Dimensions of everyday eating and drinking episodes

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Abstract

This study sought to gain conceptual understanding of the situational nature of eating and drinking by analyzing 7 consecutive, qualitative 24-h recalls of foods and beverages consumed from 42 US adults who worked in non-managerial, non-professional positions. Participants were purposively recruited to vary in age, gender, occupation, and household composition. For each recall, participants described foods and beverages consumed, location, people present, thoughts and feelings, and activities occurring at that time. Analysis of verbatim transcripts of interviews identified 1448 eating and drinking episodes. Constant comparative analysis of participants’ descriptions for episodes resulted in a conceptual framework that characterizes eating and drinking episodes as holistic and as having eight interconnected dimensions (food and drink, time, location, activities, social setting, mental processes, physical condition, recurrence). Each dimension has multiple features that can be used to describe the episodes. In recalling episodes, participants used conventional labels (e.g. “dinner”) as well as modified-conventional labels (e.g. “birthday dinner”) and uniquely constructed labels (e.g. “unwind time”). Labels provided insights into the dimensions of the episodes. Results suggest approaches for researchers and practitioners who seek to understand how people manage everyday eating at a time when traditional meal patterns are changing.

Keywords: Qualitative; Adult; Eating; Situations; Food; Drinking; Food choice; Meals; Snacks; Environment

Introduction

How and why people eat as they do are critical questions for food choice researchers, healthcare practitioners, and the food industry. In many Western societies, traditional meal patterns and practices have yielded to new ways of eating in response to changing work roles, family organization, household structures, lifestyles, and food systems (Cullen, 1994; Edwards, 2000; Lin, Frazao, & Guthrie, 1999; Poulain, 2002; Riley, 1994). Compared to past eras, more food is prepared and/or eaten away from home, and the frequency of family meals has declined (Cullen, 1994; Edwards, 2000; Mestdag, 2005; Poulain, 2002). With multiple food options available and the decline of strong traditional norms for eating (Fischler, 1988), individuals can more easily construct their own ways of eating. Researchers need new ways to conceptualize eating situations in societies where food consumption is possible and acceptable at many different times and places.

Most previous research about eating by free-living individuals has focused on the foods and nutrients consumed or the characteristics of the person, with much less attention to situational factors (de Graaf, 2000; Haines, Hungerford, Popkin, & Gulkey, 1992; Kant, 1996; Lennernas & Andersson, 1999; Lin et al., 1999). Adults participating in dietary change programs have reported that situational factors often make it difficult to implement recommended dietary practices (Falk, Bisogni, & Sobal, 2000; Janas, Bisogni, & Campbell, 1993). While the importance of situational factors in eating has been acknowledged by food choice researchers, situational variation in eating, both within person and between persons, remains poorly understood.

Research about situational eating relates to early studies of situational consumer behavior by Belk that focused on “all those factors particular to a time and place of observation which do not follow from a knowledge of..."
personal and stimulus attributes and which have a demonstrable and systematic effect on current behavior” (Belk, 1975b). He grouped features of situations into five dimensions or categories of characteristics: physical surroundings, social surroundings, temporal perspectives, task definition, and antecedent states.

The issues that food choice researchers have faced in studying situational eating mirror the challenges encountered by other researchers who have debated terms, units of analysis, and data collection methods (e.g. Barker, 1975; Belk, 1975a,b; Wicker, 1975). Food choice researchers often interchangeably use the terms situation, context, and setting, with these terms usually referring to elements involved in the act of eating that are external to the person and beyond the specific food of interest. Situational factors in food choice research include reference to temporal, physical, social, cultural, economic, and other aspects of settings (Marshall, 1993; Meiselman, 1996; Shepherd & Sparks, 1994). The terms and principles food choice researchers have used to describe the ways that eating situations vary depend upon the orientation of the research (sensory, cultural, social, nutritional, psychological, physiological, economic), the level of analysis (e.g. swallows, bites, portion sizes, initiation/termination of eating, foods consumed, manners), and the research approach (experimental, ethnographic/phenomenological) (Bell & Meiselman, 1995; Camp, 1989; Fischler, 1980; Meiselman, Johnson, Reeve, & Crouch, 2000; Meiselman & MacFie, 1996; Pliner & Rozin, 2000; Rozin & Tuorila, 1993).

Studies focused on situational variation in eating have paid little attention to understanding situational variation in eating from the perspectives of people themselves (Bellisle, 1974; de Graaf et al., 2005), and “eating episodes” (e.g. de Graaf et al., 2005), and “eating episodes” (e.g. Redlin, Miltenberger, Crosby, Wolff, & Stickney, 2002; Rogers & Smit, 2000).

This study sought to develop a conceptual framework that could be used to examine differences in eating and drinking situations that was grounded in people’s own perspectives on these situations. This analysis uses “episodes” to refer to the specific acts of eating and drinking that people reported because an episode is considered “any event or series of events complete in itself but forming part of a larger one” (Newfeldt & Guralnik, 1997). The study aimed to understand the “lived-day” experiences of individuals, which have been described as a series of “act-episodes” (Craik, 2000). The use of the term episodes was reinforced by participants’ reports that eating and drinking were part of the progression of their days and linked to their daily schedules and their roles and responsibilities at home and at work. Other terms used to describe acts of eating did not convey that meaning.

Methods

The data analyzed for this study were collected as part of a larger project examining how adults working in non-managerial and non-professional positions constructed food choice at home and away from home. Study participants provided several types of data about their food choices that were collected over 9 different contacts with the same interviewer. This analysis examined the data collected through 7 consecutive, qualitative 24-h recalls of eating and drinking episodes, an approach similar to the diary method that others have used to understand the details of eating among free-living individuals (e.g. Bellisle, Dalix, & de Castro, 1999; Bellisle et al., 2003).

Participants

This study focused on adults working in non-professional, non-managerial positions because in the US these workers tend to have lower incomes than other working adults, placing them at higher risk for health problems compared to other workers (Centers for Disease Control and Prevention, 2000; US Department of Health and Human Services, 2000). Study participants resided in a mixed population density region of upstate New York and were recruited through community agencies, employers, advertisements in local newspapers, and personal contacts. Participants were purposively sampled to vary in gender, age, occupation, and living situation. All study participants met the following criteria: employed at least part-time in a non-managerial, non-professional position; between the ages of 20 and 62; not a full-time student; and not pregnant or lactating. Participants provided information about their personal, household, and employment characteristics on
self-administered questionnaires completed at the first and last contacts with the interviewer. Procedures were approved by the Institutional Review Board (IRB) University Committee on Human Subjects. Each participant signed a consent form before beginning the process and received compensation for completing the study.

The 21 men and 21 women ranged in age from 20 to 61 years with a mean of 39. About 29% of participants had completed high school or less than high school, and 61% had completed some college but did not hold 4-year degrees. Most (86%) participants reported that they were White; others reported themselves to be Black, Hispanic/Latino, or multi-ethnic. Participants’ occupations included building and grounds, office and administrative, sales, personal care and service, transportation and moving, community and social services, and installation and repair. Most participants reported using their own car to travel to work. Participants’ marital status included never married (38%), married (48%), and divorced or separated (14%). Half of participants had at least one child younger than 19 years living at home. Participants’ annual household incomes ranged from less than $10,000 (12%) to more than $70,000 (7%), with 61% reporting household incomes less than $40,000. Participants varied in their responsibilities for household food management.

Eating and drinking recalls

The goal of the recalls was to identify the foods and beverages consumed and to understand the situations in which the eating or drinking occurred. At the start of the study, the research team identified a situation as involving the following features: day and hour of consumption, where food and beverages were obtained/prepared/consumed, people present, food choice goals, feelings, other activities going on at the time, and how the participant perceived his/her role in the situation. The protocol for the 24-h eating and drinking recalls was developed especially for this study and was adapted from the multiple pass 24-h eating and drinking recalls was developed especially for this study and was adapted from the multiple pass approach to the 24-h dietary recall method (Guenther, Kott, & Carriquiry, 1997). The interviewer first asked the participant to report all foods and drinks consumed in the last 24 h starting with midnight on the previous day. The interviewer recorded all the foods and drinks in writing. Then, starting with the first eating and drinking episode of the day, the interviewer asked the participant open-ended questions about the features of each episode, probing for detail as the participant described each situation. The first recall was conducted in-person at a time and place convenient for the participant, typically at the person’s home. Recalls for the next 6 days were conducted by telephone at a time convenient for the participant. All recalls were audiotaped and conducted by 3 experienced qualitative interviewers who kept extensive field notes. Each participant worked with only one interviewer. Participants completed 7 recalls, except for one person who completed 6. Participants reviewed a summary of their eating episodes recalls in a follow-up, eighth interview as a form of member check (Guba & Lincoln, 1989). After the audiotapes were transcribed verbatim, the interviewers verified them for accuracy.

Analysis

The research team members read and discussed the transcripts at weekly meetings. Constant comparative analysis (Glaser & Strauss, 1967) of the transcripts and field notes revealed that situational aspects of episodes could be described in much more detail than the researchers had originally expected. For example, food consumption at the general location of work also had a specific place, such as “at the desk,” “in the break room,” or “outside.” General locations of eating, such as “work,” “my home,” “car,” “restaurant,” or “friend’s home,” could also be described in terms of the availability of food and/or facilities for food preparation or storage. Thus, the researchers expanded their initial list of features they considered as characterizing a situation to include new features as they emerged in the ongoing analysis (Glaser & Strauss, 1967).

One researcher used the transcripts and field notes to create a list of episodes for each participant and then combined the 42 lists to yield a total of 1448 episodes, representing 293 days of recalls. Next, the researcher created a data matrix (Miles & Huberman, 1994) for the episodes with fields to enter participants’ exact words for the foods and beverages consumed, the features of the episodes, and participants’ labels for the episodes (e.g. “dinner,” “big lunch”). As the data were entered, the research team reviewed the transcripts, consulted with the interviewers, and revised the list of features as new insights were gained into the data (Glaser & Strauss, 1967; Guba & Lincoln, 1989).

In the next phase of analysis, two other members of the researcher team worked together with the episode database of participants’ exact word descriptions for the features and labels with the goal of developing conceptual understanding of the similarities and differences in participants’ reported experiences (Miles & Huberman, 1994). Using constant comparative analysis (Glaser & Strauss, 1967), researchers revised the list of features of episodes to reflect conceptual categories (Miles & Huberman, 1994), adding new fields to the matrix and recoding data as necessary. For example, the initial feature of how participants were feeling included a wide range of exact word responses (e.g. “hungry,” “frustrated with landlord,” “foot pain,” and “trying to eat healthy”). The initial conceptual category of feeling was replaced with four new features (nourishment, emotions, physical condition, goal) to reflect the meaning of these responses, and the data were recoded. As the list of features was revised in an iterative process, the researchers re-reviewed the transcripts and consulted with the whole research team and with the interviewers to be sure that list of features represented that data. Next, the researchers...
grouped the features into eight themes, which the researchers termed “dimensions,” and they developed an initial conceptual framework to represent the relationships among the dimensions.

The researchers grouped participants’ exact word labels for eating and drinking episodes into one of following types: conventional meal labels (“breakfast,” “lunch,” “dinner,” “supper,” “brunch”), other conventional labels (“snack,” “drink,” “break”), modified conventional labels, and uniquely constructed labels. Modified conventional labels included one of the conventional labels plus one or more descriptive words (e.g. “late dinner,” “big snack”) or a combination of conventional labels (e.g. “lunch break”). Uniquely constructed labels did not include any conventional labels (e.g. “morning coffee,” “relaxing time”). Participants used labels for 94% of the episodes that they described.

In the final phase of the analysis, researchers examined how the dimensions linked with each other and with the various types of labels participants used to describe the eating and drinking episodes. The framework, dimensions, and lists of features within dimensions were then revised in an iterative process until they were congruent with the team’s analysis of the interview transcripts (Strauss & Corbin, 1990).

Sixty-eight percent of participants’ episodes occurred on workdays, 76% involved food, and 24% involved only a beverage. About 53% of the episodes occurred at home, and 26% took place at work. Nearly 6% of episodes occurred in sit-down restaurants or fast food restaurants. Participants reported that they were alone for 52% of the episodes and that they often were involved in other activities while they were eating or drinking. Less than 4% of episodes involved alcohol consumption.

Quality of the data and analysis was enhanced by prolonged engagement of the interviewers with the study participants, participation of the interviewers in the analysis of the data, and peer debriefing with other food choice researchers (Guba & Lincoln, 1989). Another strength of the methods was the participation of 6 experienced qualitative food choice researchers, each of whom was intimately involved with the data and provided his/her perspectives throughout the project. At each phase of the analysis, differences in interpretations were discussed until consensus was reached (Barbour, 2001).

Results

Conceptual framework

The conceptual framework that emerged from the analysis portrays eating and drinking episodes as involving eight dimensions (food and drink, location, time, activities, social setting, mental processes, physical condition, and recurrence) (Fig. 1). Each dimension represents a cluster of features that can be used to characterize an episode. The dimensions and features overlap and are not mutually exclusive. The dimensions can combine and share emphasis in describing a particular episode. For example, the location (e.g. work), people (e.g. coworkers), and time (e.g. workday noon) are often linked in describing an episode. Any or all the dimensions may be involved in a particular episode. The episodes that participants described in this study involved from 2 to 7 dimensions, in addition to the food and drink that was reported.

Labels

Table 1 presents the frequency with which participants used the various label types in describing their eating and drinking episodes. Participants used conventional meal labels for about 40% of episodes with “breakfast,” “lunch,” and “dinner” used most often. Every participant used these conventional meal labels at some time during the 7-day recalls, some relying heavily on them, others using them more sparingly. The other conventional labels (“snack,” “drink,” “break”) together accounted for nearly one-fourth of the episode labels, with “snack” used almost as frequently as each of the popular conventional meal labels.

Participants used modified conventional labels for about 9% of the episodes when they added adjectival terms, such as “late,” “quick,” or “birthday,” to further describe meals, snacks, or breaks. Modified snack labels were used more frequently than other modified conventional labels with variations including “snackies,” “little snack,” “snacking,” and “pre-dinner snack.”

Participants used uniquely constructed labels for nearly 30% of episodes, employing more than 100 different labels. The most common label in this group was “morning coffee,” followed by “morning tea” and “treat.” Many of the uniquely constructed labels were idiosyncratic and
provided insights about the individualized meanings that participants constructed for eating and drinking episodes. The following sections present the eight dimensions of the framework, using qualitative interview data to show how the different features within dimensions can be used to understand the episodes that participants described. As each dimension is presented, participants’ use of labels related to the dimensions is reported to show how labels can provide insight about the dimensions and features of an episode.

Food and drink

The food and drink consumed was an essential feature of an eating and drinking episode. Features used to characterize the food and drink dimension included the type of food, described in terms of the commodity (e.g. “beef,” “milk”), style of preparation (e.g. “cut-up strawberries,” “eggs over easy,” “boiled potatoes”), or its combination (e.g. “pasta melt,” “concoction,” “TV dinner”). Food and drink was also characterized by the amount consumed (e.g. “half lunch,” “1/2 cup,” “couple of sips”), how it was consumed (e.g. “soda in a can,” “ice-cream in a bowl”), and where the food was prepared (e.g. “homemade oatmeal cookies,” “takeout pizza”).

When participants used the conventional meal labels “breakfast,” “lunch,” and “dinner,” they almost always reported consuming both foods and beverages. Only in two specific cases of one participant consuming a protein-shake for “dinner” were beverage-only episodes referred to with conventional meal labels. Participants typically used the label “snack” when only a food without a beverage was consumed. The label “drink” was used to represent many different types of beverage-only episodes. Modified labels, such as “half-lunch” or “second dinner installment,” gave insight about the nature of the foods and drinks consumed and also insight about participants’ perceptions of conventional meals. Some episode labels, such as “morning coffee,” “BBQ,” or “wine tasting” indicated that the food or drink was a highly salient dimension of the episode.

Time

Features within the time dimension included chronological time (e.g. clock hour, calendar day of week) as well as the temporal relationship of the episode to other activities, responsibilities, and events (e.g. “after waking,” “while cooking,” “before work,” “day-off”). A third feature within the time dimension related to the participants’ experiences of time passage, such as “I was in a rush,” “I was killing time,” or “I was anticipating the arrival of [person].”

Participants’ labels provided insights about the time dimension of eating episodes. Conventionally labeled episodes predominantly occurred at regular times each day. Although the “breakfast” label was used to describe episodes occurring between 5:45 a.m. and 10:00 p.m., most episodes labeled as “breakfast” occurred between 7 a.m. and 11:30 a.m. “Lunch” was a label that most participants used to describe an eating episode that occurred between 11:00 a.m. and 2:30 p.m. “Dinner” most often occurred between 5:00 p.m. and 8:00 p.m. However, when participants’ episodes did not fall within the realm of conventional time, they either modified their conventional meal label or constructed unique labels to describe these episodes. For example, participants used terms such as “late dinner,” “late lunch,” and “lunch/dinner” to describe food and beverage episodes that fell outside their perceptions of conventional meal times. To a few participants who worked the night shift, “lunch” was a label that defined the main food and beverage episode that occurred during the middle of their time at work (e.g. 3:00 a.m.).

The conventional labels “snack” and “break” also conveyed timing of eating. Most episodes labeled with some version of “snack” occurred outside the regular hours noted above for the conventional meals. When a participant repeatedly referred to different episodes as “breaks,” these almost always occurred at the same time each day. Some participants’ uniquely constructed labels, such as

<table>
<thead>
<tr>
<th>Type of episode label</th>
<th>Number</th>
<th>Percent (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conventional meal labels</td>
<td>540</td>
<td>40</td>
</tr>
<tr>
<td>Breakfast</td>
<td>160</td>
<td>12</td>
</tr>
<tr>
<td>Lunch</td>
<td>170</td>
<td>13</td>
</tr>
<tr>
<td>Dinner</td>
<td>190</td>
<td>14</td>
</tr>
<tr>
<td>Supper</td>
<td>16</td>
<td>1</td>
</tr>
<tr>
<td>Brunch</td>
<td>4</td>
<td>0</td>
</tr>
<tr>
<td>Total labels</td>
<td>1363</td>
<td>100</td>
</tr>
</tbody>
</table>

aThe 1363 labels summarized in the table represent 94% of the 1448 eating and drinking episodes reported by participants; labels were missing for 85 episodes.

“early food eating,” “midnight meal,” and “getting day started,” emphasized the time dimension of episodes.

**Location**

The location dimension had three major features. Episodes had a general location, such as home, work, car, or restaurant, as well as a specific place within the general location. For example, participants’ eating and drinking episodes at home occurred “at the kitchen table,” “in front of the TV,” “in the bedroom,” or “outside.” Participants reported that at work, they ate food and drank beverages “in the office,” “in the machine room,” “in the lunch room,” or “in the parking lot.” Another feature of location that participants described was access to food and beverage storage or preparation facilities. For example, some work locations prohibited any food or beverage other than water, whereas other employment sites provided refrigerators, microwave ovens, and cafeterias. An additional feature of location that participants reported was the condition of the physical environment, such as temperature or weather.

When participants used the labels “breakfast,” “lunch,” and “dinner,” the episodes usually took place in their homes, the homes of others, and when eating out at restaurants. Conventional meal labels appeared to be used less often at work and hardly ever when referring to eating and drinking in the car. For episodes occurring at work or in the car, participants tended to use modified labels, such as “lunch break” and “weird lunch,” and unique labels, such as “grab and go” and “pick me up.” As mentioned earlier, participants almost exclusively used the label “break” to convey a specific temporally driven eating and drinking episode that occurred at work.

**Activities**

Activities that occurred along with the consumption of foods or drinks during an episode emerged as a dimension with two features. The first feature related to the nature of the activity. Participants described many different types of activities including food provisioning tasks, housework, pet care, parental tasks, work tasks, recreational activities, socializing, and entertainment. These activities also varied in the extent to which they were active versus sedentary.

A second feature of the activities dimensions was the salience of the activity relative to food and beverage consumption. For example, the activity could be a secondary focus of the participant’s attention (e.g. looking at an available magazine while eating lunch) or a primary focus of the person’s attention at the time episode (e.g. eating breakfast while working at the desk). For most episodes, the importance of food and drink compared to the co-occurring activity was not clear with the level of probing that was conducted in the interviews.

The majority of eating and drinking episodes that participants described involved other activities. The associations of labels with features of activities depended upon the location. “Breakfast,” “lunch,” and “dinner” meals tended to occur at home and be associated with sedentary activities, particularly watching TV, but also reading and listening to the radio. When “snack” or “drink” at home involved other activities, these tended to be active, such as performing house chores or cooking. Participants used many uniquely constructed episode labels when they described quick consumption episodes at home associated with “getting ready.” Labels such as “tie me over,” “morning coffee,” or “taking medicine” were used when participants described “getting ready for work,” “getting kids ready for day,” and “getting dogs ready.”

Participants reported that most eating and drinking episodes at work involved some type of activity. When participants described the activity as “working,” they tended to use the labels, “snacks,” “breaks,” and “drinks.” Participants also used uniquely constructed labels, such as “morning coffee,” to describe multi-tasking episodes at work or episodes occurring while driving to work.

**Social setting**

The social setting dimension included a feature to describe the number of people present, their genders, and their relationship to the participant (e.g. spouse, child, parent). Participants also described the people present in term of their roles in the social setting (e.g. host, guest, cook, server, caregiver) and the power balance among those present (e.g. boss/workers) if any existed. Another feature of the social setting was the social processes that participants described as salient in the episode, such as “listening,” “bonding,” and “comforting.”

Labels provided insight about the social setting dimension of eating and drinking episodes. Most episodes labeled by participants as “breakfast,” “snack,” or “drink” were not accompanied by reports of a social dimension. For most “dinner” episodes, however, participants reported that they ate with other people and that “socializing” or “conversing” were prominent processes. Many participants modified conventional meal labels (e.g. “nice family dinner,” “birthday dinner”) to emphasize the social nature of the eating episode. Some of participants’ uniquely constructed labels, such as “fellowship hour,” “community meal,” and “get together,” indicated that socializing was a salient process of the episode.

**Mental processes**

For the mental processes dimension, one feature related to the goals that some participants said they were trying to achieve in the episode. Goals could be food and drink related (e.g. “didn’t want food to go bad”) or oriented toward the participant’s personal well-being (e.g. “should eat more vegetables”). Another feature was the emotions that participants described having in episodes, which varied in type (e.g. “stressed,” “happy”) and intensity (e.g.
“relaxed,” “totally relaxed”). Participants reported feelings that were directed toward the eating and drinking episode (e.g., “really liked food,” “nice crunch—fun to eat,” “breakfast not enough”) and feelings related to other events, persons, or objects (e.g. “frustrated with landlord,” “worried about my job”).

Labels provided clues about the mental processes dimension of participants’ eating and drinking episodes, particularly about their emotional states. When participants used conventional meal labels, they most often described feelings of neutrality (e.g. “ok”) or contentment (e.g. “good,” “fine,” “happy”). When participants recalled episodes with modified conventional meal labels, however, they often described a particular emotion. For example, a “nice family dinner” was “pretty positive,” a “lunch break” was a “relief,” and a “birthday dinner” was a “good get together.” Participants primarily used uniquely constructed labels to describe eating and drinking episodes where they were feeling or seeking to feel relaxed, using many different types of labels, such as “quiet time,” “relaxing time,” “calm before the storm,” and “winding down.”

**Physical condition**

The physical condition dimension had two features. One related to nourishment including appetite and hydration (e.g., “I was hungry,” “I was thirsty”). The other feature related to other physical states such as fatigue, illness, or injury (e.g. “I was really tired,” “I was congested,” “I had neck pain”). Each of these features varied in terms of intensity (e.g. “famished” vs. “a little hungry”).

When participants described episodes involving their nourishment condition, they used “hunger” as the most common descriptor. Modified conventional meal labels often emphasized a participant’s nourishment status, for example “picking at dinner” or “huge lunch.” Nourishment was often an important dimension of snacks and drinks, and participants’ uniquely constructed labels conveyed this message. For example, “tie me over,” “getting something in my stomach,” and “fuel” were labels used for food episodes. “Hydration” and “rehydrating” were examples of labels used for beverage episodes where nourishment was important.

To convey physical condition other than nourishment related to an episode, participants typically used uniquely constructed labels such as “settle stomach,” “taking medication,” “pick me up,” and “prevent drop in blood sugar.” They did not modify conventional labels to express non-nourishment physical status.

“Drinks” was used as a label when participants described feeling “sick,” but never used to describe an episode when participants reported feeling hungry. Conversely, the “snacks” label was employed when participants described episodes where they were feeling “tired” and “hungry” and used less when they were feeling “not so well” or “sick.”

**Recurrence**

The recurrence of eating and drinking episodes was a dimension that reflected the repetition of eating and drinking situations. Recurring episodes were prevalent among these participants, with more than half of episodes being described as a situation that regularly occurred. Features of recurrence included whether or not the episode ever recurred (e.g. “rare and special situation,” “normal routine”) and the frequency of the recurrence (e.g. “snack throughout the day,” “every work day,” “once a week”).

Another feature of recurrence related to the combination of dimensions and features that were repetitious. For example, for a “guy thing,” the social setting recurred, but the food and location varied. For the “morning Pepsi,” the beverage and the time recurred, but the location, social setting, and activities differed.

Labels were very important in describing participants’ recurring eating and drinking episodes. Participants frequently used “normal routine” and “routine” to reflect their typical patterns of eating or drinking. As described earlier, conventional meal labels predominantly described regular episodes that occurred about the same time each day. When the time varied from their routine, participants modified their conventional meal labels to communicate that the episode was a deviation from their normal routine. Conventional labels, such as “drink” and “snack,” were often modified to emphasize when a particular episode was part of a regular routine, whether it be “morning snack,” “nighttime snack,” or “late night snack.” However, when describing episodes that took place at work, participants often used the label “break” or a modified version of “break,” such as “lunch break,” “morning coffee break,” or “break time,” to convey that the episode was a routine based on their work schedule. Some participants emphasized the importance of particular beverages to start their days by using uniquely constructed labels such as “morning tea” and “morning Pepsi.” Labels such as “camaraderie” emphasized the importance of the social dimension of the routine to participants. “Resting,” “relieving stress,” and “comfort eating” were examples of labels that emphasized the importance of the mental processes in an episode. Some participants had recurring eating and drinking episodes that were labeled “taking medication” or “taking vitamins,” revealing how labels linked to personal care activities.

**Summary of labels and dimensions**

Table 2 summarizes the associations that emerged from the data between the types of episode labels that participants used and the dimensions and features of these episodes. Among this sample of working adults, the conventional meal labels “breakfast,” “lunch,” and “dinner” typically referred to recurring episodes that involved both foods and drinks, happened at traditional times, occurred at homes or restaurants, involved a range of sedentary activities, and involved no particular emotions or...
physical conditions. “Break” usually referred to recurring eating and drinking episodes at work that happened when participants could take a respite from their job responsibilities. “Snacks” and “drinks” often referred to episodes that occurred while participants were alone and engaged in other activities and feeling the need for nourishment or hydration. Participants modified these conventional labels when dimensions of time, location, social setting, mental processes, physical condition, and recurrence made an episode different in some way. Participants’ uniquely constructed labels for episodes called upon one or more of the dimensions when the feature(s) of a dimension was (were) salient. The labels used by these working class adults to describe their eating and drinking episodes often reflected the dimensions of food and drink, time, location, activities, social setting, and recurrence. Their daily lives were structured by work and family responsibilities, and the foods and beverages they consumed were often repetitive in commodity, form, and timing.

Using the framework to characterize episodes

Three examples illustrate how the proposed conceptual framework can be used to examine and understand situational eating. The first example is a “lunch” (Conventional meal label) reported by a man who was fitness conscious. He ate a meatloaf sandwich prepared from leftovers and drank Hawaiian Punch and gingerale soda (Food and drink: type, where prepared) at 1:30 p.m. before going to work (Time: chronological, relative). He was at home at the kitchen table (Location: general, specific). At the same time he was feeding and interacting with his infant daughter who was eating different foods (Activity: nature, salience; Social setting: persons, social processes). He explained, “I’m changing my eating habits a little bit as far as breakfast and lunch…you know, try to eat a little bit more healthier” (Mental processes: goal). He reported that this episode was a usual lunchtime routine (Recurrence) because he is responsible for feeding his daughter while his wife is working.

The second example is a “half-lunch” (Modified conventional meal label) described by a truck driver. He consumed a chopped ham and turkey sandwich, a Diet Pepsi, and a lollipop candy (Food and drink: type) at 11:00 a.m. on a workday (Time: chronological, relative). He was driving his truck (Location: general, specific; Activity: nature, salience) and thinking, “Well, I guess I’m hungry” (Physical condition: hunger). He said that he was also

<table>
<thead>
<tr>
<th>Types of episode labels used by study participants</th>
<th>Conventional meal labels (breakfast, lunch, dinner)</th>
<th>Other conventional labels (snack, break, drink)</th>
<th>Modified conventional labels</th>
<th>Uniquely constructed labels</th>
</tr>
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<tbody>
<tr>
<td><strong>Episode dimensions</strong></td>
<td><strong>Conventional meal labels</strong></td>
<td><strong>Other conventional labels</strong></td>
<td><strong>Modified conventional labels</strong></td>
<td><strong>Uniquely constructed labels</strong></td>
</tr>
<tr>
<td><strong>Food and drink</strong></td>
<td>Both food and drink</td>
<td>Drink: just beverage</td>
<td>Different amount of food (e.g. half-lunch, big snack)</td>
<td>Salient food types (e.g. morning Pepsi, BBQ, wine tasting)</td>
</tr>
<tr>
<td><strong>Time</strong></td>
<td>Common times</td>
<td>Break: timed to work schedule</td>
<td>Salient time features (e.g. late lunch, pre-dinner snack)</td>
<td>Salient time features (e.g. midnight eating, getting the day started, grab and go)</td>
</tr>
<tr>
<td><strong>Location</strong></td>
<td>Home or restaurant</td>
<td>Break: at work</td>
<td>Lunch break: at work</td>
<td>Salient location features (e.g. Rotary pancake day)</td>
</tr>
<tr>
<td><strong>Activities</strong></td>
<td>Sedentary activities, e.g. TV, talking, socializing, listening to radio, reading</td>
<td>Snacks/drinks: at work: working at home: active activities</td>
<td>No particular linkages</td>
<td>Salient activity features (e.g. getting ready, getting kids ready for school)</td>
</tr>
<tr>
<td><strong>Social setting</strong></td>
<td>Breakfast: alone</td>
<td>Snack and drink: not social</td>
<td>Salient social aspects (e.g. birthday family dinner)</td>
<td>Social aspects are primary (e.g. fellowship hour, get together, community meal)</td>
</tr>
<tr>
<td><strong>Mental processes</strong></td>
<td>Neutral in emotion</td>
<td>Neutral in emotion</td>
<td>Salient emotional features (e.g. nice family dinner)</td>
<td>Salient emotions or goals (e.g. relaxing time, comfort eating, taking medicine)</td>
</tr>
<tr>
<td><strong>Physical condition</strong></td>
<td>No particular physical condition elements</td>
<td>Snacks/drinks: often hunger or hydration</td>
<td>Salient nourishment features (e.g. huge lunch, picking at dinner)</td>
<td>Salient nourishment or physical condition (e.g. nourishment, rehydrating, fuel, pick me up)</td>
</tr>
<tr>
<td><strong>Recurrence</strong></td>
<td>Repeating dimensions</td>
<td>Break: repeating dimensions</td>
<td>Unusual features (e.g. weird lunch) Repeating features (e.g. morning coffee break)</td>
<td>Repeating episode (e.g. normal routine) Repeating dimensions (e.g. my late night snack, morning coffee, guy thing, resting)</td>
</tr>
</tbody>
</table>
feeling “a little uptight because of the weather, you know, the road conditions,” explaining that before he eats “you like to pick a spot where you can drive with one hand” (Mental processes: emotions, goal). Reporting that his “half-lunch” was a typical workday episode, he said, “I guess I just got into that type of routine” (Recurrence). He stated that he spreads his food and beverage consumption out over the workday and reported that “around 12:45, I ate my second sandwich.”

The third example is a report by a grounds worker who described his “unwind” time (Uniquely constructed label) at noon during his lunch hour on a workday (Time: chronological, relative). He felt hungry (Physical condition: nourishment) and consumed a chicken sandwich, a ham sandwich, and a Caffeine-free Pepsi (Food and drink: type). He explained that his lunch “was my leftover sandwich meat. I don’t like to waste it” (Mental processes: goal). He was at home in the living room (Location: general, specific), watching TV (Activity: nature), and feeling relaxed (Mental processes: emotions). He reported that “my wife was there for a while,” but that they were not interacting (Social setting: persons present, social processes). This man explained that his “unwind” time was typical in the food and drink, location, timing, social setting, activity, mental processes, and physical condition (Recurrence).

These three different situations for workday, midday eating episodes reported by working class men living in one geographic area illustrate how the proposed framework can help identify the meanings and complex processes that may be involved in everyday eating situations. The examples show how episodes involve different dimensions that may overlap and combine to share emphasis in a particular episode. Recognizing the multiple dimensions of these episodes reveals the interaction of personal, social, and structural factors shaping food choice in specific situations.

Discussion

Conceptual framework

This analysis sought to advance understanding of the situational nature of food choice by developing a framework that could be used to examine differences in everyday food and beverage consumption that people describe. The diverse ways that many people in contemporary societies are consuming food and drink (Bowers, 2000; Poulain, 2002) require that researchers take a fresh view of ways to characterize eating and drinking episodes and the words people use to refer to their acts of eating and drinking. A strength of the proposed framework is its grounding in adults’ own descriptions of eating experiences over multiple days, in contrast to most representations of the situational aspects of eating which have been based on researchers’ preconceived views of what situational factors may be important.

The proposed framework uses eight thematic dimensions to group more specific features that can be used to characterize an eating or drinking episode. The framework takes a holistic view of episodes in that the dimensions overlap and interact. Previous conceptualizations of the factors involved in eating situations typically separate the person, the food, and the situation/context (e.g. Meiselman, 1996; Shepherd & Sparks, 1994), but these components emerged as being less distinct in the data. In the current framework, at least two dimensions consist primarily of features related to the person (mental processes and physical condition). However, aspects of the person are also encompassed in features within the dimensions of time (experienced time) and social setting (social processes). The features of the location dimension focus primarily on the physical surroundings, but access to food and food-related facilities is also characteristic of this dimension. The features of the activities dimension relate to both aspects of the person, as well as aspects of the physical and social environments. Finally, the recurrence dimension represents specific combinations of features of the other dimensions that repeat themselves in eating and drinking situations of individuals.

A framework presenting the dimensions as overlapping and intertwined is supported by psychological theories that emphasize that a person functions as a total integrated being and that the person–environment interactions are dynamic and reciprocal (Magnusson & Torestad, 1992). The interactions among personal, social, and environmental factors and the difficulty in separating these have also been recognized by others studying situational eating (Belk, 1975b; Bell & Meiselman, 1995; Byrne, Capps, & Saha, 1998; Cullen, 1994; Lin et al., 1999).

That the food and drink consumed is only one of a number of dimensions in an episode highlights the view that food and eating may be major or minor parts of an episode. Although food choice researchers and health professionals often focus on the food dimension and nourishment features of an eating or drinking episode, the primary meaning of the episode to the person may not be about food or drink at all. To the person, an episode may be more about the dimensions of activities, social setting, or mental processes.

This framework explicitly recognizes drinking-only episodes as important consumption episodes. Many participants described the intake of beverages without food as important parts of their daily routines. Most of these beverages were non-alcoholic. Whether some items, such as blended fruit drinks or liquid meal replacements, should be classified as foods or drinks is problematic. However, the distinction between physical forms is not important when the focus is on understanding the situational aspects of consumption from the perspective of the consumers.

Dimensions and features

Several of the dimensions and features in the proposed framework are consistent with situational factors reported
by other researchers, but the current study participants also provided new insights about situational factors in food choice. Time is a recognized aspect of an eating or drinking episode in terms of clock, calendar, and season (e.g. Cullen, 1994; Jabs & Devine, 2006). However, features other than actual time, such as experienced time and the relationship of time to other activities and events, were insights gained from the interviews in this study. These features of time were important in the daily reports from the workers participating in this study, evident by the many labels that reflected experienced time and how the episode was related to other work or family responsibilities. These findings link to work describing meals as time markers for how people organize their days (Makela, 2000; Marshall, 1993; Pliner & Rozin, 2000), to reports of people’s use of time-saving strategies for eating (e.g. Candel, 2001; Devine, Connors, Sobal, & Bisogni, 2003; Gofton, 1995; Jabs, 2006; Verleigh & Candel, 1999), and also to studies of how workers on non-traditional schedules manage eating (e.g. Lennernas, Abrahamsson, Hambraeus, & Akerstedt, 1994; Lennernas, Hambraeus, & Akerstedt, 1995).

Location of eating has been studied by several researchers in terms of general location, such as home, restaurant, and work (e.g. Bell & Meiselman, 1995; Haines, Popkin, & Guilkey, 1990; Marshall & Bell, 2003; Pliner & Rozin, 2000). However, except for television viewing (e.g. Boutelle, Birnbaum, Lytle, Murray, & Story, 2003; Skidmore & Yarnell, 2004; Stroebele & de Castro, 2004), much less attention has been paid to specific places within locations of eating at home and at work and to the physical aspects of these eating environments (e.g. Meiselman et al., 2000). Knowing more about specific locations for eating and drinking provides information about how food and beverages fit into a person’s life and clues about the influences on food choice.

Activities as a dimension of eating and drinking episodes relates to task orientation as a feature of consumer behavior situations (Belk, 1975b). Social and symbolic activities have previously been recognized as part of eating and drinking episodes (e.g. Brown & Mussell, 1984). Activities such as television viewing have also been examined (e.g. Boutelle et al., 2003; Skidmore & Yarnell, 2004; Stroebele & de Castro, 2004). Other types of activities that participants reported (e.g. work, chores, personal care, commuting), however, have received less attention in food choice research and warrant further study in terms of their salience and link to consumption. Many individuals report they have less time for food and eating due to work and family responsibilities, resulting in multi-tasking in eating and drinking (e.g. Devine et al., 2003; Jabs, 2006).

The importance of social setting as a dimension of eating and drinking episodes in this framework is consistent with the recognition that other researchers have given to social influences on situational behavior (e.g. Belk, 1975b) and on food choice, particularly family meals (e.g. Bove & Sobal, 2006; Kemmer, Anderson, & Marshall, 1998), commensality (e.g. Sobal, Bove, & Rauschenbach, 2002; Sobal & Nelson, 2003), and care-giving practices (e.g. Charles & Kerr, 1988).

The dimension of mental processes encompasses a person’s goals as well as emotional state in food choice and relates to both the task orientation and antecedent states (Belk, 1975b). The roles that emotions, mood, goals, and other mental processes play in the decision about and the enjoyment of eating have been studied extensively (e.g. Edwards, 2000; Macht, 1999; Patel & Schlundt, 2001; Valentine, 1999). However, participants in this study also described emotions and goals involved in eating and drinking episodes that focused on other aspects of their lives than food, such as their jobs or housing situations. These findings are linked to studies of how stress influences eating (e.g. Lennernas et al., 1995; Polivy & Herman, 1999; Wardle & Gibson, 2002; Weinstein, Shide, & Rolls, 1997).

For the dimension of physical condition, hunger and appetite are well-recognized situational influences on eating behavior (e.g. Anderson, 1996; de Castro & Elmore, 1988; de Castro, McCormick, Pedersen, & Kreitzman, 1986; Verger, Lanteaume, & Louis-Sylvestre, 1994). However, other physical issues, such as injury and illness, were also mentioned in this study as salient to specific eating episodes for some people.

This framework identified recurrence as an important dimension for characterizing eating and drinking episodes to recognize that people eat and drink in many situations that have repeating features. This view is a different perspective on situational analysis for consumer behavior, which typically focuses on the influences on behavior resulting from the momentary configurations of time, space, person, and object that are beyond the permanent attributes of the involved factors themselves (Belk, 1975b). Because people must eat and drink on a daily basis, however, certain features of episodes inevitably recur, causing people to construct ways of thinking and behaving for these types of episodes that become routine and automatic (Sobal, Bisogni, Devine, & Jastran, 2006). Recurring episodes and their features become important phenomena for investigation. Research on eating patterns within populations (e.g. Haines et al., 1992, 1990; Lennernas & Andersson, 1999; Neumark-Sztainer, Hannan, Story, Croll, & Perry, 2003; Wahlqvist et al., 1999) has studied only a few of the many features of episodes that characterize situations. The current episodes framework broadens the number of features that may be important to examine as researchers and health professionals seek to understand routine eating and drinking.

The dimensions and features in the framework provide a structure to further examine the situational food choice among the busy working adults who participated in the study. Further qualitative analysis can examine how the eating and drinking routines they described are linked to work roles and conditions as well as household structures and responsibilities. Future analysis can identify different configurations of episode features that are common in these participants’ experiences (e.g. drinking a morning...
beverage on the run alone, eating lunch alone on a workday, snacking while alone and doing other activities at home, eating dinner at home with others while watching TV, relaxing with a food or beverage at different times during the day). Variables can be created for the different features, with subsequent coding of the recall data, so analysis can examine individual patterns (e.g. work day versus non-work day), differences in types of episodes among participants, and how foods and beverages are linked to types of episodes.


Study limitations

While offering conceptual understanding of the situational aspects of eating/drinking and insight into participants’ situational food choice, this study also had limitations. First, the proposed framework was developed to understand the situational variation in eating and drinking within and between individuals who were a relatively homogeneous set of people examined at one point in time. The framework is not intended to represent wider cultural, regional, and historical differences in eating and drinking. Second, the findings are based on data from purposefully sampled individuals from one subgroup in one locale in the United States. The findings are shaped by the particular characteristics and experiences of these individuals who were willing to participate in the study and may not extend to other people from this population subgroup and, particularly, not to people living in other locations or cultures, having different socioeconomic characteristics, or working in different occupations. Third, the analysis reported here is based on group level data. Interpretation of frequency data presented must recognize that individuals contributed different numbers of episodes to the dataset. Fourth, participants’ reports of their daily eating and drinking episodes may have been different from their actual experiences because of memory limitations or their inability or unwillingness to fully describe their food choice activities even though interviewers developed strong rapport with them over multiple interviews. Finally, the findings are shaped by the orientations and experiences of the researchers, and a different conceptual framework might have emerged from a different research team.

Applications and implications

The framework for characterizing eating and drinking episodes presented here provides concepts for further investigation of the variation within and between people in natural eating and drinking situations, which has been a challenge to researchers (Baranowski, Cullen, & Baranowski, 1999). The framework articulates and organizes many different concepts and relationships that researchers might consider when seeking to understand situational aspects of eating and drinking. Additional studies with other types of participants in different places are needed to extend and elaborate this framework.

Although the relative merits of subjectivist versus objectivist approaches to studying situational behavior have been debated (e.g. Belk, 1975a; Miller & Holstein, 1993), both approaches to understanding situational food and beverage consumption are important and relate to the study findings. This project’s subjectivist approach and qualitative methods emphasized participants’ interpretations of their eating and drinking episodes. Additional studies using this approach could seek to identify other features for characterizing episodes, clarify people’s uses and meanings of episode labels, identify how cultural themes and social processes shape the features of episodes, and examine how individuals approach episodes with recurring features. When the goal is to understand the prevalence of phenomena and situational influences on food choice, however, objective and quantitative methods are needed. The proposed framework in this study suggests topics for objective studies of phenomena (e.g. eating behavior as multi-tasking), the prevalence of episodes with varying features, and the relationships between the different situational features (e.g. how social features are related to time features, how emotional features are related to time features, how foods are associated with different meal labels).

The framework has the potential to guide an integrated understanding of the existing research on eating and drinking in natural settings as well as raise new questions relevant to the current concerns related to food and health.
For example, related to concerns about how families eat together, the framework suggests the question: What are the dimensions and features of recurring eating and drinking episodes that fulfill important social processes in particular households? From the perspective of healthy eating practices, the framework encourages a broad definition of eating patterns that considers non-conventional episodes and suggests the question: What combinations of dimensions and features of eating and drinking episodes are associated with healthy eating practices at home or at work?

The insights into the multi-dimensionality of eating and drinking episodes emerging from this research present a number of implications for health professionals and nutrition educators. First, people often perceive eating and drinking episodes as involving much more than the food or drink being consumed. Second, eliciting people’s descriptions of their eating and drinking episodes can provide important information about the influences behind their food choices. Episode labels and situation descriptions can give information about which dimensions and features of an eating or drinking episode are more or less salient. Labels show an emic, personal perspective of the person’s eating situation, rather than imposing external etic nutrition science perspectives on the episode (Berry, 1999).

Third, from the set of dimensions and features identified in this study, practitioners could create assessment tools that would expose important dimensions and features in clients’ eating and drinking episodes. This understanding would help the practitioners provide counseling or information that is suited to the clients’ perceptions of these situations.

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