

# THE POWER OF SNACKING

*The Next Decade of  
Women's Changing Nutrition*

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# INTRODUCTION

*Women's busy lifestyles and diverse life courses no longer lend themselves easily to three meals at set times each day. As a result, daily snacking is an essential activity for American women.*

Imagine a world where snacking is more common than a traditional meal. Over the last 30 years, most American adults have shifted from eating one snack a day — or none at all — to eating two or more snacks daily.<sup>1</sup> Women's busy lifestyles and diverse life courses no longer easily lend themselves to three meals at set times each day. As a result, daily snacking has become an essential activity that is affecting the nutrition, food views and lifestyles of American women.

With a new decade upon us, a number of influential trends are changing the way women view

food, and specifically snacking. Understanding these changes will help women prepare for the emerging trends shaping their future health and well-being over the next ten years. This 10-year forecast study not only examines health, nutrition and food trends, it also delves into the social, technological, generational and gender role conventions that are shaping the way women learn about, prepare and consume snack foods. The report covers a wide range of topics including why women look for snacking choices that reflect their lifestyle patterns — which,

for most women, does not include daily cooking and dinner with a family; to how women interested in obtaining nutrients from more whole foods are rethinking snacking choices; to the growing number of women focused on bringing the pleasure of eating back into their occasional indulgent snacking choices. It forecasts that, over the next decade, we'll see a changing landscape that enables women to build their own ecosystem of trusted resources, co-create and choose healthy snacks for themselves and their families, and above all, focus on the pleasure of eating.

## **ABOUT THE FUTURE OF WOMEN'S SNACKING REPORT**

The constantly evolving world of food, information, and nutrition promises a volatile and complicated environment in which women will make snacking choices for themselves and their families. To better understand this future environment, LUNA sponsored the Institute for the Future to undertake a research project to identify, analyze and forecast the significant trends and forces shaping the way American women snack. The report looks at the transformation in snacking from the perspective of four generational bands of American women and forecasts the values, attitudes, and behaviors they will adopt to navigate the complex decade ahead.

The report begins by describing five broad external drivers that will inform women's future lifestyles and snacking behaviors. It then identifies six emerging behavioral trends that are key to understanding the future of women's snacking. The report concludes with five important considerations for women to reflect on as they pursue nutritional goals, find meaningful moments of escape, and seek overall well-being in the next decade. We present our findings in this decade-shaping report. The report and related research materials are available at [www.thepowerofsnacking.com](http://www.thepowerofsnacking.com).

## **ABOUT THE INSTITUTE FOR THE FUTURE**

The Institute for the Future (IFTF) is an independent, nonprofit strategic research group with more than 40 years of forecasting experience. The core of its work is identifying emerging trends and discontinuities that will transform global society and the global marketplace. IFTF's research spans a broad territory of deeply transformative trends, from health and health care to technology, the workplace, and human identity. The Institute for the Future is located in Palo Alto, California.

### **ABOUT LUNA®**

LUNA® nourishes women with delicious snacks made with organic ingredients and the essential vitamins women need. LUNA connects, supports and celebrates women with programs such as LUNAFEST®, a national traveling fundraising festival of short films by, for and about women, and Team LUNA Chix, an all-women's sports group inspiring women to learn new sports and be active. LUNA proudly donates one percent of its sales to a variety of women's nonprofits and the Breast Cancer Fund through the Clif Bar Family Foundation. ([www.lunabar.com](http://www.lunabar.com))

# METHODOLOGY

The report findings and forecasts were developed out of in-depth interviews with generational bands of women in four U.S. cities, and with experts in a wide range of fields associated with nutrition, food, information and health. In addition to the interviews, supporting evidence came from research previously conducted by the Institute for the Future in their Global Food Outlook Program, along with secondary sources in health, nutrition, demography, economics, and technology.

During the month of July 2011, exploratory group interviews with 10-12 women ranging in age from 19 to 59 were conducted in San Francisco, Austin, Denver and New York. For over 20 years IFTF has used ethnographic interviewing as a method of discovery to explore “how” the future is emerging from behaviors and convictions in peoples’ everyday lives, and these three-hour facilitated group sessions were followed by in-home interviews with two women from each group. The generational groups had representation from four age groupings with a good mix of ethnicity, occupations and household configurations:

- 19-29 – “The Agile Generation”
- 30-39 – “The Balancing Generation”
- 40-49 – “The Recalibration Generation”
- 50-59 – “The Renewal Generation”

All women were screened ahead of time, and attributes such as a busy lifestyle and an emphasis on food as a way to take care of their health were favored in the selection process. Women who did not snack at all were excluded from the study.

Expert interviews were also conducted, and covered topics such as future directions for food safety, mobile technology usage, and nutrition, as well as women’s values, attitudes and behaviors around nutrition and snacking.

# EXTERNAL DRIVERS SHAPING THE FUTURE SNACKING BEHAVIOR

*Women's attitudes and behaviors around snacking will emerge in reaction to the large social, demographic, epidemiological, economic, and technological drivers shaping the next decade.*

A variety of factors will combine to create a complex landscape for women of all ages and backgrounds. Key external drivers that are influencing women's life courses and lifestyles include:

- Changing social structures and conventions
- The proliferation of connected and smart technologies
- A growing dependency on women to serve as informal caregivers
- The need to focus on improving the health of all women
- An expanded and diverse food retail environment

It is important to understand these five external drivers of change because women will seek to meet their nutritional and emotional needs through the course of their lives — within this broader context.

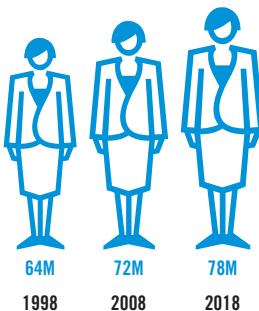
## CHANGING SOCIAL STRUCTURES AND CONVENTIONS

Dynamic social, economic, and technological forces are converging to create a wide range of possibilities for women of all ages to create rich systems of social connection.

More economic independence is giving women increased selection from a wide range of resources to create a strong sense of well-being and high quality of life. By 2008, approximately 72 million women, age 16 and older, were participating in the workforce in the United States, up from about 64 million women in 1998.<sup>2</sup> This includes most mothers, even those with babies and young children. Despite short-term job losses accounted by the recent economic downturn of the last few years, by 2018, the female labor force is projected to grow by 9%, compared to the lower 7.5% growth rate projected for men.<sup>3</sup> In other words, by 2018, there will be 78 million American women juggling paid employment with their other life activities.<sup>4</sup>

Due, in part, to increased economic resources, women in the United States are choosing to either live alone or with people other than their family: 27% of all households consist of just one person, and only one in five households is a married couple with children under age 18.<sup>5</sup> In addition, a greater percentage

**FIGURE 1:**  
American women's participation  
in labor force, 1998, 2008, 2018  
(projected)



SOURCE: BLS

of college-educated women are deciding to delay or forgo having children and today, almost 20% of women older than 44 do not have children, compared to just 10% in the 1970s.<sup>6</sup>

With no obvious life course for women to chart as they move from young adulthood into their later years, women are depending on a variety of resources for social support. Ubiquitous connectivity to a network of friends, family, co-workers and trusted advisers is helping women to build meaningful relationships, both offline and online. The Internet has become an essential resource for most women as they construct new systems of support. They not only use the Internet to seek information about a broad range of topics but also, more recently, have begun to depend on social networking sites to form and

maintain social ties. The number of people using social media sites nearly doubled between 2008 and 2010. These days, about half (47%) of the almost 80% of American adults who use the Internet visit at least one social networking site, and more than half of them are women.<sup>7</sup> In 2008, 53% of social networking site users were women, but by 2010 it had increased to 56%. And the average age of a user of a social networking site increased from 33 in 2008 to 38 in 2010.

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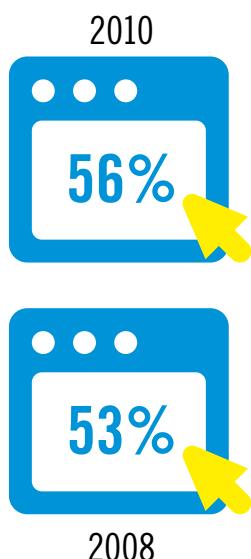
In other words, social networking sites have emerged as instrumental channels for a growing number of women of all ages. These sites play a particularly important role for women who are making health, nutrition, and eating choices. While they look to professionals to provide them with accurate diagnoses and information

about prescription drugs, they turn to social sites for support related to weight loss or gain or quitting smoking, and for sharing tips during pregnancy. In addition, the social Web is an important resource for empathy and advice around lifestyle concerns such as balancing family and work, managing stress, and caring for an aging parent.<sup>8</sup>

Today, women of all ages are balancing work, family and social engagements. With more economic independence and increased diversity in life courses, they are seeking information and emotional support from a broad network of people.

**FIGURE 2:**

Percentage of women social networking site users in 2008 and 2010



SOURCE: PEW INTERNET AND AMERICAN LIFE PROJECT

## PROLIFERATION OF CONNECTED AND SMART TECHNOLOGIES

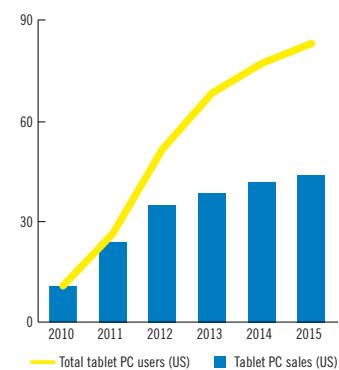
A rapidly growing ecosystem of smart, connected, and mobile tools and technologies is enabling people to access information and media, and connect to their social networks, anytime and anywhere. As of early 2011, 85% of adults in the United States own cell phones, and 59% of adults access the Internet through their cell phones.<sup>9</sup> Although rapidly growing in popularity, a smaller percentage (24%) of adults are using mobile applications on their phone.<sup>10</sup> What's more, in a few years, uptake in digital tablets is projected to spread quickly. The independent technology and market research firm Forrester Research expects that 82 million people, or one-third of U.S. online consumers, will be using a tablet by 2015.<sup>11</sup>

Younger generations are more apt to use location-based services, such as Foursquare, and mobile applications for easy access to websites like Facebook. Assuming similar diffusion of tech-enabled behaviors, it's reasonable to anticipate that adult smart tech users will soon be experimenting with location-based services and mobile apps. Already, hundreds of location-based and mobile apps cater to women looking for digital support to make better decisions about

**FIGURE 3:**

Projected Tablet Users

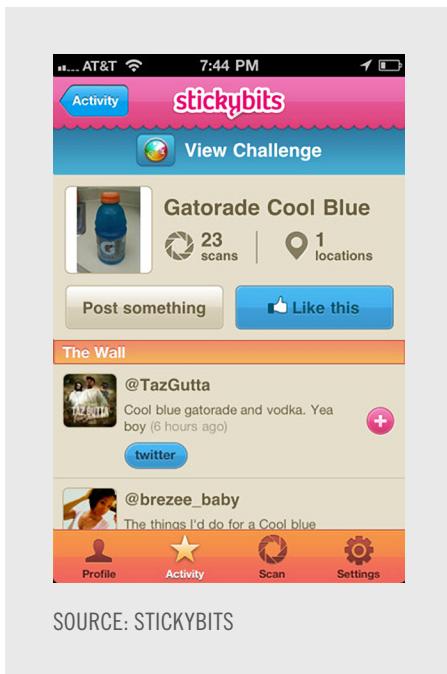
2010-2015



SOURCE: FORRESTER, 2011

food purchasing, nutrition, health, fitness, and relaxation. Whether seeking information about the sourcing and production of food, or about calorie tracking, fitness, and yoga instruction, or about sleep monitoring and healthy pregnancies, the explosion of mobile apps will provide greater access to information and social support, anytime and anywhere a woman needs it.

Technology innovation is also increasing the amount of information a consumer can access at the point of purchase. New technology standards, such as near-field communication (NFC), along with radio-frequency identification (RFID) tags and Quick Response (QR) codes are making it easier to trace individual products, and engage in mobile payments. In the aisle of the grocery store, a



SOURCE: STICKYBITS

consumer can learn the history of a product, including how the ingredients were grown and how the food was processed and shipped, and get a more detailed description of the brand. She can learn how the workers or farmers are treated and the environmental standards of the company. The company itself may provide the information, or some

of it may come from third parties. With the stickybits mobile app, for instance, iPhone users can scan the bar code on products and explore the information that emerges, from reviews to discounts to, in the case of food, recipes.<sup>12</sup>

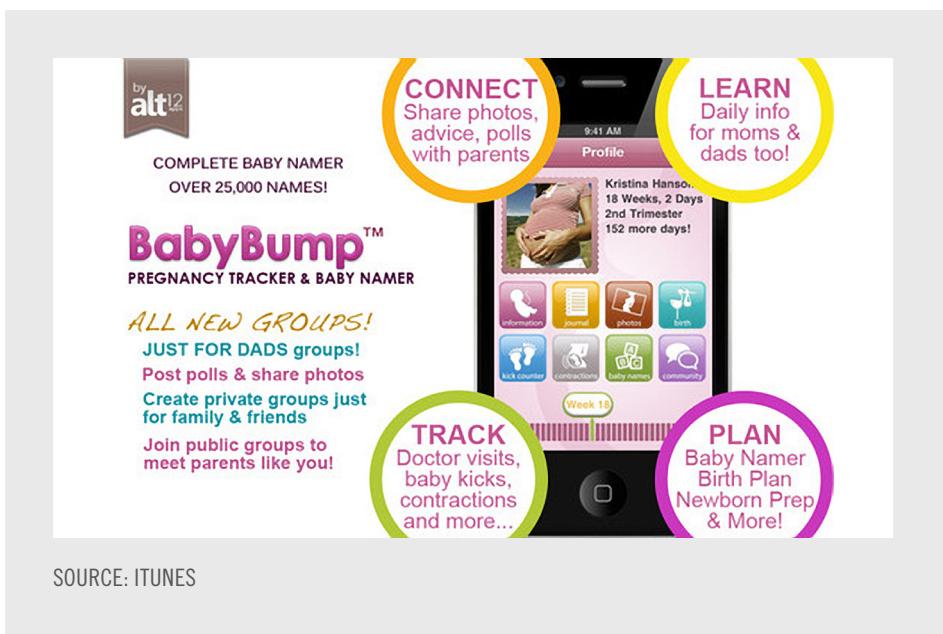
Micro-blogging services such as Twitter are also allowing brands and companies to interact more casually and regularly with their consumers. Brands and retailers can release real-time information about their offerings, and entice customers to make purchases by offering immediate discounts and specials. Conversely, consumers have a direct channel for communicating with brands and, more than ever, for broadcasting their approval or frustration with a certain product or service to the entire Twitter community.<sup>13</sup>

Other advances in visualization and simulation technologies

***The smart and connected, lightweight technologies that more women increasingly have at their fingertips are, quite literally, making the invisible visible for them.***

are changing the way that health information is displayed and communicated. In the next decade, more gadgets and devices will have sensors embedded in them, enabling people to collect data about the conditions around them and immediately understand the impact the environment may have on their physical or psychological health. In addition, the increased availability of personal simulation technologies will allow more people to preview their future health and physical appearance based on genetics, environment, and lifestyle choices.

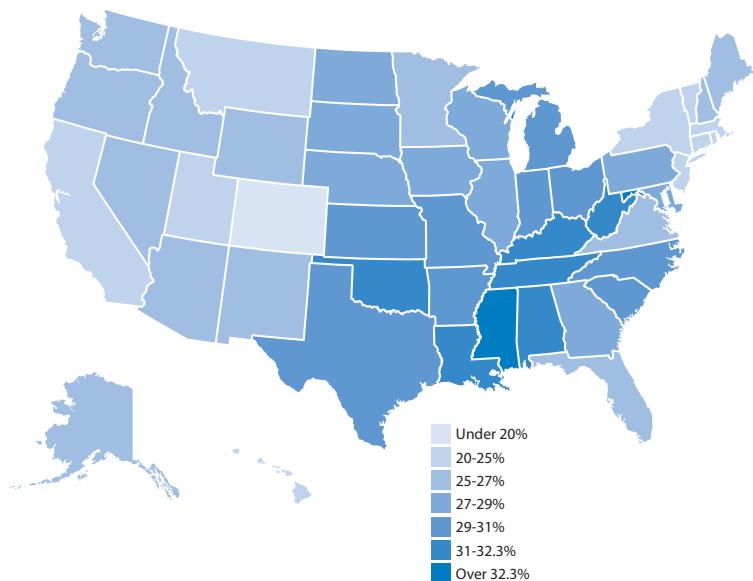
The smart connected, and mobile technologies that more women have at their fingertips are, quite literally, making the invisible visible. In the grocery store aisles or while snacking, women are using these tools to get more information about



SOURCE: ITUNES

## FIGURE 4:

Percentage of Obese Adult Population, 2011



SOURCE: OBESITY 2011 MAP, CALORIE LAB

food choices and to better gauge the impact the food they choose is having on their bodies and minds. With more knowledge about the manufacturing, packaging and ingredients, they are also learning more about the impact their food choices have on the environment. The higher level of transparency provided by these new devices will reshape decision-making at the point of purchase and create more precise and personalized feedback loops around nutrition and health.

## IMPROVING HEALTH FOR ALL

Many women enjoy good physical and mental health. They have access to nourishing food, good medical

care, strong social ties, and reasonable levels of financial and physical security. Some women benefit from inheriting resilient genes, and some practice good health behaviors — they do not smoke, they wear their seatbelts, they make healthy food choices, and they exercise regularly.

Unfortunately, however, a large subset of the population is managing some type of health condition, as evidenced by skyrocketing rates of obesity, unprecedented numbers of people being treated for depression and anxiety, and the growing number of middle-aged Americans diagnosed with a chronic illness such as heart disease, cancer, or diabetes. Add to that the older population and the challenges as-

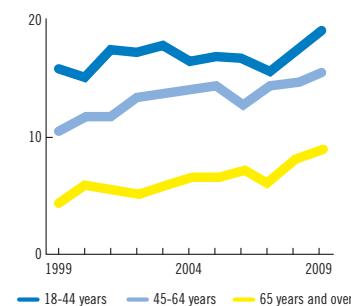
sociated with aging, and it becomes clear that most people are not experiencing optimal health — and many are at risk for a health condition down the road, due to their genetic profiles or behavior and lifestyle choices.

Women constitute an increasing percentage of those people experiencing poor health. Sixty-four percent of women, age 20 and older, are overweight, and 35% are obese.<sup>14</sup>

Compounding these troubling rates of obesity, less than 20% of American women from age 18 to 44, and even fewer over age 44, participate in enough aerobic and muscle-strengthening activities to meet the 2008 federal guidelines.<sup>15</sup> Further exacerbating the problem,

## FIGURE 5:

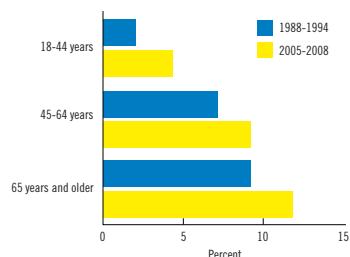
Participation in aerobic and muscle-strengthening activities to meet the 2008 federal guidelines



SOURCE: CDC/NCHS, NATIONAL HEALTH AND NUTRITION SURVEY, 2010

## FIGURE 6:

Female Adults Reporting Prescription Antidepressant and Anti-anxiety Drug Use in the Past Month



SOURCE: CDC/NCHS, NATIONAL HEALTH AND NUTRITION SURVEY, 2010

the guidelines may not even be enough to prevent weight gain as women age. The guidelines recommend 2.5 hours a week of aerobic activity (plus a couple of days of muscle strengthening each week). Yet, recent research indicates that middle-aged women actually need to work out closer to one hour a day in order to prevent weight gain.<sup>16</sup>

In addition to the known culprits affecting women's health, the disease burden is expanding with improved understanding of chronic pain, and its effects on people's physical and mental functioning and their quality of life. Joint pain, which in 2009 affected 30% of adults in the United States, is only one cause behind chronic pain.<sup>17</sup> An estimated 50 million American women live with neglected chronic

pain conditions.<sup>18</sup> Conditions such as chronic fatigue syndrome, endometriosis, fibromyalgia, interstitial cystitis, irritable bowel syndrome and temporomandibular disorders, all produce debilitating pain and all disproportionately affect women.

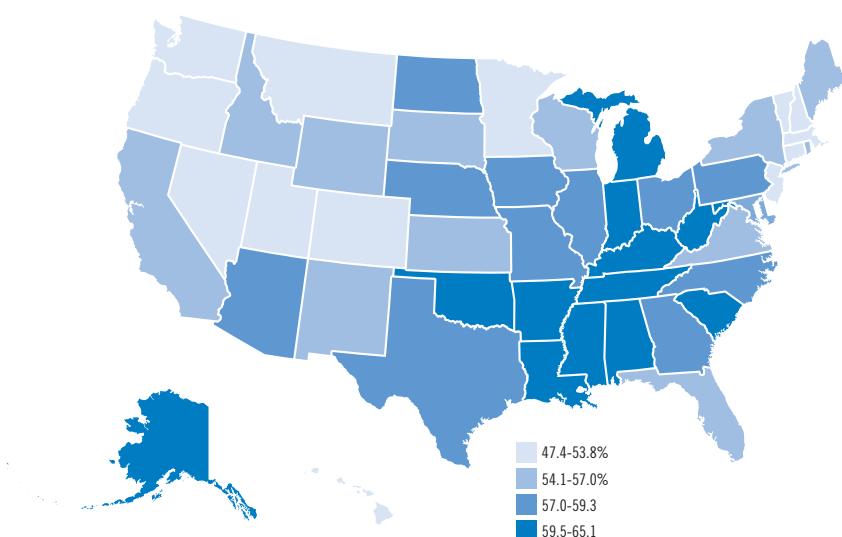
Finally, increased awareness and improved diagnostic tools are uncovering the central role that good mental health plays in overall health and well-being. At the same time, a concerted effort to diagnose mental disorders is revealing the high number of Americans experiencing anxiety and depression. It is now estimated that approximately one-half of Americans will have a serious mental health condition over their lifetime, with almost

30% experiencing an anxiety disorder and 17% having a major depressive disorder.<sup>19</sup> Women are 60% more likely than men to experience an anxiety disorder.<sup>20</sup> The use of antidepressants and anti-anxiety drugs is on the rise; women are twice as likely as men to report taking antidepressants, with many of them between the ages of 45 and 64, and are more than twice as likely to disclose the use of anti-anxiety drugs.<sup>21</sup>

Many women in the United States will continue to experience good physical, social, spiritual, and psychological health. Without engaging in better preventative lifestyle and behavioral health choices, however, many women face a future

## FIGURE 7:

Percentage of Obese Female Adult Population, 2011



SOURCE: KAISER FAMILY FOUNDATION, 2010

*“The ‘average’ U.S. caregiver is a 49-year-old woman who works outside the home and spends nearly 20 hours per week providing unpaid care to her mother for nearly five years.”*

*Source: National Alliance for Caregiving and AARP*

of suboptimal health. Irrespective of their health status, women will be looking for snacking choices that prevent and remedy undesirable health conditions and provide comfort and nurturing in a way that supports and enhances holistic well-being.

## CARING FOR THE CAREGIVERS

In the next decade, many women, already busy with careers and family duties, will become the primary caregivers for their aging relatives. With the elderly population — along with aging Baby Boomers — growing, and the number of people able to take care of them diminishing, caregivers will have a greater burden than before — and most of those responsibilities will fall on women.

Already, most of the people providing care — administering medicines, cooking, cleaning, driving to doctor appointments, and the like — are women (66%), many of whom are balancing paid employment with their caregiving

duties.<sup>22</sup> The additional burden of care that women will take on over the next decade will absorb a significant portion of their time. According to a 2009 study, caregivers today spend, on average, more than 20 hours per week providing care.<sup>23</sup>

In addition to the time pressures related to caregiving, there are clear financial consequences for caregivers. For women, the total individual amount of lost wages due to leaving the labor force early because of caregiving responsibilities is, on average, \$142,693, lost Social Security benefits total \$131,351, and lost pension contributions

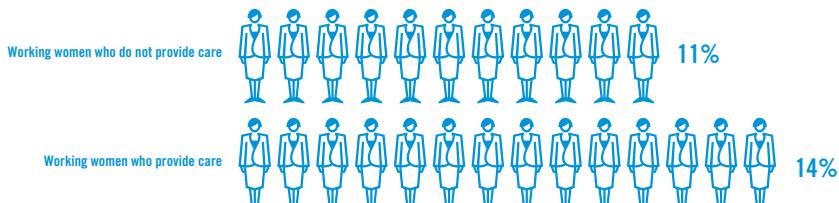
amount to \$50,000. In other words, the total cost impact of caregiving on the average female caregiver is almost \$325,000.<sup>24</sup>

Caregiving also takes its toll on women’s health. The physical tasks associated with providing basic care for an adult can negatively affect women’s physical well-being. Women aged 50 or older who work and provide care to a parent are more likely to report fair or poor health compared to those who do not provide care to a parent.<sup>25</sup>

The adverse health effects of caregiving are not limited to the physical health of the caregiver

**FIGURE 8:**

Percent of Workers in Fair or Poor Health, by Caregiving Status



SOURCE: METLIFE

but also encompass psychological health, with mental stress, anxiety, and depression affecting the quality of life for many caregivers. A 2006 report showed that “between 40 and 70% of family caregivers of older adults have clinically significant symptoms of depression, with about one-fourth to one-half of these caregivers meeting the diagnostic criteria for major depression.”<sup>26</sup> A more recent study revealed that almost 70% of family caregivers reported that caring for a loved one was their primary source of stress, beating out the economic downturn and other family health problems.<sup>27</sup> Also detracting from their well-being is the increased social isolation many caregivers experience due to the time and energy required to provide care.

The economic, emotional, and social costs to the female caregiver are becoming more apparent than ever. As women’s days become packed with even greater responsibilities, they will be looking for products and services to help them maintain their physical energy and enhance the moments of relaxation and escapism that are essential to their sense of well-being.

## **EXPANDED AND DIVERSE FOOD RETAIL ENVIRONMENT**

In most geographic areas, American women today enjoy a

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wide range of options for food shopping, ranging from large national chains that market good-quality products at lower cost to small, independently-owned retailers and farmers markets that sell local products grown and manufactured in distinctly different ways from mass production.

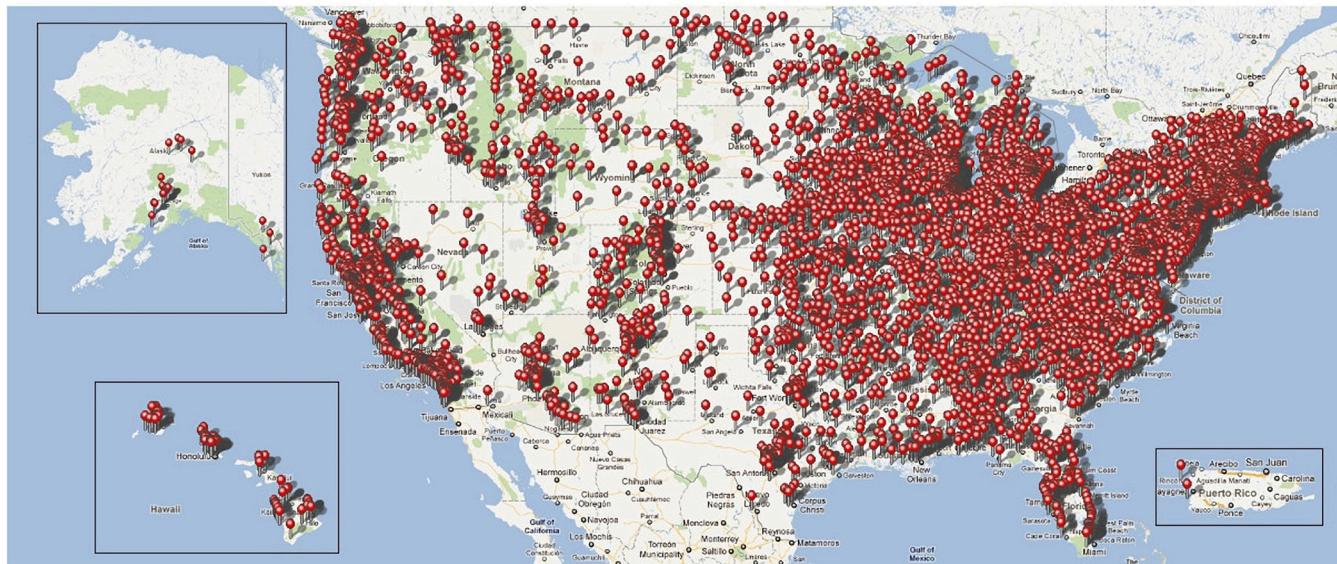
Farmers markets and community-supported agriculture have become popular choices for many urban shoppers. With 7,175 operating across the country, farmers markets are, as Deputy Secretary of Agriculture Kathleen Merrigan says, “a critical ingredient in our

nation’s food system.”<sup>28</sup> They enable more people to purchase foods grown and produced locally and to build relationships with local vendors. Farmers markets are also seen as community-enhancing resources. More conversations take place at farmers markets, both among shoppers as well as between shoppers and growers. A study conducted by the University of California’s Sustainable Agriculture Research and Education Program showed that the average number of social interactions is one or two per visit in a large grocery store, but 15 or 20 per visit at a farmers market.<sup>29</sup>

In addition to farmers markets, designers are rethinking food retail space to support the environmental and sustainable values of the community the store will serve. Independent, smaller grocers, as well as national chains such as Urban Lifestyle Safeway, Walmart Express, and Tesco’s Fresh & Easy, are building stores that cater to urban shoppers on foot or on bike. They are building welcoming pedestrian entrances that include walk-up coffee windows, outdoor seating areas, and ample bicycle parking spots. Small-scale grocery stores are also catering to the urban shopper by offering foods that reflect the preferences of the local community. For instance, Local D’Lish in Minneapolis puts a high priority on providing locally sourced products

## FIGURE 9:

National Map of Farmers Markets, 2011



SOURCE: USDA

and exceptional community service, and a store called in.gredients, soon opening in Austin, claims it will be “the first package-free and zero waste grocery store in the United States.”<sup>30</sup>

Nationally led policy initiatives to bring a wider selection of nourishing food to underserved areas are also reshaping the food retail landscape. The Healthy Food Financing Initiative, a partnership between the U.S. Departments of Agriculture, Treasury, and Health and Human Services, plans to spend \$400 million in 2011 to build new supermarkets in neighborhoods historically lacking the presence of a large commercial retailer. This initiative will also help con-

venience stores and bodegas carry more fresh vegetables and fruit. In theory, at least, these measures will reduce geographic inequities in access to healthy foods.<sup>31</sup>

The innovative experimentation in delivering food and fostering relationships around food taking shape across the country notwithstanding, the recent economic downturn has inspired more frugality in American consumers. High unemployment rates and economic uncertainty have driven more shoppers to the big-box retailers that can offer good quality products at more affordable prices. For many consumers, aspirations about eating and shopping a certain way — for instance, more local or more

organic foods, may be outweighed by the need to conserve spending.

Although the big-box retailers will continue to play a dominant role in food retail, over the next decade, the landscape of food retailers will expand to include new players and new business models catering to diverse values and attitudes around food purchases. People will have more choices to shop according to their values, to access products in bulk at lower prices, and to procure local foods grown organically. While some approaches may be more successful than others, it is clear that women will have increased choice when it comes to deciding where to shop for meals and snacks.

# BEHAVIORAL FORECASTS

*With shifting social structures, growing disease burden, additional caregiving responsibilities, expanding food and retail choices, and smart, connected technologies informing nutrition decisions, women in the future will insist and thrive on snacking.*

These behavioral forecasts were derived from multi-city interviews with a cross-generational sampling of women, as well as interviews with experts. We paint a picture of women's emerging snacking behaviors by overlaying this primary research on the external drivers identified in the previous section.

## THERE ARE SIX KEY BEHAVIORS EMERGING:

1. Adopting more lifestyle-appropriate eating patterns;
2. Eating with deeper enjoyment;
3. Finding ways to sort through the deluge of information about food and health;
4. Designing customized feedback loops for information and cues;
5. Preparing snacks more creatively;
6. Understanding bodies at a finer level of granularity.

# Adopting More Lifestyle-Appropriate Eating Patterns

## **FORECAST**

Women will be restaging their days, finding the most practically, culturally, and socially appropriate times and rhythms of eating in their daily lives.

## **LIFE COURSE / LIFE STAGE**

All generational bands, led by students (20-29), and “Empty-nesters” between 50-59 years old.

## **PACE OF CHANGE**

Fast

*Women find themselves skipping meals, grazing or constantly snacking, eating without distinguishing meals from snacks, and eating at dramatically non-traditional times.*

encouraged these new eating patterns; going forward, the patterns will be adopted by Millennials and Baby Boomers with even more diverse cultural backgrounds, schedules, and social needs.

Women most actively engaged in restaging the day tend to be both younger, falling into the 20-29 year old cohort, and older, falling into the 50-59 year old group. Younger women are busy in multiple activities that do not lend themselves well to eating at traditional meal times. Fitting eating into their busy schedule is the deciding factor for when and where they eat. Snacking habits are driven by the pursuit of food satisfaction, as well as staving off mood swings or energy lows due to hunger.

Busyness, however, and lack of foresight and planning often result in younger women having to choose from the snack options in front of them. A poor selection of nutritious options means that they often don’t make the optimal choice. Older women, particularly those who were once preparing meals for a family and are now eating more by themselves, are increasing their consumption of snacks and decreasing meals. Getting enough nutrients while watching the calories

Who has time to eat three meals a day or can eat meals when they are “supposed” to be eaten? Meals are culturally important — people are taught about them in schools, and they are the major metaphor currently framing nutritional advice — but for a number of reasons, many women are less able or less inclined to eat exactly three meals a day or eat at prescribed times of the day. Women find themselves skipping meals, grazing or constantly snacking, eating without distinguishing meals from snacks, and eating at dramatically non-traditional times. These restaged patterns of eating are being shaped by the requirements of caregiving, second jobs, and the general busy lifestyle that comes with juggling childrearing and careers. With so many tasks threatening to consume every minute, most eating — but especially snacking — occurs in transitions between tasks, often on the go. Over the past several decades, food makers and marketers have enabled and

drives the snacking choices the older cohort of women are making. They tend to have more time and flexibility in their day, and many choose to prepare their own snacks at home.

## ***Everyday chaos***

Everyday life is chaotic. Whether she is a mother juggling her own needs and commitments with those of her children, a young woman dealing with school or a job (or juggling both), or one of the growing number of American women caring for an aging or ill family member, a woman's daily rhythms can be unpredictable and easily disrupted by the needs of others. Americans already spend the least time preparing food among residents of wealthy nations (about 30 minutes a day) and the third-least time eating it (74 minutes).<sup>32</sup> And time is a more precious resource than money to Americans, in that working full-time or being a single parent has more of an impact on the amount of time spent preparing food than household income does.<sup>33</sup> With so many constraints on their time, it is not surprising that women have turned to more distributed forms of eating.

Sensitive to these pressures, increased choice in snacks has amplified the practice of having "eating occasions" in place of regular meals. From 2006 to 2008, the time people spent in "secondary eating" — eating outside of breakfast, lunch, and dinner, while doing other activities — doubled from 15 to 30 minutes.<sup>34</sup>

*From 2006 to 2008, the time people spent in "secondary eating" — eating outside of breakfast, lunch, and dinner, while doing other activities — doubled from 15 to 30 minutes.*

## ***Meaningful meals and meaningful snacks***

Despite their busy days, many women still view meals as important moments for connection during their day, even if they are no longer something they can prepare and sit down for three times a day. Access to high quality produce from farmers markets and the popularity of cooking shows have spurred interest in meal preparation and cooking, particularly in young adults. Michael Pollan noted in his essay "Out of the Kitchen, Onto the Couch," while Millennials and Gen-Xers may be enchanted with the romance of meaningful meals and may idolize celebrity chefs, the time they spend cooking and even their basic cooking skills lag far behind these intentions.<sup>35</sup> Although they praise meals in theory, young people are still likely to snack more — and they are also likely to gain more social meaning from snacking. A recent study found that Millennials tend to eat with their friends whereas older generations eat more with their families, and that they eat twice as often as non-Millennials at non-peak hours in restaurants.<sup>36</sup>

*"I'm skipping that early morning*

*[breakfast] I think just because it's a little too hectic."*

*Source: 43-year-old mother of three, Denver*

*“From 6:00 – 9:00 p.m. I’m in school. After that, I’m commuting back home. I usually get home around 10:30 p.m. I’ll eat. In between I’ll snack or have lunch. I watch TV. I’ll take a nap for a couple of hours. It’s not even a full sleep, that’s why I call it a nap for three hours. Wake up, do a little bit of my paper, eat, snack or whatever, go back to sleep for a little bit and then wake up and keep on working. “*

*Source: 27-year-old college student, NY*

Over the next decade, American women, older and younger alike, will increasingly be seeking eating situations that strengthen ties of friendship. This trend will be true for Baby Boomers as their life courses change over the next decade, from swelling numbers of empty nesters to more time thanks to retiring from paid employment.<sup>37</sup> And, as anthropologist Dr. Nancy Chen forecasts, “Younger Americans will also be more diverse over the next decade — expect cultural attitudes to shape new eating occasions and de-emphasize some meals as well.”<sup>38</sup>

The role that drinks play in American snack offerings is a point of contention among experts, media outlets, and the women interviewed in this study. Whether from alcoholic beverages, soda, smoothies, or coffee drinks — an increasing body of public health advocates see a need to inform women of the empty calories many drinks offer.<sup>39</sup> While the disparate perceptions of drinks as snacks (or not) will continue to clash over the next decade, in the day-to-day lives of

the women interviewed, beverages were part of the restaging of their daily rhythms of eating meals and snacking — bolstering their energy, giving them satisfaction, offering a brief escape from their busy lives. As beverage offerings from the food industry seek to fulfill more social and nutritional needs, this debate will only heat up in the future.

### **In conclusion**

Women are no longer forcing their days to accommodate traditional eating patterns, but rather are choosing to snack at times that are most appropriate for them. Responding to the everyday chaos and unpredictability that stems from balancing work and school and caregiving duties, women are looking at time devoted to snacking as their own personal time. They value their snack time immensely — whenever it may be — and view it as a way to escape, rejuvenate, and enjoy being with friends.

*"I usually get a vitamin or protein boost put in it and then I feel like I'm getting the fresh fruit that they're mixing right then and I'm drinking it instead of a juice box or something that's been preserved. And I feel full and I feel like it's a real treat to stop somewhere and get it. And also I get the big one and it's, I mean, it's huge, so it's a big snack."*

*Source: 38-year-old mother of two, Denver*

## BRINGING THE FORECAST TO LIFE

Kayla munches absentmindedly on an apple. At 22, she has a full plate between classes, studying, interning at the student health center, and trying to make time to maintain relationships with her friends and her 54-year-old mother. So, the truth is, she eats when she can. Her roommate is out at class or partying most of the time, so the only real homecooked meal she eats is Sunday dinner at her mom's place a few hours away. It might be the only real meal her mom eats, too; after Kayla moved out she's hasn't seen the point of cooking for one. When she wakes up at 4:00 a.m. to study and has a snack, is that breakfast? Or is breakfast what she eats after her 8:00 a.m. class gets out? Kayla's all but given up keeping track, settling instead for making sure to snack before she gets too hungry, trying to eat healthy snacks primarily to keep her weight down, and attempting to get a few fruits and vegetables in her body each day. All-veggie smoothies are her favorite snack to combat her afternoon drowsiness through chemistry lectures, but they aren't the cheapest option, so she only indulges in one a

couple of times during the week. Every once in a while, she'll try to plan ahead to make sure she has healthy snacks to eat stashed for the week. Inevitably, however, she'll get caught up in school projects and end up selecting from the vending machine outside the library. Kayla's kept on her freshman 15 and then some, and she often wishes she could see a point in the future where she would have more time to focus on losing the weight by eating better and working out more. But, for now, spending time to make home-cooked meals or go to the gym more than once or twice a week seems out of the question, as does giving up going out with her friends for late-night tacos, the one social thing she does. She's hopeful that between earning her undergraduate degree and starting medical school, she may be able to take better care of herself, but she knows that once she starts school again, her schedule will be just as hectic as it is now. Kayla thinks that once she is in her 30s she'll eat proper meals each day, but right now, snacks are the more realistic choice.

# Eating with Deeper Enjoyment

## FORECAST

Women will experiment with practicing mindfulness and adopting a more holistic view on eating and snacking, so that making healthy choices will become more intuitive and instinctual.

## LIFE COURSE / LIFE STAGE

Women in their mid-30s through their 50s, post-dieters, and those without diet-related health conditions.

## PACE OF CHANGE

Medium

foods have on their bodies and their minds tend to be evolving from a phase where they were extremely restrictive in their eating. Many of today's intuitive eaters experienced physical discomforts or a mental health condition of some kind — headaches, stomach pains, digestive issues, lethargy, depression, anxiety — that were difficult to diagnose. They saw numerous specialists and experimented with strict diets, until they were finally able to determine cause. During this time, they derived little joy from eating. Others were serial dieters, trying out whatever diet was in fashion, and they often chose snacks based on their caloric value.

Today, women exhibiting the values and behaviors behind eating with deeper enjoyment tend to be in their mid-30s and older. They focus on maintaining a balanced diet — eating healthy, wholesome foods, while enjoying indulgent snacks from time to time. They feel a sense of relief from letting go of all of the feelings of anxiety surrounding food. Although snacks are generally eaten to sustain their energy levels and health, snacks motivated by the need for a moment of escapism and relaxation are highly valued by these women. They see the larger health benefits that come these brief moments of escapism, and they place a high value on the pleasure of tasty foods.

While women between the ages of 50-59 demonstrate important aspects of building intuition, they are less likely to indulge in tasty snacks that are high in calories, sodium or saturated fats. Either due to an elevated risk for a disease or a noticeable change in their metabolism, these women have determined that they cannot eat the same types and amount of foods that they once could. That said, they are not reverting back to the yo-yo dieting practices of their younger days. Rather, they are using their intuition to identify

After years — decades, even — of eating de-calorized foods and re-engineered indulgent treats, a growing number of women are seeking out simplicity and even joyfulness in eating by intentionally bringing mindfulness and awareness to their snacking habits. They are learning to interact with their bodies and minds to better understand their biological rhythms and metabolic needs. Rather than follow a structured, predefined diet, they are working to snack more intuitively and deliberately; they are basing their eating habits less on prescriptive dietary choices and more on being present and fully aware of what they are eating while they are eating it. As a result, their decisions become easier to make, and their pleasure in eating increases.

Women who have turned their attention to understanding more intuitively the impact that different

the nutritional ingredients their bodies are craving, and using their willpower to avoid the unhealthy indulgent snacks.

## ***Rejecting de-calorization***

The confusion around labels and optimal food choices for snacking is, in part, the result of enormous efforts to turn all pleasurable, indulgent treats into healthy food choices. Low-fat cookies, zero-calorie soda drinks, and fat-free ice cream, to name only a few, have complicated women's understanding of what constitutes a healthy snack, and have contributed to their unawareness in eating. As UC Davis professor Carolyn de la Peña explains, "Rather than having something sweet now and then, and letting the body take the calories in, use them, burn them, and then later having something sweet again, it's become normal to have sweets (without calories) all the time."<sup>40</sup> Low-calorie treats have allowed women to snack continuously but not necessarily deliberately. Tired of snacks that are high in artificial ingredients, women want to return to simple foods. Being present and mindful of what they are eating while they are eating it is emerging as an important value to women.

Women are, of course, still eating indulgent snacks. They feel that at least some pleasurable foods ought to be indulgences kept separate from health snacks.

A brownie, for example, should include all the ingredients that make it delicious — and mindful eaters are interested in eating such occasional treats with pleasure during the moment. Dr. de la Peña encourages women to rewire their minds to believe "that food pleasure is good," but that "food pleasure produces physical consequences, and we cannot have pleasure all the time."<sup>41</sup>

## ***Rejecting nutritionism***

Women's burgeoning mindfulness in their eating habits has been influenced in part by Michael Pollan's 2007 watershed article "Unhappy Meals" in the New York Times Magazine. Pollan introduced a mainstream audience to the drawbacks that have emerged from the rise of nutritionism over the last 30 years.<sup>42</sup> He argues that relying solely on information about individual nutrients has led people to make poor decisions relating to nutrition. Promoting a more ecological approach to eating, Pollan recommends that to be optimally healthy, people should follow this simple advice: "Eat food. Not too much. Mostly plants."

Medical experts are tending to agree with him, such as University of Wisconsin cardiologist James Stein, who advocates, "People should be getting nutrition from real foods, not from foods that are artificially modified to give supposed health benefits."<sup>43</sup>

*"I feel like when I crave things, and when I'm like so in love them, I feel like it's because there's like some sort of nutrient — and I don't know what that nutrient is — that my body just needs and wants — because I get obsessive about stuff."*

*Source: 39-year-old mother, SF*

Over the next decade, women will also face the task of distinguishing foods that may have a similar nutritional profile but have been processed dramatically differently. Today, processed foods are generally lumped into one category, but in the future they will all be scrutinized more closely — even those claiming to be healthy. A growing number of experts, notably Brazilian nutrition expert Dr. Carlos Monteiro, are arguing that there is a gradation of processing, from unprocessed or minimally processed foods (which do not change the nutritional properties of the foods) to the ultra-processed (which deplete nutrients and provide little more than calories and salt).<sup>44</sup> New labeling

strategies may help consumers better differentiate processed foods, with more women making the simpler decision to choose foods with the least possible amount of processing.

### ***In conclusion***

Bringing mindfulness and pleasure back into snacking is propelling more women to turn to whole foods, seek healthier processed foods and adopt a more instinctual approach to eating. They are working to remove the feelings of guilt and remorse so often equated with snacking, by focusing on eating with more intention and awareness and with less criticism and judgment.

*“Finding balance and not having guilt about it and not eating — and just eating whole foods. I mean really, when it comes down to it, that’s really the way we were meant to eat.”*

*Source: 39-year-old mother, SF*

*“The most important factor now, when considering food, nutrition and public health, is not nutrients, and is not foods, so much as what is done to foodstuffs and the nutrients originally contained in them, before they are purchased and consumed. That is to say, the big issue is food processing — or, to be more precise, the nature, extent and purpose of processing, and what happens to food and to us as a result of processing.“*

*Source: Dr. Carlos Monteiro*

## BRINGING THE FORECAST TO LIFE

Donna smiles serenely around her brownie. She spent over a decade trying everything possible to get her anxiety and digestive problems under control, and at the age of 42, she's finally found balance and peace with her own eating rhythms. It wasn't easy though, and after intense cleanses and years of strict diets, she just can't deny herself really tasty food anymore. She's let go of the stress and is trying to learn to trust her own intuition, and see the pleasure she takes in eating as the most important health benefit her snacks can give her.

Her part-time job as a publicity manager for local non-profits and her craft store on Etsy let her work at home and structure most of her time however she sees fit. She takes full advantage of this flexibility and finds time throughout the week to go to yoga, work on her crafts and connect with friends. During the day, she snacks to mark

transitions between tasks, to satisfy cravings and to enjoy whatever messy, delicious fruit is most in season at the moment. She cooks dinner for her husband when he gets home from work, but she's often too full by then to really eat much. This weekend, Donna and her husband will visit her in-law's house. Most of the time will be spent in front of the television, watching football. Donna's mother-in-law will repeatedly offer her diet sodas, low-fat potato chips, and low-cal desserts. It won't be easy for Donna to turn down the snack choices mostly because she finds football boring and the snacks will seem like a happy distraction. She will do her best to avoid mindless snacking, but she won't beat herself up too badly for what she eats over the weekend. She knows that so long as she makes good choices most of the time, she'll be just fine.

# Finding Ways to Sort through the Deluge of Information about Food and Health

## FORECAST

Inundated with often confusing and sometimes conflicting information about health, nutrition, and sustainability, women will build networks of trusted resources to navigate the complex information maze so that they can make the best snacking choices for themselves and their families.

## LIFE COURSE / LIFE STAGE

Women of all ages engaged in motherhood, caretaking, and/or managing diet-related health conditions.

## PACE OF CHANGE

Fast

## QUESTION:

"What makes you want to eat natural and organic foods?"

## ANSWER:

"The health benefits. I want to get away from things that are so — I don't know. I feel like we're living in such a processed society."

Source: 27-year-old student, NY

Increased transparency in how food is cultivated, produced, and packaged is unleashing a barrage of information that women must sort through to make snacking decisions that are right for them. At the same time, advances in life sciences and nutrition sciences are expanding knowledge about how our bodies and minds work, and these discoveries are producing a tremendous amount of information regarding which foods are optimal for particular women. New players are operating as information brokers in the health and nutrition environment, offering their own opinions and advice to women trying to navigate the complex information ecology.

The attitudes, values and behaviors driving the trend will be exhibited most in caregivers and nutritional gatekeepers of all ages, and in those managing a diet-related chronic illness. Many women engaged in this trend did not grow up in families where the role food plays in one's health was discussed often. Therefore, they did not think much about food beyond taste, price and convenience until a child or an illness came into their lives. Their interest in finding trusted, reliable information is because they are looking to identify snacks that provide the nutrition they (or a family member) need.

Those engaged in this trend place a higher value in how food is made, and they will spend time reading labels. Mothers desire to protect their children from what they see as harmful chemicals and unnecessary additives. They favor products that are certified as organic because they view them as more trustworthy, and steer clear from foods that have been genetically

modified, or highly processed. And, women managing a chronic health condition are more attuned to the effects different foods can have on how they feel. As a result, they read the contents of a snack carefully, looking out for ingredients, such as gluten or wheat, that they feel trigger poor health for them.

## **Proliferation of claims on labels**

Labels on packaged goods, and even on fresh produce, are crowded with promises of health benefits, nutritional claims, and assurances of the producers' environmental stewardship. Health claims are so common on food products lately that, according to Forbes, "it can be hard to tell a supermarket from a pharmacy."<sup>45</sup> Although many women interviewed did not seem confident in their definition and distinction of terms such as "natural" and "organic" many did look for terms on labels. Complex and often confusing claims have created deep mistrust between the consumer and the producer; the consumer may still buy the product but will question if the information printed on the label is honest or factual. With the exception of local brands and smaller values-driven companies, women tend not to rely on the information printed on a label to be honest or factual.

## **New trusted authorities**

To find what they consider to be more reliable information and counsel regarding health, nutrition, and sustainability practices, women are turning to new trusted authorities. Large grocery retailers, such as Whole Foods and Safeway, are positioning themselves as health advisors by launching large initiatives that combine food provision with food education. New health-related rating systems, such as Whole Food's roll-out of Dr. Joel Fuhrman's Aggregate Nutrient Density Index (ANDI), are helpful for some women. ANDI, which measures nutrients per calorie, enables shoppers to rate and compare foods and make healthier choices.<sup>46</sup> Extending beyond its role as a information source, recently Whole Foods has launched membership-only Wellness Clubs. For monthly payments (and a one-time fee), members can receive 10% off on a wide variety of healthy foods, attend classes on nutrition, cooking, and healthier lifestyle choices, and enjoy other benefits to enhance well-being.<sup>47</sup>

*"I feel like because it's a small store, everybody in there is very knowledgeable about nutrition, about their products."*

*Source: 38-year-old mother of two, Denver*

*“We’ve been doing the farmer’s market lately and you actually get to ask people what they put on it. What pesticides — anything, so you get to have a conversation with them, so I like to do that because especially when we’re making fruits or veggies or whatever, we know because we’ve had that conversation. I like that interaction.”*

*Source: 58-year-old expectant grandmother, Austin*

Women are also turning to nationally recognized food pundits, such as Marion Nestle, for clear direction. These experts have become instrumental in helping many women determine how to shop (what to look for on a label) and what to eat. Popular cooking shows and celebrity chefs have made learning more about food preparation and cooking more mainstream.

### **Confusing scientific findings**

The problem with the information printed on packaging is not just the difficulty of discerning its accuracy. The nutritional information itself is becoming more

*“I love those different type of cooking shows, like Top Chef is one of my favorite shows. I love the Travel Channel. They have a little cooking segment. Sometimes a natural chef will come on, and in the news they’ll talk about it. Sometimes they’ll do little segments on healthy foods and health benefits.”*

*Source: 27-year-old student, NY*

complex and more challenging to navigate. Scientists are learning more about how our bodies are affected by external factors such as the environment and stress, and how our metabolic systems respond to different ingredients and different environmental settings.

As promising as the scientific discoveries may be, they have yet to translate into actionable advice. Multiple studies are being released, at times with conflicting conclusions, leaving women uncertain as to what actions they should take. As a partial response, women are becoming experts in their own right and sharing the information they have obtained over the years.

*“[My] recent choice to do everything organic [came] mostly from TV, actually. Diane Sawyer told us all about the weird chemicals and people dying from being poisoned by grapes and we just don’t need to eat all that crap. More people like Dr. Oz would have actual nutrition stuff. Oprah’s done stuff on nutrition too.”*

*Source: 49-year-old professional, Austin*

*“And I just feel like I can’t talk to everybody about their health problems, you know, but I can blog. And if I make a difference to like one out of a hundred people that read it. And I think when people suffer something that’s so hard and they emerge from it, they want to help other people.”*

*Source: 39-year-old mother, SF*

They are using social media tools, such as Facebook and blogs, to communicate their findings, share best practices, and offer advice.

## ***In conclusion***

A mistrust of some food makers, a proliferation of health information and health claims, mounting concerns around higher-quality ingredients and processes, and a growing uptake in social media participation are propelling women to seek new authorities to guide them through the maze of information about food and health. Through trial and error, they are developing

filtering strategies based on peer-to-peer recommendations, trusted food vendors and trustworthy brands. For many women, finding ways to sort through the deluge of information about food and health is time-consuming and frustrating. However, in the future, they will streamline their behaviors around decision-making in snacking by relying on information, brands, and retail locations that, as a result of efforts over time, they have come to trust.

## BRINGING THE FORECAST TO LIFE

Tammy fidgets with her smart phone and nibbles on one of the brown rice crackers in front of her. She is a mother of two, and works full-time as a manager at a medical supply shipment company. Her busy life can only be described as “hectic,” and she struggles to take care of her own needs along with those of her family. She was diagnosed with gestational diabetes during her first pregnancy, and now at 35 is re-evaluating what she puts in her body to be the best role model for her children. She learned a lot about nutrition when she was first diagnosed, but her family never talked much about healthy food when she was growing up, and she is trying to find shortcuts to assure that healthy snacking habits are the obvious choice for her and her young children. Lately she’s been noticing more packaged foods targeting her needs specifically, but she doesn’t trust their claims. She tries to read studies about them but ends up more confused than when she started. Plus, they just remind her of her illness. Tammy hates when she snacks just to keep her blood sugar from crashing because she feels embarrassed and guilty for skipping meals, or whatever she did to let it get that bad. Some days a chocolate bar is the only solution to assuage both her blood sugar and her conflicted feelings.

This coming fall her oldest will start school, and she has been warned that the school cafeteria is generally where children tend to pick unhealthy eating habits. When she has time, Tammy goes to the meet-ups on “Healthy snacking for Young Mothers” that her local grocery store hosts. Both the store officials and other moms share good ideas during these meetings, but she usually double-checks their advice with the Mayo Clinic web site or somewhere official like that. She also finds it inspiring to watch video blogs of other women whose home and health situations are similar to hers. Not only do they talk about diabetes management and parenting, but they also share their beauty and fashion tips, and they are funny. She likes these videos because they are short and she can watch them on her mobile phone at work or while waiting for her children. More importantly, the information provided in the videos seems more authentic to her because she knows that these women are speaking from experience. It is funny for her to think that these often homemade videos made by women she doesn’t even know have become one of her most trusted resource in figuring out what to eat and what to feed her children.

# Designing Customized Feedback Loops for Information and Cues

## FORECAST

The ability to make the invisible visible will drive many women to expect to see, feel, or otherwise experience the effects of their snack selections.

## LIFE COURSE / LIFE STAGE

Younger women aged 20-35, athletes, tech-savvy urban professionals, and women managing diet-related health conditions.

## PACE OF CHANGE

Slow to medium

Younger women will be especially drawn to designing actionable feedback loops because they will assume that, just as is the case in so many other facets of their life, there must be a tech-enabled solution to boost their ability to eat a balanced diet without having to think about it too much. They like the idea of depending on embedded design and automated feedback loops to help them maintain portion control and ascertain that they are getting the right mix of nutrients that they need.

In addition to younger women, female athletes, performers and other women who recognize the value of effective feedback in behavior change are engaging in designing actionable feedback loops. These women are driven by a desire to optimize their bodies' physical capabilities, and they enjoy the precision and comprehensiveness of the new tracking and visualization tools. They like being able to make the connection between nutrition and performance. Finally, women managing an illness that seems to improve or worsen depending on diet also benefit from the ability to track and visualize food intake easily, so that they can draw conclusions about what they should and should not eat.

For women engaged in this trend, there is strong element of fun involved with the tracking of their eating practices. They enjoy seeing and sharing how their eating patterns, along with sleeping, drinking and exercising, affect different aspects of their lives. They often see this as a social experience, a way to share information about their own bodies, and learn from others. Some even value the competitive side of tracking. Participating in online game-like challenges motivates

Visual feedback loops are permeating many aspects of women's lives. New cars provide drivers with responsive information about gas consumption based on their driving habits, and the latest thermostats are designed to give more information about how people's day-to-day actions affect their energy bills. In other words, inexpensive sensors and easy-to-use simulation and visualization technologies are giving people more power to understand the true effects of their decisions. The feedback loops provide support in situations in which actions are small, but important, steps to big goals — steps such as going to the gym, resisting the urge to smoke a cigarette, or making a healthy food choice.

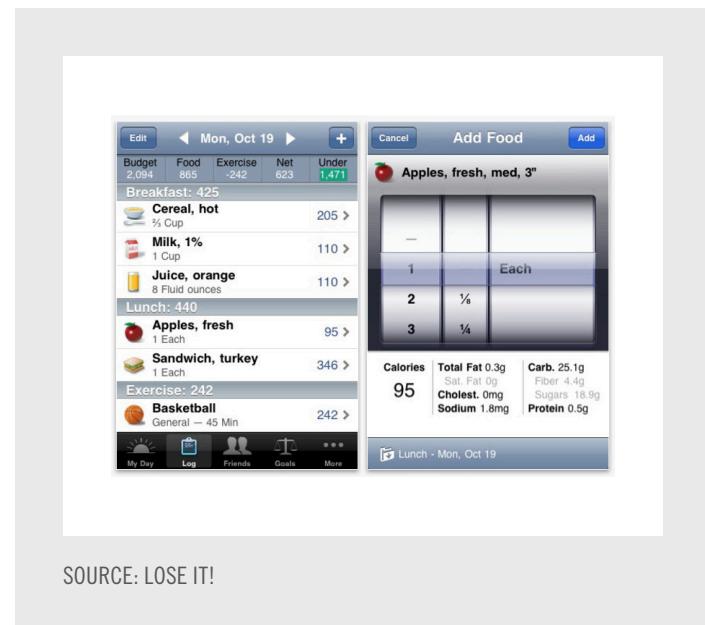
them to stick to their goals, and they enjoy using the data generated from the devices to measure progress and to compete with their friends and family.

*"The scales and I are not friends. I haven't been on a scale in a really long time because I get really mad when I can't make them move. So I just — I solved that problem by just kind of pretending they don't exist."*

Source: 43-year-old mother of 3, Denver

## Automated, streamlined support

Women are taking advantage of the customized feedback loops to help them meet their goals of personal improvement. They are leveraging new tech-enabled tools to garner meaningful support in making small but important steps to big health goals. A popular area of health-related mobile applications available on smart phones is weight management. New services combine peer support, data visualization, and automated encouragement to help users manage their weight. They offer extensive food databases, which facilitate the calorie translation of what users eat and drink, so they can keep better track of the total calories they consume. Similarly, the apps have calculators which track how many calories the user has burned while working out. Newer apps include heart rate monitors for exercise tracking and the ability to track meals by uploading a photo of the foods they are eating.<sup>48</sup>



SOURCE: LOSE IT!

Online services are also combining fitness with other motivations to help people reach their health goals. They are incorporating gaming principles to make eating sensibly and working out fun and meaningful activities. The Good Gym, for example, pairs runners with people who are less mobile in their area; people run to the more isolated person's house to visit or deliver something as part of their exercise regimen.<sup>49</sup> On the flip side of motivation, services such as stickK work as accountability engines, alerting the user's social network when she has failed to keep her end of the deal.<sup>50</sup>

Finally, location-based apps are helping women identify the resources near them at any given time and make decisions about where to shop and eat. The online services Eat Well Guide and Real Time Farms help users find out where the local farms are in the area and locate nearby farmers markets, farm stands, and restaurants. Having knowledge about the location and offerings of a wide selection of food retailers at their fingertips is allowing women to make more informed choices about where to shop and what to buy while on the go.

*They are intrigued and motivated to try the more upstream feedback tools that allow women to make proactive decisions that align better with their eating goals, in contrast with downstream, reactive forms of feedback like the bathroom scale, which too often produce only disappointment and regret.*

### **Asserting control**

Although feedback triggers related to food are not entirely new for women, many view existing tools, such as bathroom scales, as ineffective or antiquated. The bathroom scale is viewed by many as a blunt instrument that serves no purpose other than to depress them. So, they have terminated their relationship with it. They are intrigued and motivated to try the more upstream feedback tools that allow women to make proactive decisions that align better with their eating goals, in contrast with downstream, reactive forms of feedback like the bathroom scale, which too often produce only disappointment and regret. They see innovations in visual display as replacements for the traditional downstream feedback tools, and they are interested in receiving immediate and actionable feedback and subtle nudges earlier in the eating process.

To respond to the interest, experimentation in modifiable feedback loops is underway. Already, it's uncovering novel ways to support women with portion control. The design prototype Thrive Portion Ware is a set of a cups and plates, designed by Sally Ng, that offers visual feedback.<sup>51</sup> As Ng explains, "It works subtly and

subconsciously to enable people to eat and drink less. Plate will tip if user places food in the red zone. Control words are on back of plate so users will see 'restraint' or 'will power' every time they pick one up from a dish rack or cupboard."<sup>52</sup> For overweight women under medical care, a recent study indicated that a talking scale called the Mandometer could help them modify their eating habits. Connected to a plate of food, the Mandometer can verbalize instant feedback on how much food a woman is eating and the pace of her eating it, as compared to the amount and time recommended by her food therapist.<sup>53</sup>

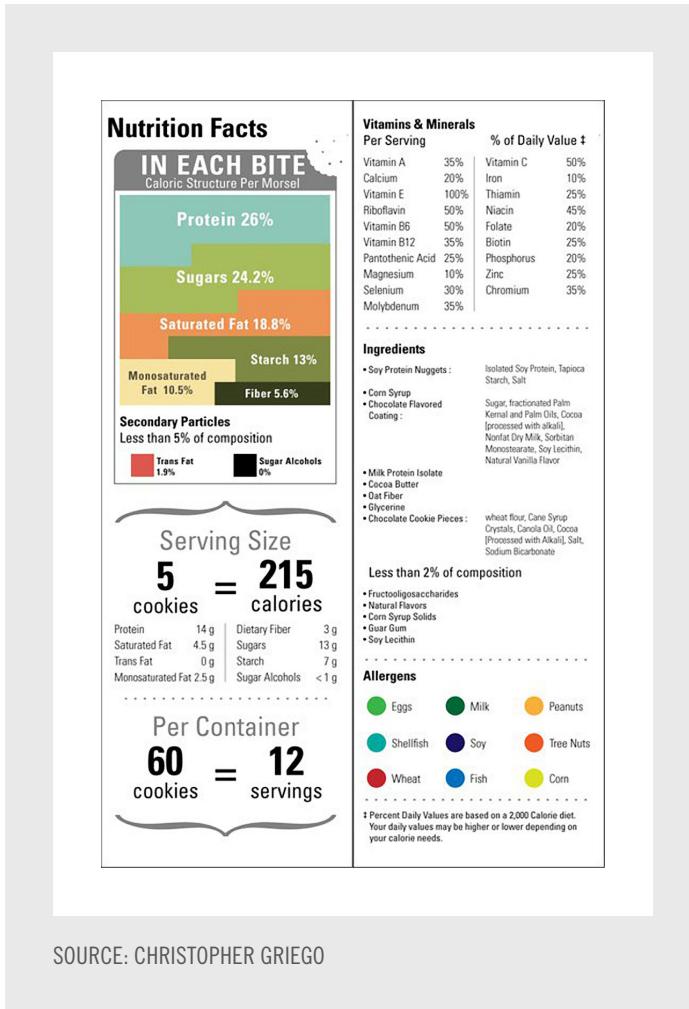
In addition to new, actionable feedback tools designed for women to assert control over her eating



SOURCE: TREND HUNTER STATIC

habits, experts argue that food companies need to continue to create packaging solutions that support portion control. In his book *The World Is Fat: The Fads, Trends, Policies, and Products That Are Fattening the Human Race*, expert Dr. Barry Popkin writes, "Until all food companies push clear calorie labeling

and have resealable bags and reusable containers that allow food and beverages to be consumed in smaller sizes, the fundamental idea of portion control won't gain traction.”<sup>54</sup>



SOURCE: CHRISTOPHER GRIEGO

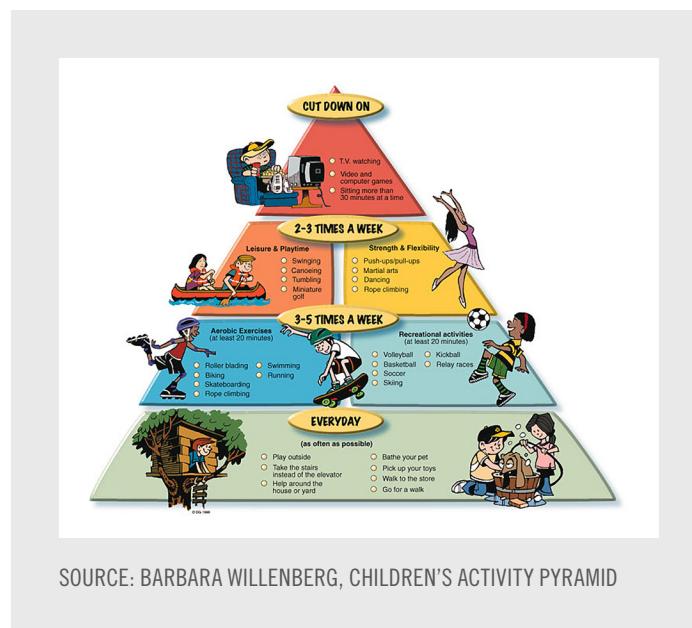
foodies, nutritionists, designers, and anyone interested, to redesign the Nutrition Facts Label. The objective was to simplify the information and make it more useful to people who want to eat “healthier, more nutritious and wholesome food.” Designer Joey Brunelle’s food label won high praise in the competition, in part because it recommended, based on that the total calories listed, whether the food item should be considered a snack or a meal.<sup>56</sup> In addition to a revamp of the nutrition label, novel visualizations of the U.S. Department of Health and Human Services guidelines for physical activity are helping women and families understand how much and what type of physical activity they should strive to accomplish.<sup>57</sup>

## Designed nudges

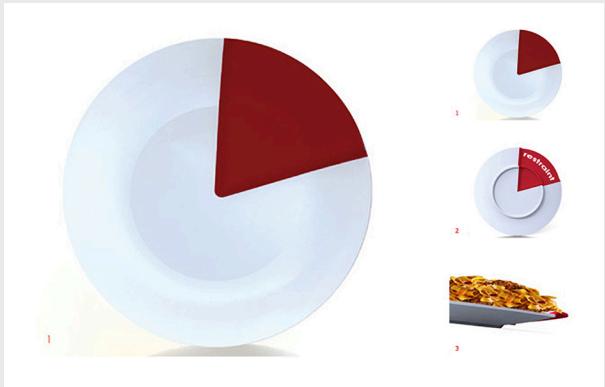
Along with the new mobile tools and apps that are rolling out, designers are reconsidering the built environment and consequently offering persuasive strategies to influence the decisions that people make with respect to health and wellness. Google’s cafeterias, for example, have been oriented to encourage people to make healthier food choices. Snacks, drinks, and foods prepared in the cafeterias are coded so that employees can easily identify which can be consumed anytime or

## Alternative metrics and labels

Designers argue that “the way information is represented visually influences how we navigate the world around us and how we make decisions.”<sup>55</sup> The words on food packaging, whether the description of the product or company or the nutrition label, have created the potential for consumer confusion. Experimentation in food labels suggests that over the next decade there will be more clarity and simplicity in the way the information is presented. A recently launched project called “Rethink the Food Label,” invited



SOURCE: BARBARA WILLENBERG, CHILDREN'S ACTIVITY PYRAMID



SOURCE: SALLY NG, THRIVE PORTION WARE

may be better enjoyed infrequently or rarely. The snacks in Google's vending machines are priced according to nutritional content: one cent per gram of sugar, two cents per gram of fat, four cents per gram of saturated fat, and one dollar per gram of trans fat.<sup>58</sup>

## *In conclusion*

More women will be using mobile, location-based apps and online services to count calories and track consumption of a variety of nutrients and water. They will be engaged in feedback loops that both bolster

their feelings of control and enable more social support in achieving their health goals. Later in the decade, they will be able to select food options that can show measurable results immediately. If a food label promises sustained energy, many will look to new tools to help them quantify their resulting energy level. They will also enjoy being able to pick snacks depending on whether they are craving something to fill them up, provide needed nutrients, taste good, and/or distract them from their present reality. So long as their food choices, along with an assortment of their behavioral choices, are being tracked, they will be able to see the larger picture about their health and their bodies, and, later, make changes if need be. Once they can see a sustained pattern of poor eating habits, they can depend on technologies to help make it more difficult for them to continue eating in the same way. Simply through awareness of the pattern and through designing feedback loops to help curb the behavior, women engaged in designing customized feedback loops for information and cues see the benefit of the new tech-enabled practices around monitoring their physical activity and diets.

## BRINGING THE FORECAST TO LIFE

Erin selects an almond from a line of them on a plate and bites down deliberately. She likes seeing her progress — and that holds for just about everything. She just turned 30, and works as a graphic designer in a large marketing firm. Her fiancé has an office job too, and they compare their pedometers every evening to see who got the most movement into a sedentary day. They compare running charts, heart rate graphs, and food journals too — all part of her system of self motivation that she's continually tweaking. Erin grew up surrounded by her mother's Weight Watchers' experience — points systems and weigh-ins — so calorie tracking is nothing new to her. But, she was certain that in this day and age, there were better resources out there to help her watch her weight. She never could keep counting calories for more than a few days, but she uses an app that, by simply snapping a photo of the food she is about to eat, can give her immediate calorie estimates. She likes to eat

foods that are easy to count and control, like nuts or carrots, and always brings her snacks to work and along with her on runs. Recently, she read in a health magazine about these new plates that were smaller, and had shapes for matching different portion sizes printed on them (they're supposed to subconsciously influence your feeling of satiety) and has convinced her fiancé to add them to their wedding registry. Lately Erin has been experiencing terrible headaches, so bad she can barely work and often just can't go out running. Her doctor thinks there might be some dietary trigger at work, and encouraged Erin to monitor her eating even more closely. She started using another app on her smart phone that makes it super easy to track her food intake and upload the data to an online database created and maintained by women who also struggle with migraines. By sharing both their data and their experiences, the women are working to keep their headaches under control.

# Preparing Snacks More Creatively

## FORECAST

Women will be experimenting with textures, customizing flavor, and tinkering with their treats, essentially creating combinations of food as an outlet of personal expression.

## LIFE COURSE / LIFE STAGE

Mothers and children, college students, foodies, millennials, DIY/makers

## PACE OF CHANGE

Slow

Curiosity and a sense of accomplishment are driving a small but growing number of women to experiment in the creation and customization of their snacks. The spread of tools that democratize food science and provide access to sophisticated processing options right in the kitchen will propel the creative capabilities of mothers, young foodies, and other women far beyond the world of home-baked cookies. On the one hand, the food industry's rush to provide customization options to meet this desire for personal expression will dramatically lower the barrier to true co-creation of complex foods; on the other hand, it will raise the bar for those women who want to increase the amount of novelty and control by applying a DIY approach to snack making.

Today, the trailblazers in DIY snacking are often participants in the larger maker movement. This younger cohort of women already co-create with brands to personalize t-shirts, shoes, and other

clothing accessories, so engaging with food brands seems like a natural extension for their creative expression. More extreme DIY snackers are interested in a wide array of activities that enable them to produce more of the goods that they and their family consume. They often grow vegetables, can and preserve fruits, and even keep chickens. They are college students, Millennials, or mothers deeply interested in owning every step of the process of making food. These women are often driven by strong sustainability values, whereas others engaged in DIY snacking are driven by a growing interest in molecular gastronomy. They find the science behind creating food fascinating, and they are eager to experiment and tinker with the new kitchen gadgetry that they contend will democratize food science and food making in the future.

## *Expected co-creation*

In today's connected world, American women's everyday snacking experiments are enhanced by peer-to-peer information and formal media sources such as blogs, magazines, and traditional TV sources. While there may be nothing new about consumer involvement in food preparation, (some would argue that this practice was substantiated when General Mills brand Betty Crocker offered its consumers the ability to add an egg, hence bolstering their customers' feeling of mastery and ownership of the final product), today's consumer offerings are of a whole different order. Co-creation is expected, making the stakes higher because the level of participation that women want to engage in is much more involved.

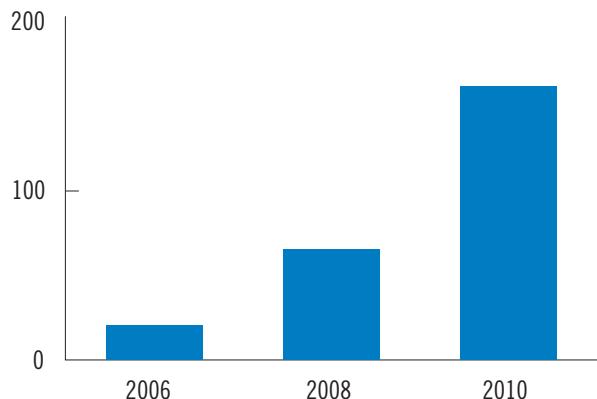
During the 2010 holiday season, companies inundated retailers and shoppers with offerings of personalized printed messages on everything from M&Ms to

*“I think the stakes are higher now to consider yourself an experimenter with food.”*

Source: Dr. Carolyn de la Peña

## FIGURE 10:

Maker Faire attendance 2006-2010



SOURCE: MAKER FAIRE

pants. By 2011, the San Mateo Faire had over 100,000 participants, and new Maker Faires have sprouted up in New York, Texas, Michigan, Kansas, Rhode Island, North Carolina, and Vancouver B.C., as well as several cities in the United Kingdom.

Do-it-yourself projects start with and are driven by curiosity about how things work and where they come from. The Maker Faire is sometimes positioned as an educational supplement, encouraging people of all ages to restore the curiosity sometimes not given due space to grow in formal science education. Over the next decade, the popularity of kitchen food science will grow, not only among college students and intrepid teenagers but also among mothers and daughters bringing the study of science back into the kitchen.

## *Democratizing alchemy*

Coming out of the movement of participatory tinkering and open-source hardware are technologies that could underpin a new generation of kitchen gadgetry as profoundly game changing as those that entered American kitchens in the 1950s and 1960s. Additive fabrication (3D printing) technologies are enabling people to manufacture just about anything with devices similar to desktop printers and with the precision associated with fine-tuned manufacturing.

Early experimentations, such as CandyFab 6000 which prints intricate shapes in sugar, are suggestive of what types of edible treats in fanciful shapes and texture combinations we may encounter over the decade. They also signal that, in the future, we may see snack choices that bear little resemblance to familiar snack foods. For example, the Sheets energy strips recently debuted by a group that includes LeBron James provide a burst of energy without the experience or the calories

Pringles, as well as myriad non-edible accessories.<sup>59</sup> Online mass-customization startups are proliferating, particularly in Europe. For instance, Chocri, the world's first “design your own chocolate bar” company, lets customers choose from four bases and more than 100 toppings, ranging from chili to candied rose petals and real gold flakes, and all the bars are handmade with fair-trade, organic chocolate from Belgium.<sup>60</sup>

## *Curiosity about ingredients, process and results*

In many ways, young American women's passionate ambition to learn to cook is a facet of a larger and rapidly growing movement to make things for oneself in general. While this movement is difficult to measure in market terms, the Maker Faire, as a flagship event of Make magazine, is a useful proxy. The event started in 2006 in San Mateo, California, with 20,000 partici-

*“I actually want to take cooking classes because I don’t really know how to cook...I can throw stuff in a pot together and it will taste okay, but I want it to be on some culinary chef status where everybody thinks it’s great. Bring this to the next party.”*

*Source: 27-year-old student, NY*

of eating or drinking.<sup>61</sup> Later in the decade, increased access to 3D printers will enable more co-creating of nutritionally personalized, perfectly proportioned snacks on demand.<sup>62</sup>

### **In conclusion**

The participatory culture between producer and consumer that is playing out in clothing manufacturing, music creation, and iterations of computer software, to name only a few areas, is entering into the world of women’s snacks as well. Though a nascent trend today, over the coming decade more women will expect snack products to be modifiable, customizable, and developed to their particular liking. They will, in other words, expect co-creation and customer involvement in all stages of snack production. And the most extreme DIY snackers — the foodies of the second half of the decade — will relish the opportunity to conduct their own food science experimentation, using tools once limited to professional kitchens and laboratories to invent, design, develop, and perhaps market their own snacks from the comfort of their own kitchens.



*“People will start doing it themselves, making artisanal food and sharing it with each other, bartering. It’ll be all beer made in a bathtub, going back to basics.”*

*Source: 39-year-old professional and mother, SF*

*“In ten years? I’ll be eating less junk food. And making more — like, do-it-yourself kind of stuff. My own jam, maybe I’ll start making my own yogurt.”*

*Source: 34-year-old professional and mother, SF*

## BRINGING THE FORECAST TO LIFE

Melinda pops a bright red cube into her mouth — a gelatin and strawberry concoction of her own design. She’s 25, an IT professional by day and intrepid molecular cook by night. Ever since she was a child helping her mother and aunts make jams and pickles, she has been fascinated by the incredible transformations people can make from simple ingredients. Growing up her favorite toy was her kitchen chemistry set. In college she joined a club for “food hackers,” and learned to use liquid nitrogen and agar gel, to powder, froth or aerosolize just about anything to get satisfactorily whacky (and hopefully tasty) combinations. She respects the chemical genius of packaged foods, but for her, the fun is in doing it herself. Now she and her friends peddle their tasty, oddly textured creations to anyone who will eat them — at Maker’s Faires, SXSW, Burning Man, wherever. For a while they had a stand at one of the underground farmer’s markets, before the public health department shut the whole thing down. They lease a space in a local restaurant, but many of their peers operate out of their home

kitchens, not exactly up to health codes. During crunch time at work she has to take a break from her DIY hobby to focus on her day job. Then she scales back to making only coffee and trail mix, for a while. But not everyone appreciates her home-brewed treats. She and her sister just got into a huge fight over snacks for a party at her niece’s school. Melinda’s sister asked her to pick up some snacks as a last-minute favor, some fun-sized packages of crunchies or the like. Melinda decided to share a batch of her newest creation a vegan non-dairy jello that tasted exactly like strawberry shortcake. The kids loved it, but the teacher was peculiarly nervous. When her sister found out she just started yelling about how there were so many kids with allergies, parents couldn’t even bring homemade cookies anymore; everything had to be packaged with labeled ingredients. None of the kids had any allergic reactions, but it remained a sore spot between Melinda and her sister.

# Understanding Bodies at a Finer Level of Granularity

## FORECAST

Increased genetic and biological information will bolster the growing concern women have about the heritability, neurological effects, and other downstream effects of food choices.

## LIFE COURSE / LIFE STAGE

Chronically ill; extremely health-conscious women; would-be pregnant women; pregnant women; especially older pregnant women.

## PACE OF CHANGE

Slow

Over the next decade, a growing number of women will have at least some access to high resolution views of their bodies and minds. As breakthroughs in genetics, epigenetics (the study of the chemical reactions that switch parts of the genome off and on at strategic times and locations), and chronobiology (the study of internal biological clocks) uncover information about individuals at a much more cellular level. At the same time, over-the-counter, direct-to-consumer diagnostics will enable women to have more detailed perspectives on their personal risks and assets.<sup>63</sup> As they learn more about their personal genetics and how they respond to environmental and behavioral decisions, women will much more clearly understand their biological makeup. They will apply their growing understanding to their lifestyle choices and, as a result, pursue snacks that will both

improve their immediate health status and protect their long-term overall well being.

Early adopters of this trend approach snack and meal choices predominantly through a health lens. They are extremely engaged in their health, and evaluate food primarily by its health offerings. Many are managing a chronic illness that is exacerbated by certain ingredients. They are experts in reading labels, and they scrutinize ingredient lists, looking for any triggers that produce an unfavorable result.

Other women showing early signs of understanding bodies at a finer level of granularity are those interested in maximizing the performance of their bodies or minds. They are often tech-savvy, and already tracking a whole host of their life activities — sleeping, exercising, menstruation cycles, calorie intake, biometrics. They want to be able to identify patterns in how their body or mind reacts after undertaking different activities, including eating different combinations of food. Some are high performing athletes, and others are motivated more by maximizing their cognitive performance. Increasingly, pregnant women and would-be pregnant women are joining the cadre of women eager to understand their bodies at a much finer resolution. These women have genetic information about themselves and their partners, and they are concerned with the downstream effects their food choices might have on the health of their future children. They are highly motivated to eat in way that supports their genetic health. They keep up with scientific findings, and they rely heavily on peer-to-peer exchanges online to find, filter and make sense of the complex information space around genetics.

## **Genetic pregnancies**

Pregnant women are particularly interested in high-resolution views of their bodies. Many are using retail genetic testing services to determine if their unborn child is at risk for a number of inherited conditions. One of the leading such services is 23andMe, which aspires to be the world's trusted source of personal genetic information.<sup>64</sup> In addition to the genetic kits that can be ordered from their online store, 23andMe builds community among its users, opening the door for people with similar genetic profiles to connect and share information online. The 23andMe pregnancy community is particularly dynamic and active; the women in it discuss a wide range of topics, with the connection between nutrition and genetic markers being particularly popular.

Women are also exhibiting high-resolution future-proofing behaviors before having children or even being pregnant. The pre-pregnancy time of life, it turns out, is a pivotal time for women to pay precise attention to their nutrition, snacking, and food choices.

*“The prenatal vitamin, the omega-3 and the iron pill — I would take those after I eat my breakfast. And then with my lunch I would have my second omega-3 and my second calcium pill.”*

*Source: 34-year-old professional, SF (not pregnant)*

## **Safeguarding children’s health**

Mothers are taking a high-resolution view to better understand, in detail, what they are feeding their children. They are increasingly concerned about the interaction between their genetic history and the ingredients in foods. In particular, they are worried that processed foods may pose risks for the health of their children based on their genetic profiles. As a result, more mothers are looking for food choices that will protect and support their children’s physical, mental, and genetic health.

*“And I do not want hormones in my kids, especially with my husband’s family’s history of cancer. There’s prostate, testicular. And I feel like a lot of those they talk about with boys with hormones that come into their body, that that’s not great for them.”*

*Source: 38-year-old mother of 2, Denver*

*“But, again, I’m aware of more of the research that has been reported in the papers that pesticides, non-organic fruits, are linked to ADHD. ADHD is an inheritable condition and an environmentally-based condition. We know we’ve got gene loading for it because we see it in our family, so that means I need to be extra aware of environmental causes for [our son’s] sake.”*

*Source: 43-year-old mother of 3, Denver*

## **Previewing health**

The growth in personalized simulation technologies is enabling women to experience their future health in a much more visceral and intimate way. The design principle driving these new simulation services is that if it is easier for people to understand the long-term consequences of their actions, they may be more likely to make good choices in the present. Personalized simulations, using virtual reality and even wearable suits, are giving people a sneak peek into their future to persuade them to reconsider their present habits.

New simulation service offerings take the information people supply about current health status and lifestyle to create a visual depiction of individuals’ likely health outcomes later in life. They can also modify the future depiction by adjusting lifestyle factors — improving eating habits, for instance, or quitting smoking — to see how the picture changes if they start making different choices. Services like these place the power of simulation technology and “what if” analysis into women’s hands, communicating information about their future health in a more intimate and possibly more motivating way.

## **Neurological eating**

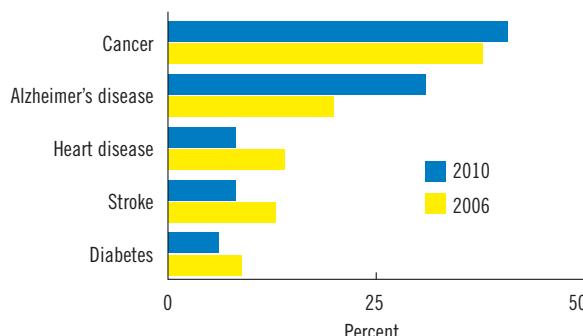
Advances in imaging technologies and neuroscience research are uncovering new discoveries into the operations of the brain. Not only is there a better understanding of root causes behind cravings for certain flavors, but the brain of an individual experiencing a neurodegenerative disease can now be represented visually.<sup>65</sup> Over the next decade, as these technologies become more widespread, researchers will be interested in experimenting with new diets and eating patterns to see what effects, if any, food choices have on neurological health. The trend of eating for neurological health will also be driven by the fear that many Americans have that they will experience a poor mental health state in the future. The number of Americans who fear Alzheimer’s disease is second only to those who are afraid of being diagnosed with cancer.<sup>66</sup> Because a growing number of Americans will be actively working to reduce the chances of being diagnosed with a brain-related condition, more people will be looking for behavioral interventions, including food snacks, that support healthy brain functioning over a lifetime.

*“The genome dynamically responds to the environment. Stress, diet, behavior, toxins and other factors activate chemical switches that regulate gene expression.”*

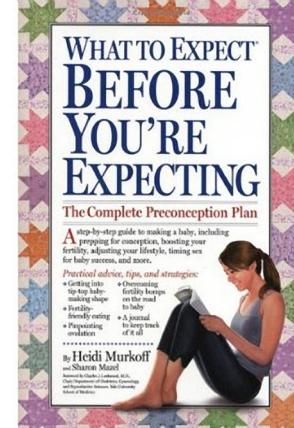
Source: Genetic Science Learning Center,  
The University of Utah

## FIGURE 11:

Increasing Percentage of Americans Fear Alzheimer's



SOURCE: MET LIFE FOUNDATION



SOURCE: AMAZON

## In conclusion

Women are proactively making changes in their lifestyles, bodies, and environments to prepare for the next stages of life. Already, many pregnant women have access to much more precise information about their biological systems and are applying that information to how they care for themselves. More women are beginning to better understand the downstream effects — on their own health and that of their offspring — of various foods, activities, and the built and natural environments. They will vet the foods they buy to support good health at all levels. By the end of the decade, women will understand, with more granularity than ever, the relationship between the foods they eat and the health of their bodies and brains.

Pregnancy Community: See your pregnancy in a whole new light.

Upgrade to the full range of our features with 23andMe's Personal Genome Service

Discover how genes influence your pregnancy and health:

- Health and Traits**: Side-by-side comparisons. Learn what you genetically with friends and family, and what makes you unique.
- Sharing and Community**: Explore your genes together. Our vibrant community discusses news topics every day, ranging from discussions about the latest research to the genetics of family resemblances.
- Ancestry**: Get all the perks of a free account! A weekly survey to record the progress of your pregnancy, Smart answers to your questions about pregnancy, Get the facts about old wives' tales and conventional wisdom.
- Customized Genetic Reports**: See how your genes affect your risk for 228 traits and diseases. 15 pregnancy-related reports on your carrier status and risks for pregnancy complications. Our reports cover topics like Breast Cancer, Multiple Sclerosis, Type 2 Diabetes, and more. All based on the latest genetic research and updated monthly.
- Maternal Line**: Discover the secrets of your mitochondrial DNA: what you inherit from your mother's line and what you'll be passing on to your children.
- Genetic Similarity**: Compare yourself to current global populations.
- Ancestry Painting**: See how your ancestry is reflected in your DNA.

1 in 8 women will develop a serious complication during pregnancy\*. Help us make a difference for future generations. As a 23andMe member, you can advance genetic research by participating in online surveys that collect valuable scientific data. By revealing the genetic basis of disease, we hope to help make personalized health care a reality.

\*Statistic from the Centers for Disease Control and Prevention

SOURCE: 23ANDME

## BRINGING THE FORECAST TO LIFE

Brenda polishes off the bowl of raw, freshly washed organic broccoli florets. At 47, she is married for the second time, pregnant with her first child, while settling into her third career as a meditation instructor. Almost halfway to her goal of living to 100, she recognizes it is pretty late to become a mother for the first time, but 15 years as a nurse has given her an appreciation of how far medicine has come in maximizing the chances for an older mother to have healthy children safely. Brenda makes a ritual of her everyday routine: making sure she and her husband take all their proper vitamins and supplements, eat perfectly balanced meals, and have simple healthy snacks. She eats between every class to optimize her nutrients and keep her hormones balanced. She feels as if she is getting a second chance at everything in her life, and she wants to get it right. She has put herself (and her husband) through every genetic screening they can afford, and even the new neurological

test to assure her that neither of them are likely to develop early onset Alzheimer's. They have been eating organic foods for years, and Brenda follows a strict diet that researchers claim will lower her own chances of getting cancer, and give her child a predisposition to enjoying vegetables. The test results just came back from 23andMe's genetic pregnancy screening, and they are not as reassuring as she had hoped. There are some troubling markers in her fetus' test, but only weak correlations to disorders, nothing certain or serious. She's thinking of joining the social network 23andMe offers for pregnant women with similar results who are at least close to her age. She'll have to see if the other women have healthy attitudes — she knows that she can meditate and accept things without releasing too much unhealthy cortisol into her system from stressing out, but she doesn't need other's anxiety too.

# CONSIDERATIONS

*“I just find myself rummaging through the refrigerator and thinking how did I get here?”*

— 39-year-old mother, San Francisco

In a world of exploding information about their bodies, their minds, and the snack foods available to them, how will women find trustworthy sources to help them make good snacking choices? How will they use the new feedback tools to learn more about their behaviors and support a more intuitive way of eating? How will they embrace the more creative side of snacking?

Over the next decade, women will snack at times that support the rhythms of their days and the biorhythms of their bodies. They will make decisions about snack selection and nutrition based on information pieced together for a variety of sources, and a growing number of women will be focused on bringing the pleasure of eating back into their occasional indulgent snacking choices rather than

feeling guilty about it. In addition to immediate gratification from taste and the feeling of fullness a snack should bring, many women will expect to have the consequences of their snacking choices demonstrated to them in external displays. They will, for example, anticipate being able to see immediately measurable results related to a snack’s health, wellness or nutritional claims. Women will be sorting through an inundation of information about food and health, and building their own trusted set of authorities. Women will also be looking to participate in the design and development of snacks at all levels. Finally, looking farther out into the decade, the fine granularity with which women will understand their bodies and minds will drive new snacking patterns for certain

women, in general, as well as during certain stages and moments of her life. Genetic and neurological breakthroughs, combined with advances in simulation, visualization, and sensor technologies, will enable more women to view their bodies through extremely high-resolution lenses. The precision with which they will understand their bodies’ capacities and vulnerabilities will influence their snacking choices as they strive to minimize both short-term and long-term risks to their health and well being.

To meet their lifestyle and nutritional needs in a complex, busy world of confusing food choices, pervasive technology and information overload, women should consider employing the following principles.

**ONE**

## BUILD YOUR OWN ECOSYSTEM OF TRUSTED RESOURCES, BECAUSE THERE WILL BE NO DEFINITIVE ANSWERS THAT ARE RIGHT FOR YOU.

Over the next decade, scientific discoveries will uncover more information about how our bodies metabolize nutrients, and more insight into the effect nutrition has on mental health. Innovations in technologies will provide greater knowledge about not only food products at the point of purchase but also the effect a specific product will have on health and overall well-being. Add these developments to the already confusing landscape of information about food, health, and nutrition, and it becomes clear that determining the optimal food choices for a woman and her loved ones will not be an easy task. To navigate the confusing and even conflicting information environment that sur-

rounds snacking choices, women will need to amass a diverse set of resources that transforms the onslaught of information into something actionable. The particular resources — people, places, and websites — will be different for every woman, blending the opinions of nutritionists, dieticians, doctors, personal trainers, and other professional authorities with advice from family members, friends and other women who share similar lifestyles and interests in snacking. Over time, women will create their own ecosystem of resources to help them streamline their decision-making and feel more assured that they are making sensible choices for themselves and their families.

**TWO**

## EAT HEALTHY SNACKS, BECAUSE YOU'RE WORTH IT.

Many of the barriers that prevent women from eating healthfully — including limited geographic access to nourishing food choices, not enough time to cook, and not enough money to eat well — seem insurmountable to individual women. Their lives are too busy and their finances are too limited for them to be able to invest additional resources into good eating. In spite of the formidable obstacles impeding healthy eating, women need to value their health more. They need to demonstrate the importance of caring for themselves by making good choices about what to put in their bodies. In other words, snacking with more awareness and intention must move up on the list of priorities each day. Women need to make more time, and maybe spend a bit more money, for eating better — because they deserve it.

### THREE

## ENGAGE IN NEW FEEDBACK LOOPS AND PARTICIPATE IN CO-CREATING SNACKING CHOICES BECAUSE TECHNOLOGY TOOLS WILL BE EASY TO USE.

With hundreds of mobile apps and web-based services devoted to helping people make healthier food choices and exercise more, participating in the world of digital health can seem overwhelming at first. Yet women should be open to testing these new services to see if the more personalized and immediate forms available for providing feedback and encouragement prove useful. In addition to keeping women connected to a supportive network and keeping track of helpful health information such as caloric intake and physical activity, smart, context-aware technologies will know an

individual's behavioral patterns. As a result, people's mobile devices may be able to anticipate events such as mindless snacking, and divert them via a phone call or some other distraction to help them resist the craving. Women should use these tools as channels to connect with brands and organizations that are open to hearing their ideas for snacks, and even more intriguing, to co-creating snacks with them. Novel partnerships between companies and their DIY snack customers will emerge, fostering creativity, personal expression, and a trust between the two parties.

### FOUR

## MAKE GOOD FOOD AND BEVERAGE SNACK CHOICES, BECAUSE YOU'RE THE NUTRITIONAL GATEKEEPER FOR YOUR FAMILY.

If doing it for themselves isn't a compelling enough reason to make healthy meal and snack choices, women who are the primary food shopper or meal preparer in a household influence more than 70% of the foods that their family members eat, according to research conducted by Dr. Brian Wansink, author of *Mindless Eating: Why We Eat More Than We Think*.<sup>67</sup> Nutritional gatekeepers influence not only family members' choices in the home but also their decisions about snacks eaten outside the home and meals ordered in restaurants. As noted in a New York Times column on this subject, "A gatekeeper who struggles with unhealthy habits and eating choices will typically pass those problems on to family members. By the same token, gatekeepers who

improve their habits can improve the health of the whole family."<sup>68</sup> And a recent study published in the American Journal of Public Health showed that snacking habits, in particular, are highly transmissible across a social network.<sup>69</sup>

In the next decade, with millions of American women taking care of a young child, an aging parent, or both, those whose caregiving duties include being the nutritional gatekeeper can potentially modify their loved ones' unhealthy snacking practices. They will achieve this not only by controlling the types of foods that come into the home, but by making good choices for themselves. By taking care of themselves, women will encourage those around them to do the same.

## WOMEN SHOULD BALANCE THEIR FOCUS ON HEALTH WITH THE PLEASURE OF EATING – EATING ONLY FOR HEALTH IS MISSING THE POINT.

A growing awareness of the effects that a nutrient-deficient diet has on performance and energy level, drastic increases in rates of chronic illnesses linked to diet and lifestyle, and alarming rates of childhood obesity will continue to drive a national dialogue about people's eating habits and lifestyle choices. More than ever, employers and schools will create incentives to promote healthy lifestyles, and women will be bombarded with messages promoting food as a primarily tool to promote, protect, and preserve their health and that of their loved ones. High-resolution views on human bodies and an increased understanding of human brains will further bind health and food choices together, and result in an even greater emphasis on eating for health. More health related nutritional models, such as the Glycemic Index, will enter into the national discourse on eating and snacking. Health claims will continue to proliferate on food labels and continue to confuse consumers. However, while improving eating habits will almost certainly improve overall health in

this country, placing a disproportionate emphasis on eating for health runs the risk of producing a strong adverse reaction. Aggressively intervening and imposing prescriptive norms about what constitutes a healthy lifestyle will make many Americans reject this type of "healthism." Many will resist what they perceive as overly intrusive attempts to dictate what they can do and eat, and, in reaction, some will intentionally choose unhealthy options. Even without a major backlash to a more concerted effort to promote healthy behaviors, health is, and will remain, just one motivator behind why people snack. Over the next decade, women should continue to enjoy the pleasure of snacking. They should snack to enhance their performance, and to gain or sustain energy levels. They should snack to experience new flavors and textures, to connect with others, and to escape into moments of peaceful indulgence. Health is important, certainly, but so is the delight that comes from enjoying a good snack.

# ENDNOTES

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