New York: John Wiley and Sons; 1989: 3–24.
51. Lewin K. *Field Theory in Social Science: Selected Theoretical Papers*. New York: Harper & Row; 1951.
52. Randall E, Sanjur D. Food preferences—Their conceptualization and relationship to consumption. *Ecol Food Nutr*. 1981; 11: 151–161.
53. Shepherd R. Factors influencing food choice. *British Nutrition Foundation Bulletin*. 1990; 15(Supplement): 12–30.
54. Glazer BG, Strauss AL. *Discovery of Grounded Theory: Strategies for Qualitative Research*. New York: Aldine de Gruyter; 1967.
55. Warde A, Martens A. *Eating Out: Social Differentiation, Consumption, and Pleasure*. New York: Cambridge University Press; 2000.
56. Janas BG, Bisogni CA, Campbell CC. A conceptual model for dietary change to lower serum cholesterol. *J Nutr Educ*. 1993; 25: 186–192.
57. Contento IR, Williams SS, Michela JL, Franklin AB. Understanding the food choice process of adolescents in the context of family and friends. *J Adolesc Health*. 2006; 38(5): 575–582.
58. Furst T, Connors M, Bisogni CA, Sobal J, Falk L. Food choice: A conceptual model of the process. *Appetite*. 1996; 26(3): 247–65.
59. Falk LW, Bisogni CA, Sobal J. Food choice processes of older adults. *J Nutr Educ*. 1996; 28: 257–265.
60. Elder GH. *Life Course Dynamics: Trajectories and Transitions 1968–1980*. Ithaca: Cornell University Press; 1985.
61. Wethington E. An overview of the life course perspective: Implications for health and nutrition. *J Nutr Educ Behav*. 2005; 37: 115–120.
62. Falk LW, Bisogni CA, Sobal J. Diet change processes of participants in an intensive lifestyle heart program. *J Nutr Educ*. 2000; 32(5): 240–250.
63. Devine CM, Sobal J, Bisogni CA, Connors M. Food choices in three ethnic groups: Interactions of ideals, identities, and roles. *J Nutr Educ*. 1999; 31(2): 86–93.
64. Spradley JP. *Culture and Cognition: Rules, Maps, and Plans*. Prospect Heights: Waveland Press; 1987.
65. Douglas M, Gross J. Food and culture: Measuring the intricacy of rule systems. *Social Science Information*. 1981; 20(1): 1–35.
66. Makela J. Cultural definitions of the meal. In: Meiselman H, ed. *Dimensions of the Meal*. Gaithersburg: Aspen Publishers; 2000: 7–18.
67. Murcott A. On the social significance of the “cooked dinner” in South Wales. *Social Science Information*. 1982; 21(4/5): 677–696.
68. Engel G. The clinical application of the biopsychosocial model. *Am J Psychiatr*. 1980; 137: 535–544.
69. Bisogni CA, Connors MM, Devine C, Sobal J. Who we are and how we eat: A qualitative study of identities in food choice. *J Nutr Educ Behav*. 2002; 34(3): 128–139.
70. Bove CF, Sobal J, Rauschenbach BS. Food choices among newly married couples: Convergence, conflict, individualism, and projects. *Appetite*. 2003; 40: 25–41.
71. Bisogni CA, Jastran M, Shen L, Devine CM. A biographical study of food choice capacity: Standards, circumstances, and food management skills. *J Nutr Educ Behav*. 2005; 37(6): 284–291.
72. Sobal J, Nelson MK. Commensal eating patterns: A community study. *Appetite*. 2003; 41: 181–190.
73. Bove CA, Sobal J. Foodwork in newly married couples: Making family meals. *Food, Culture, and Society*. 2006; 9(1): 70–89.
74. Devine CM, Connors M, Sobal J, Bisogni CA. Sandwiching it in: Spillover of work into food choices and family roles in low- and moderate-income urban households. *Soc Sci Med*. 2003; 56: 617–630.
75. Sobal J, Wansink B. Built environments and obesity. In: Blass E, ed. *Obesity: Causes, Mechanisms, Prevention, and Treatment*. Sunderland: Sinauer Associates; 2008: 281–299.
76. Sobal J, Wansink B. Kitchenscapes, tablescape, platescapes, and foodscapes: Influences of micro-level built environments on food intake. *Environ Behav*. 2007; 39(1): 124–142.
77. Falk LW, Sobal J, Devine CM, Bisogni CA, Connors M. Managing healthy eating: Definitions, classifications, and strategies. *Health Educ Behav*. 2001; 28(4): 425–439.
78. Blake C, Bisogni CA, Sobal J, Devine C, Jastran M. Classifying foods in contexts: How adults categorize foods in different settings. *Appetite*. 2007; 49(2): 500–510.
79. Furst T, Connors M, Sobal J, Bisogni CM, Falk LM. Food classifications: Levels and categories. *Ecol Food Nutr*. 2000; 39: 331–355.
80. Lancaster KJ. *Modern Consumer Theory*. Brookfield: Edward Elgar; 1991.
81. Smart LR, Bisogni CA. Personal food systems of male college hockey players. *Appetite*. 2001; 37: 57–70.
82. Blake CE, Bisogni CA, Sobal J, Jastran M, Devine CM. How adults construct evening meals: Scripts for food choice. *Appetite*. 2008; 51(3): 654–662.
83. Stratton P, Bromley K. Families' accounts of the causal processes in food choice. *Appetite*. 1999; 33: 89–108.
84. Bisogni CA. *Applying Food Choice Research to Practice*. Cornell NutritionWorks Cyberpresentation. Ithaca NY: Cornell University Division of Nutritional Sciences, 2004. <http://www.nutritionworks.cornell.edu> (Accessed 4/26/09).