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THE PSYCHOLOGY OF FOOD CHOICE

Edited by

Richard Shepherd and Monique Raats

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Preface

We all eat foods every day and in Western societies we are confronted with a vast array of different types of foods with different prices, offering different sensory experiences and of varying composition in terms of nutritional components. Although the proportion of income spent on food has declined, food nevertheless remains a major part of an ordinary person's expenditure and the various parts of the food industry including production, manufacturing, retail and catering represent a very significant part of the overall economy.

If we are interested in the nutrition of free-living people then we have to understand not only what factors influence people's choice of foods and how consumers make decisions in relation to the amounts of food eaten, but also the choice between different alternatives. Likewise, if we are interested in improving the nutritional status of individuals or populations then we need to understand what influences choice and how we might impact upon those choices. Since nutritional intake is a consequence of a complex set of behaviours, the behavioural sciences, including psychology, have a lot to offer in terms of furthering our understanding in this area.

The present book brings together insights from a number of sub-disciplines within psychology and also related disciplines, in terms of what they can tell us about the influences on human food choice. The book is organized in five main sections which cover: models of food choice; biological and learning influences on food choice; societal influences on food; food choices across the lifespan; and changing dietary behaviour.

One of the difficulties in this area is that because human food choice is influenced by so many potential factors, there is often a tendency to look at the impact of these factors in isolation rather than trying to arrive at some overall understanding of the interplay between different types of influences. The chapters in the first section present general overviews on how we might conceptualize the different types of influences on food choice and also bring these together in a more integrated framework.

The second section not only includes consideration of the underlying biological influences on food choice and the amounts of food consumed, but also adopts a learning approach to try to understand how people make choices about foods given that there are few in-built predispositions in humans to choose particular types of foods or sensory experiences. Most food choice is learned both during early childhood and also from experiences later in life. The chapters in this section explore the role of experience and learning and also related aspects of the relationship between mood and food choice and food cravings.

While there are clearly influences at the level of the individual, there are also wider societal influences on food choice and these ideas are explored in the third section of the book. Here such influences as the media, advertising and marketing of foods are considered, along with more general environmental impacts on eating.

The fourth section looks at food choices across the lifespan. Clearly the impact of different factors on food choice will vary as people move across the lifespan and the chapters in this section take as a starting point examination of some of these influences on people at different ages.

The final section deals with attempts at changing dietary behaviour. Dietary behaviour has important health consequences, being associated with, for example, cardiovascular diseases and various cancers and also the growing problems linked to overweight and obesity. One of the major interests in trying to understand food choice is often a desire to try to influence dietary behaviour and to improve the nutritional intake of individuals or populations. This final section explores dietary interventions and the application of psychological theories such as the stages of change theory, implementation intentions and the role which optimistic bias might play in affecting attempts at changing dietary behaviour.

Given the importance that food choice has in terms of nutritional consequences and also in terms of economics, social and cultural life and personal enjoyment, it is important to try and understand this particular type of human behaviour. The present volume seeks to explore some of the complexity of trying to understand human food choice and the ways in which our understanding might be improved in the future.

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1

A Conceptual Model of the Food Choice Process over the Life Course

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Introduction

Food choice involves the selection and consumption of foods and beverages, considering what, how, when, where and with whom people eat as well as other aspects of their food and eating behaviours. Food choices play an important role in symbolic, economic and social aspects of life by expressing preferences, identities and cultural meanings. Food choices are important because they create consumer demand for suppliers in the food system who produce, process and distribute food (Sobal *et al.*, 1998). Food choices also determine which nutrients and other substances enter the body and subsequently influence health, morbidity and mortality.

Because of their crucial biological, psychological, economic, social, cultural and epidemiological importance, many researchers and practitioners pay attention to food choices (e.g. Marshall, 1995; Meiselman and MacFie, 1996; Murcott, 1998). Three general approaches have been used to develop models of food choices (Sobal, 1997). First, existing models, frameworks and theories developed to explain other topics are applied to examine food choices, such as the theory of planned behaviour, health belief model, transtheoretical model, social cognitive theory, hedonic consumer choice model, etc. (e.g. Axelson and Brinberg, 1989; Lancaster, 1991, 1998; Baranowski *et al.*, 1999; Conner and Armitage, 2002). Second, new models to explain food choice have been deductively developed, where analysts create their own explanations about how food choices are made (e.g. Lucas, 1984; Kronl, 1990; Nestle *et al.*, 1998; Wetter *et al.*, 2001). Third, models of food choice have been inductively developed using qualitative research methods to produce emergent conceptualizations of how people think about and engage in food choices (e.g. Furst *et al.*, 1996; Palojoki, 1997).

This chapter focuses on an inductively developed and evolving model of the food choice process devised using in-depth qualitative interviews with adults in the USA that asked about how they constructed their food choices (Falk *et al.*, 1996;

Furst *et al.*, 1996; Connors *et al.*, 2001). The chapter considers this food choice process model's components, elaborations and applications. This model is compatible with a biopsychosocial perspective (Engel, 1980) in assuming that physiological, cognitive and sociocultural influences and processes are all involved together in making food choices. However, it emphasizes a constructionist approach (Berger and Luckmann, 1967; Spector and Kitsuse, 1987) in assuming that while sensory, biological, behavioural and social structural factors contribute to food choices, people actively consider, interpret and negotiate food choice possibilities and exercise their personal agency in perceiving, defining, conceptualizing, managing, presenting and enacting food choices. This model assumes that a key process in selecting foods is the construction of food choices based on cognitions and social negotiations. Overall, people are assumed to construct food choices in a variety of ways by actively selecting what, when, where, with whom and how to eat.

A Food Choice Process Model

The range of factors potentially involved in choosing foods is tremendously diverse and extensive. Many of the most important components of the construction of food choices are portrayed in the food choice process model presented in Fig. 1.1 (Falk *et al.*, 1996; Furst *et al.*, 1996; Connors *et al.*, 2001). This model seeks to be comprehensive and integrated by representing crucial parts of the process that people use in selecting foods and relationships between them, although the model is not exhaustive in explicitly listing all possible factors involved in making food choices. The components of the model also are not mutually exclusive of each other because they overlap and interact.

This food choice process model includes three major components that operate together when people construct food choices: the life course, influences and personal systems. In interviews about food choice, people often attribute current eating patterns to prior experiences, so the 'life course' is a key component of the model. As people describe food choices, they explain how various factors emerging from past experiences and current situations shape their eating, and these are labelled 'influences' in the model. The 'personal food system' for selecting foods is the process whereby people operationalize influences on food choices. The following sections present these components in greater detail and provide selected examples.

Life course

As people develop and change over time they are shaped by their environments and personally construct an individual life course that involves past and current food and eating experiences and situations as well as expectations about future possibilities. This suggests that food choices are dynamic and evolve over time. While developmental (e.g. growth, maturation and ageing) and life stage (e.g. childhood, adolescence, adulthood, later life) perspectives consider individual

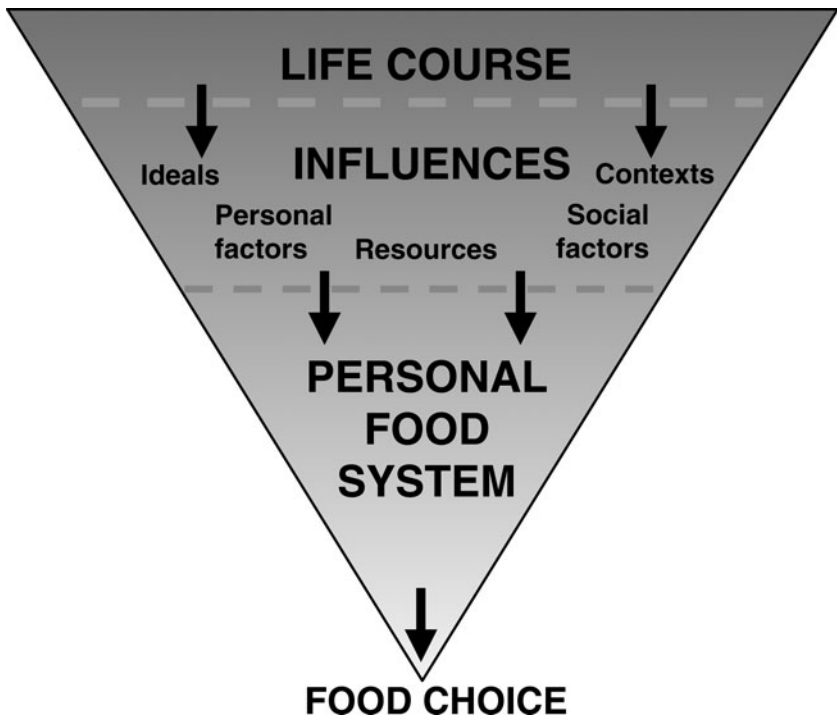


Fig. 1.1. A food choice process model. (Adapted from Falk *et al.*, 1996; Furst *et al.*, 1996; Connors *et al.*, 2001.)

growth over the lifespan, the more dynamic life course perspective provides additional insights by considering a person's agency in determining their own food choice trajectory, the accumulation of experiences over time, the anticipation of the future, and the importance of changes in contexts at specific points in time (Elder, 1985). A life course approach to food choice complements biological studies of early life programming and those that track dietary behaviour over time by including the changing social, behavioural and cultural contexts in which the individual eats. Key concepts developed in other work on the life course that also emerge in people's reports about how they construct food choices over time include trajectories, transitions, timing and contexts (Elder, 1985; Devine, 2005; Fig. 1.2).

Trajectories are a central concept in life course thinking. Food choice trajectories include a person's 'persistent thoughts, feelings, strategies, and actions over the lifespan' (Devine *et al.*, 1998). Pathways in food choice behaviour and attitudes have been described over specific life course transitions such as bearing children (e.g. Devine *et al.*, 2000) and over longer periods in the lifespan such as mid-life (e.g. Edstrom and Devine, 2001). People develop food choice trajectories within specific situational and historical contexts that become persistent, exhibiting their own momentum and continuity (Devine *et al.*, 1998, 1999b). For example, a person may grow up with the family tradition of eating a salad at every evening meal and continue that trajectory for much or all of his or her life.

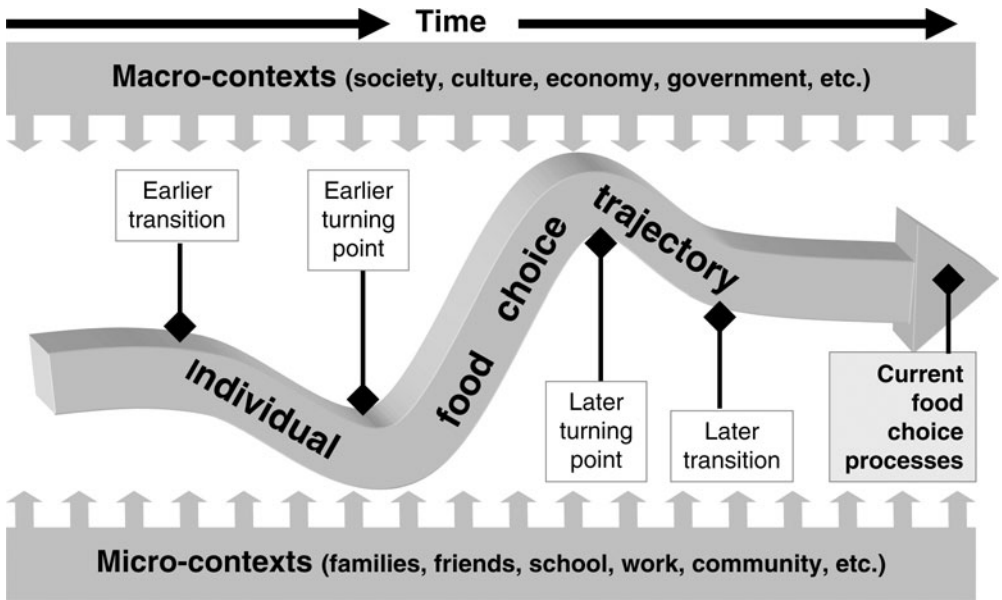


Fig. 1.2. A conceptual model of how food choice is shaped by contexts over time to form a food choice trajectory. (Adapted from Devine *et al.*, 1998.)

The food choice trajectories of lifelong salad eaters may differ, however, from those of salad eaters who only began that pattern as adults, and may lead to differential ability to persist in salad eating behaviour when life changes occur. Repeated food choices create momentum for making the same food selections in future circumstances. Food choice trajectories provide momentum leading to habitual food selections that can affect how individuals adjust to life course transitions such as ageing and changes in health (Paquette and Devine, 2000). People arrive at their current food choices within trajectories that are developed over the course of their lives, shaped by contexts they encounter and the past transitions they have made.

Transitions are shifts in a person's life that lead to changes or solidify the continuation of behaviours, including food choice patterns (Devine *et al.*, 1998, 1999a). Major life events such as entering or leaving school, changing employment, entering or leaving important personal relationships, migrating to a different area or culture, developing an illness and others represent transitions that may become turning points that have major impacts on food choices (Devine, 2005). These transitions and turning points change roles, resources, health or contexts in ways that perturb or disturb usual personal food systems and can lead to minor (in the case of transitions) or radical (in the case of turning points) reconstruction of food choice patterns that establish new personal food systems which begin different food choice trajectories.

Timing represents when a particular transition or turning point occurs in the life course of an individual, with the specific timing of an event influencing whether and how it may influence food choices. For example, many mothers adopt

healthier food choices during pregnancy and child-rearing, but childbirth among young immature adolescents is 'off time' in the usual course of development of social roles and may not enhance the adoption of a healthier food choice trajectory (Devine *et al.*, 2000).

Contexts represent the environments within which life course changes occur, including social structure, economic conditions, historical eras and the changing physical environment (Devine, 2005). A person born at one period comes of age, lives through mid-life and becomes elderly within historically specific normative family patterns, employment and financial conditions, historical-cultural belief systems, patterns of food availability, eating standards, and epidemiological environments where particular diseases are or are not major risk factors. Thus a person growing up in the depression era of the 20th century developed different trajectories of food choices from those of their grandchildren growing up today. For example, people raising children early in the 20th century socialized their offspring in a different historical context of professional dietary advice than those currently teaching young people about food (Devine and Olson, 1991). Also, people growing up in an earlier historical era represent a cohort that is more concerned about wasting food than those in contemporary eras (Falk *et al.*, 1996).

In summary, a person's life course provides temporal individual and historical precursors and contexts for current food choices, with people developing personal food choice trajectories that are subject to change in relationship to particular life course transitions they experience at different periods in their lives. Each new food choice experience adds to a person's life course and shapes subsequent food choices. Investigation of changes in the food choice trajectories of groups of individuals provides an opportunity to examine the impact of social, economic and food system trends on food choices. A life course perspective provides a framework for considering a variety of individual and contextual influences on food choices.

Influences

A wide variety of influences operates to shape particular food choices. The food choice process model clusters these influences into five types: ideals, personal factors, resources, social factors and contexts (see Fig. 1.1). Each of these types of influences is embedded within and fluctuates over the life course of a person making food choices, interacts with all of the other influences, and is operationalized in the personal food system of the individual as they engage in specific eating practices. This section describes these five major categories of influences on food choices and provides selected examples.

Ideals are the standards people have learned through socialization and acculturation that they use to make food choices. Ideals represent normative gauges about what and how one should eat. Ideals are culturally learned through families and other institutions, and reflect the plans and expectations for food and eating. Cultural and sub-cultural norms establish which foods are acceptable and preferable for consumption among larger cultures and ethnic groups within cultures, and individuals consider those ideals in food selection (Sobal, 1998;

Devine *et al.*, 1999b). For many individuals, ideals about proper meals, appropriate manners and health are among the most crucial influences on their food choices. For example, Falk *et al.* (1996) found that the ideals about what a meal should be ('meat and potatoes') were held by older adults and constituted some of the most important factors driving their food choices.

Personal factors are characteristics of the individual that influence food choices. Personal factors include physiological factors (sensory, endocrinological, genetic, etc.), psychological or emotional characteristics (preferences, personalities, moods, phobias, etc.) and relational factors (identities, self-concept, etc.). These personal factors develop and are learned over time for each person and provide the basis for the unique and individualized construction of food choices. Dietary individualism, where people make different food choices from others, is based on the priority of personal factors over other influences (Bove *et al.*, 2003). For example, people establish personal food and eating identities (Jabs *et al.*, 1998a; Bisogni *et al.*, 2002) that represent their self-image as a specific type of eater and operate to shape their specific food selections. Some individuals experience food cravings and addictions that operate as personal factors in shaping food choices (Hetherington, 2001).

Resources are assets available to people for making food choices. Resources include tangible physical capital such as money, equipment, transportation and space; intangible human capital such as time, skills and knowledge; and intangible social capital such as help from others, advice and emotional support (e.g. Senauer *et al.*, 1991). Individuals construct food choices by being aware of the resources they can use in making food selections, often assessing food choice options by excluding those which are not possible given existing resources. In constructing food choices, most people consider some types of food choices 'out of bounds' because they do not have the money, time, facilities or cooking skills to choose them. For example, many low-income people manage food choices according to their changing financial situations as they experience greater or lesser food insecurity (Radimer *et al.*, 1992).

Social factors are relationships in which people are embedded that influence food choices. Roles, families, groups, networks, organizations, communities and other social units provide opportunities and obligations for constructing eating relationships and food choices. Most eating occurs in commensal groups, where individuals need to negotiate and manage their own food choices in conjunction with the food selections of others (Sobal and Nelson, 2003). Managing such eating relationships is a crucial and often contested part of the food choice process, and with whom someone eats often governs where, when, how and what they eat (Sobal, 2000). For example, spouses eat most of their meals together and negotiate joint food selections symmetrically (with both partners converging together) or asymmetrically (with one partner adopting the food choices of the other; Bove *et al.*, 2003).

Contexts are the broader environments within which people make food choices. Contexts include physical surroundings and behaviour settings, social institutions and policies, and seasonal and temporal climate. An important context within which people make food choices is the food and nutrition system (Sobal *et al.*, 1998), which determines which foods are available for individuals

to choose from, how and where they are prepared, served and eaten, and the social meanings and functions with which they are imbued. The home and the workplace are two key contexts where food choices are made, with mutual 'spillover' occurring between those settings (Devine *et al.*, 2003). As people eat in an increasingly wider range of environments, the location-specific structural elements and social processes affecting food choices become ever more complex. Most contexts change, leading people to reconstruct their food choices, such as the seasonality of food availability or the historical evolution of mass media marketing, advertising and programming as a context for food information (Avery *et al.*, 1997).

In summary, influences on food choice include an extensive scope of biological, behavioural, psychological, cultural, economic, social, geographical, political, historical, environmental and other influences that are iteratively considered and reconsidered both simultaneously and sequentially in food choice decision-making in conscious and subconscious ways. The importance of particular factors may change over the life course and vary for particular situations. Influences provide input for the personal systems individuals develop for use in cognitively constructing specific food choices.

Personal food system

Personal food systems are the mental processes whereby people translate influences upon their food choices into how and what they eat in particular situations (Furst *et al.*, 1996; Connors *et al.*, 2001). Personal food systems represent ways that options, trade-offs and boundaries are constructed in the process of making food choices. Personal food systems include the processes of constructing food choice values, classifying foods and situations according to these values, negotiating these personally defined values in food choice settings, balancing competing values, and developing strategies for food selection and eating in different situations. These processes are presented in Fig. 1.3 and described in the following sections.

Food choice values represent a set of considerations important in constructing food choices (Falk *et al.*, 1996; Furst *et al.*, 1996; Connors *et al.*, 2001). These values involve personally developed interpretations and meanings related to food and eating as well as involving emotional affect and attachment (Smart and Bisogni, 2001). Food choice values are dynamic, changing over time as life course events and experiences shape food choice influences that may result in new or modified food choice values. Research finds that five types of values (taste, convenience, cost, health and managing relationships) consistently emerge as salient among many people, with other additional values also salient to some individuals and groups (Connors *et al.*, 2001).

Taste is a food choice value that represents the considerations that people develop related to their sensory perceptions in eating and drinking. People use the word 'taste' to describe many different characteristics of food and beverages that affect their food enjoyment and aversions, including appearance, odour, flavour, texture and other properties. Taste is a primary consideration for most people in nearly all food and drinking settings. It is important to recognize that

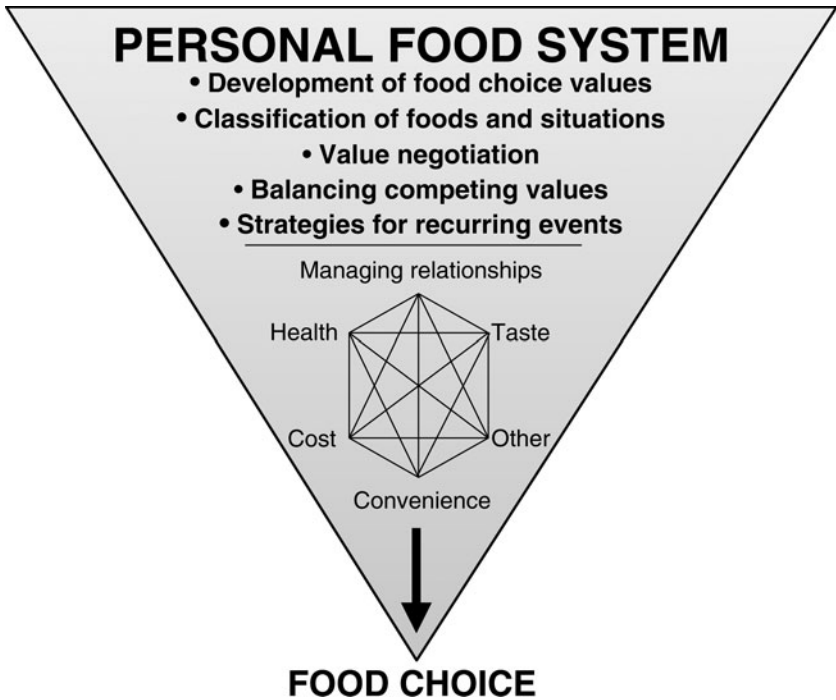


Fig. 1.3. Details of the personal food system. (Adapted from Connors *et al.*, 2001.)

individual taste preferences may change over time. Few people enthusiastically eat things that do not taste good to them, and thus taste is often used as a minimum criterion for whether or not a food or drink will be consumed. The importance of taste cannot be overstated, and the physiological, cultural, social, developmental and life stage aspects of taste have been topics of extensive study by other researchers (e.g. Rozin and Vollmecke, 1986; Meiselman and MacFie, 1996; Murcott, 1998).

Convenience is a value that refers to the time and effort considerations that people employ in constructing food choices. Convenience relates to the actual time, physical ability and the mental or physical involvement it takes for a person to acquire, prepare, consume and clean up after eating or drinking. Convenience is also a personal judgement about the opportunity cost of expending time and effort in relationship to the benefits from a particular food or drink (Gofton, 1995). Convenience to older adults often relates to transportation to acquire food or difficulty in opening a can or lifting a pot (Falk *et al.*, 1996). In contrast, time is frequently the primary meaning of convenience for students and people who are employed (Furst *et al.*, 1996; Connors *et al.*, 2001; Smart and Bisogni, 2001; Devine *et al.*, 2003). The consideration of convenience also varies according to cooking skills.

Cost is a value representing the monetary considerations that people construct related to food choices. Most food in contemporary post-industrial societies is purchased rather than self-produced, and the prices of buying food to eat

at home or away from home are judged in food choices. The price of food related to someone's monetary resources is encompassed in this value, and this topic is an important and ongoing focus of food economists (Senauer *et al.*, 1991). However, the value of cost also includes the concept of 'worth'. People with unlimited disposable incomes may still be very sensitive to price increases because they do not feel that the product is 'worth it', whereas people with low incomes may still buy a food that is high in price because they believe that the food is essential to their well-being or satisfaction.

Health is a value that broadly represents food choice considerations constructed in relationship to physical well-being. Included in this value are considerations about immediate responses to food and drink such as digestive discomfort, allergic reactions, energy levels or athletic performance, as well as considerations about longer-term consequences such as growth, weight control, illness management or chronic disease prevention (Falk *et al.*, 1996; Furst *et al.*, 1996; Smart and Bisogni, 2001). Foods are often classified by the public as 'good' or 'bad' based on the meanings related to health and physical well-being. The definitions for health related to eating in the population vary considerably, including overall balance, nutrient balance, low fat, weight control, naturalness, disease management and disease prevention (Falk *et al.*, 2001).

Managing relationships is a value that represents how someone considers the interests and well-being of other people involved in a person's social world. When people provide food for others, share food with others or receive food from others, they typically consider the needs, preferences and feelings of those people related to what, how, when and where food is eaten. Personal needs and preferences are often compromised to build, maintain or repair relationships. Food is central to family harmony, and someone who adopts the role of the 'household food manager' is typically very attentive to the preferences, dislikes and patterns of eating of others (DeVault, 1990). For example, newly married couples must negotiate ways to make joint food choices (Bove *et al.*, 2003) and parent-child relationships contribute to constructing family food decisions (Birch, 1980). Being a host, guest or co-worker also shapes food choice situations where roles and relationships (e.g. politeness, organizational duties) are primary considerations in food choice (Devine *et al.*, 2003).

Other values that are considered in food choice include quality, variety, symbolism, ethics, safety and waste (Furst *et al.*, 1996; Jabs *et al.*, 1998b; Connors *et al.*, 2001). For some people, considerations related to these values are highly salient, whereas for other people they are considered only in certain circumstances. For example, religious beliefs, ethnic identity and environmental concerns are primary considerations in food choice for some people, whereas other people will be highly focused on their personally constructed expectations for 'quality' related to the way food is grown, stored, prepared or presented (Bisogni *et al.*, 1987).

Classification

When they think about eating, people categorize objects into foods and non-foods, and further classify foods according to their personally constructed food

choice values (Furst *et al.*, 2000; Connors *et al.*, 2001; Falk *et al.*, 2001). People also classify food and eating situations, such as believing ‘eating at home is healthy; eating out is not’ (Connors *et al.*, 2001). Personally operational classification schemes for food and eating situations are embedded in classification schemes that are significant for one’s close social environment (i.e. family or friends), which are embedded in classification schemes provided by the wider cultural environments (i.e. region or nation; Fig. 1.4). The concept of personally operational classification allows the same food to be viewed as ‘healthy’ or ‘unhealthy’ or as ‘cheap’ or ‘expensive’ by different people living in the same household. The concept of socially significant classifications acknowledges the shared categories (i.e. ‘we both like’, ‘we make this food together’) that two or more people develop for food and eating based on their eating relationships.

The classification of foods and eating situations is a way that people simplify food choices in a society where the food system is complex and many different ways of eating are possible and acceptable (Furst *et al.*, 2000; Connors *et al.*, 2001). People classify foods and eating situations according to multiple dimensions that they construct based on their food choice values. The study of consumers’ perceptions of multidimensional food attributes is a focus of consumer research (e.g. Lancaster, 1991), and the inductively derived food choice process model emphasizes consumers’ ways of constructing classifications.

Each particular food or eating situation may be seen as a bundle of different attributes that are bound together and must be considered simultaneously in

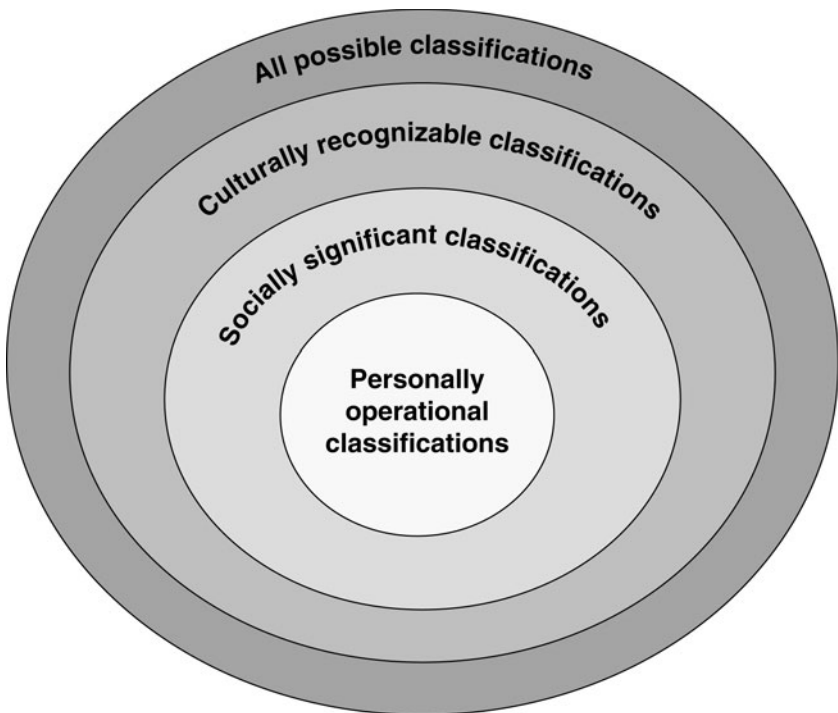


Fig. 1.4. Multiple levels of food classifications. (Adapted from Furst *et al.*, 2000.)

making food choices (Lancaster, 1991). The characteristics of each specific food often represent conflicting values that require reconciliation in making food choices. For example, fresh broccoli may be seen by some household members as healthy and convenient but expensive and not tasty. These combined attributes of broccoli come together as one 'package' and must be evaluated as a composite whole in the process of considering broccoli as a possible food option.

Value negotiation is a key food choice process because only rarely can all food choice values be satisfied in a particular food and eating situation (Furst *et al.*, 1996). People prioritize values and weigh the options for how and what they will eat in a given setting. Prioritizing values into a hierarchy often occurs simultaneously as people rate foods according to their salient values and then order choice options according to their hierarchy for those values (Connors *et al.*, 2001). The priority of food choice values varies according to individual traits, personal states and situational contexts. Some values reinforce each other and lead to easier choices, whereas other values are in opposition and lead to difficult selections. Because value conflicts occur, people must often make choices that are 'trade-offs' between opposing values such as choosing a tasty or healthy snack or selecting between an inexpensive or convenient meal. For some individuals, certain values dominate all food choices and serve as limiting factors, such as a gourmand who consistently values taste and quality and would rather not eat in certain situations than compromise these values. Similarly, a person concerned about diabetes may base most food choices primarily on management of the disease.

Balancing is a process that people use to resolve many food choice value conflicts. People construct their own ways of ensuring that all of their salient values are met in food choices. Balancing occurs over personally defined frames of reference such as times (day, week, month), eating occasions, places or eating partners (Connors *et al.*, 2001). For example, some people eat healthy foods during the work week and indulge in less healthy foods on weekends. Other people vary the importance of health over months, restricting food choices at certain seasons of the year (Smart and Bisogni, 2001; Bisogni *et al.*, 2002). Others may limit the amount of money spent on food for everyday eating but not worry about cost on vacations or holidays. Still others may seek out spicy food when eating alone or with co-workers but accept eating bland food with their children (Bisogni *et al.*, 2002).

Strategies are the behavioural plans, routines and rules that people develop for how and what they eat in recurring situations (Falk *et al.*, 1996; Furst *et al.*, 1996; Connors *et al.*, 2001). Strategies simplify food choice by eliminating the cognitive effort and time required for deliberation about every food choice. Strategies emerge from initial conscious food choice decisions for a specific situation and eventually become less mindful when that situation occurs repeatedly. The strategies of a personal food system are congruent with the cognitive processes of developing schemas and scripts for different behavioural settings (Blake and Bisogni, 2003). Schemas are constructions of the personal assessment and meaning of a situation, and scripts represent the behavioural plan for that situation (Rumelhardt, 1984).

The strategies that people employ to expedite food choice in recurring situations can be characterized according to the nature of the heuristic being used for the strategy (Falk *et al.*, 1996, 2001; Connors *et al.*, 2001). Types of heuristics include: focusing on one value, routinization, elimination, limitation, substitution, addition and modification (Falk *et al.*, 1996, 2001; Connors *et al.*, 2001; Fig. 1.5). Focusing on only one value discounts other values as less relevant and defines a food choice setting in a very specific way so that values do not have to be negotiated. Routinization standardizes food choice decision-making processes or actual eating behaviours for a recurring situation into habits and automatic behaviours. Elimination excludes particular foods, food categories, eating locations or eating partners from all food choice options or makes exclusions for particular settings. Limitation restricts use of selected foods or ways of eating to simplify food choice decisions, but is more complex than elimination because it requires establishing acceptable levels and then monitoring adherence to those limits. Substitution replaces foods or ways of eating to accommodate conflicting values by supplanting one option with another that is more satisfactory. Addition selects particular foods or includes food components to satisfy specific values. Modification changes foods, their components or ways of eating to make them more acceptable.

Examples of these types of heuristics are reported in a study of college hockey players (Smart and Bisogni, 2001). The types of foods chosen by the players in the food choice events preceding a game or practice focused solely on 'health', defined by them as easily digestible food that made them feel 'explosive' on the ice. The pre-game meals consistently involved the same foods and

Strategy	Example
Focusing on one value (emphasize only cost, taste, health, relationships, convenience or another value)	Eat the cheapest food whenever possible
Routinization (standardize, systematize, ritualize)	Eat cereal every day for breakfast
Elimination (avoid, exclude, prohibit)	Never eat desserts
Limitation (restrict, regulate, reduce)	Drink only two cups of coffee each day
Substitution (replace, exchange, fill in)	Choose brown rice instead of white rice
Addition (augment, include, enhance)	Eat a salad with every evening meal
Modification (alter, adjust, transform)	Remove fat from meats and poultry

Fig. 1.5. Selected strategies for simplifying food choices. (Adapted from Falk *et al.*, 1996.)

seating arrangements (routinization). Immediately after the competitive season, the players focused solely on another food choice value – taste – as they indulged in the higher-fat fast foods that they had desired but avoided in preceding months. Additional examples of the heuristics employed in food choice strategies come from studies of cardiac patients (Janas *et al.*, 1996; Falk *et al.*, 2001). Some cardiac patients managed personal food choice by abandoning former ways of eating and fully adopting the heart-healthy dietary recommendations that they permanently maintained (routinization). Other patients made less drastic dietary changes using some new foods (substitution) or recipes to reduce the fat in their typical diet (modification). Other approaches used by patients involved rejecting certain foods, food components or eating locations (elimination) to avoid food choice value conflicts.

Most people use multiple strategies for making food choices and the combinations of strategies that are used have been described as a repertoire (Falk *et al.*, 1996, 2001). While some people have developed and use one dominant strategy for their repertoire, others use multiple strategies simultaneously, sequentially or situationally to deal with varying food choice conditions (Janas *et al.*, 1996; Falk *et al.*, 2001). For example, one person may focus on convenience in all settings, whereas another person may focus on convenience during the work week but emphasize taste and quality on the weekend. Breakfast may be routinized for some people who also use a substitution heuristic for dinners. Individuals who have developed a variety of strategies that they can employ in various settings tend to be more adaptive eaters or food providers than those who have only a few strategies that they are not experienced with combining into different repertoires (Falk *et al.*, 1996).

The repertoires that someone uses for food choices are shaped by personal and social identities, and food choice repertoires also contribute to constructing identities (Bisogni *et al.*, 2002). For example, mothers described different food choice schemas for their personal eating and their roles in providing foods for their family (Blake and Bisogni, 2003). The predominant types of food choice schema for personal eating included dieter, health fanatic, picky eater, non-restrictive eater and inconsistent eater, and the major types of provider food schema included peacekeeper, healthy provider, struggler and partnership (Blake and Bisogni, 2003).

Strategies and repertoires for food choice are acquired over the life course by personally creating them or learning them from others. Strategies and repertoires are dynamic and responsive to changes in other food choice processes. For example, a new marriage or a new health condition is a life course transition that typically changes the influences of personal factors, resources, social contexts and food contexts (Janas *et al.*, 1993; Falk *et al.*, 2000, 2001; Bove *et al.*, 2003). For example, although someone's food choice values related to taste may remain the same, values related to managing relationships, costs and health may change in meaning and salience which results in new food classifications, new value negotiations and new ways of balancing food choices. In novel circumstances, food choices are typically reflective and mindful for a period of time while people try different ways of eating. When satisfactory ways of food choice emerge, they become automatized strategies for recurring food choice events.

In summary, the personal food system is the way that individuals construct food choices, considering values and employing other cognitive processes for selecting foods. Personal food systems may be particularly important to recognize in societies where many options for eating are available and few rules exist to guide how and what one eats (Fischler, 1988; Murcott, 1998). People construct primary food choice values (such as taste, convenience, cost, health and managing relationships), conceptually organize foods and eating situations according to these values, prioritize food choice values in specific situations, and negotiate values and balance ways of eating as needed and desired. Food choices in recurring situations are simplified by the construction of strategies that result in rules, routines and habits for decision making and food behaviours. Personal food systems are dynamic and evolving as they respond to new life course events and experiences as well as new food choice influences and situations that a person encounters.

Conclusion

The food choice process perspective presented here can be used as a framework or as a model (Sobal and Lee, 1997). A framework is a way to list and map disparate concepts into a more coherent whole, representing elements that are important to include and locating those elements with respect to each other. Thinking about the food choice process as including life course, influences and a personal system provides such a representation that incorporates and links a broad scope of factors involved in making food selections. A model is more integrated than a framework, making assumptions about mechanisms and processes operating together in a consistent theoretical manner. Thinking about food choice as a constructed activity where past experiences and contexts in the life course provide a basis for evaluating current influences and incorporating them into personal systems that lead to food selections permits specific modelling of the processes involved in how people choose foods.

Like all models, frameworks and theories, this food choice process model has several limitations. In an attempt to broadly consider multiple issues in making food choices, the model does not focus deeply on specific factors and does not explicitly consider some factors. The model was developed to examine individual food choices of consumers, and it needs to be further elaborated when applied to collective food choices of families and other multi-person units involving group decision making (Stratton and Bromley, 1999). The model was developed and has largely been applied in a post-industrial Western society in the late 20th and early 21st century and may require considerable adaptation, elaboration and extension to serve well in other cultures, places and historical eras. This model may not apply as well if multiple food options are not available, as in famines, subsistence cultures or settings where only a fixed menu is available, etc. (although the model is not irrelevant under those conditions). Also, the underlying constructionist assumptions of the food choice process model may be contested and challenged by thinking that takes other theoretical perspectives (e.g. Hacking, 1999).

This food choice process model has several applications in research settings. As a framework for considering the scope of factors involved in food choices, it is useful in identifying particular issues to examine, manipulate and consider as controls in analysis of food selections. For example, psychological analyses of cognitive food choice processes such as value negotiations may benefit from controlling for the influences described by the model and stratifying according to life course experiences. As a model of how people construct food choices, much future work needs to be done to elaborate processes and mechanisms, such as examining how influences such as resources specifically shape the operation of cost in value negotiations. The model also offers a broad map of potential factors involved in making food choices, and lets researchers who do focus on a particular biological, psychological, social, cultural, economic or other aspect of food choice locate their findings with respect to other factors involved in food choices.

This food choice process model can be applied in clinical, community and policy work (Bisogni, 2003; Bisogni *et al.*, 2003). Clinicians can use the model as a guide for assessing important factors involved in food choices of their clients, and as a guide for uncovering the personal food choice systems of the people with whom they work. Clinicians can use this food choice process model to work with clients to identify and dissect strategies and repertoires that habitually guide food choices, to understand clients' values as a way to identify what experiences are strongest in shaping current food choices, and to review these food choice processes as a first step in planning dietary changes. Community practitioners can use the model for identifying key influences of populations that can be modified, such as local cultural values or community food systems. Policy work can employ the model to consider how to leverage social and economic changes to improve healthy eating in populations and to target particular subgroups.

In summary, food choices can be conceptualized using existing, deductive and inductive models. The inductively developed food choice process model described here represents a broad, multifaceted, dynamic and integrated perspective for thinking about food choices, incorporating life course, influences and personal systems into a constructed system for choosing foods. Food choices are constructed using the thoughts, feelings and actions of individuals, with people creating their own systems for making food choices as they move through a life course. This food choice process model is not all-inclusive and may not meet the needs of every food choice analyst, but it may be useful to researchers and practitioners by providing a broad framework to use as a road-map for identifying and drawing attention to potential factors involved in food choices and as a more focused model representing the ways that people construct food choices.

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