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Review

Pleasures of the palate from the consumer marketing perspective

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ABSTRACT

Eating and related decisions are strongly influenced by mental processing of sensory experiences and expectations about the future value of consumption. This article reviews the extant interdisciplinary literature. The emotional responses and inhibitions are given prominence as the paper focuses on a holistic perspective on eating. It is argued that beyond the physiology of the brain, studies inform best how the consumers develop their attitudes and make decisions about food. Main mental factors and processes affecting the perceived (dis)pleasure are addressed and the future research objectives proposed.

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1. Introduction

The objective of this article is to demonstrate how neuroscience has contributed to a better understanding of how people decide what and when to eat and what subconscious factors underlie the choices made. Such a perspective seems suitable not only for broadening the theoretical horizons but also to help marketers and consumer grasp the practical implications of the complexity of the ensuing motivations.

Over his/her lifetime, an individual spends more money on food than on any other item of consumption. Feeding ourselves is a necessity indispensable for survival. It goes then without saying that all the decisions people make regarding eating and drinking are of a vital short- and long-term importance for the consumers and the society as a whole. Yet, as is the case with other forms of consumption, people often fail to make the most intelligent food choices and even act to their own detriment. Over- and under eating as well as absorbing unhealthy nourishment are some of the manifestations. It is a best possibility that the general public only slowly educate themselves about the health and quality aspects of nutrition, even then ignore the

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professional advice and, finally, become overwhelmed by the emotions of pleasure and displeasure,

While historically people ate and drank what was available and affordable locally, nowadays in advanced societies these constraints got significantly relaxed. First, food cost as the percentage of income is steadily and significantly declining around the world (The Economist, 2013). Second, no other sector of modern economies matches the food and beverage industry in terms of the variety of the products offered—in the US, the average number of items carried in supermarkets in 2013 was close to 44,000 (Food Marketing Institute, 2014). New offerings are continually being added—mainly in the form of the processed foods and drinks. While the producers seek to improve the quality and gain a competitive edge, this trend resonates well with the novelty-seeking nature of many consumers. Third, not surprisingly, owing to marketers' efforts, food is more palatable now compared to when our brains were evolving. Fourth, improved preservation technologies and the globalization of commerce render the food items accessible anywhere in the world regardless of the season. Finally, consider that 83% of U.S. consumers visited quick service restaurants and over 68% visited casual dining restaurants at least once a week in 2013 (Statista, 2014). Similar statistics show increases in the dining out expenditures in Great Britain through 2014. These trends are indicative of the motivating power of convenience, socialization and pleasure.

The above factors lead to all sorts of problems for people evaluating and making decisions in regards to choosing the right mix and the total amount of a diet. The nature of dilemmas stays the same regardless whether one is a/grocery shopping, b/ selecting from the restaurant menu, and c/ taking things from own kitchen or refrigerator. The process can be reconstituted as the interplay of such variables as the following:

- the memories of previous experiences;
- additional information obtained from the accessible services (actively or passively solicited);
- contextual cues like watching food or other people eat; and
- expectations from all of the above.

The rest of the paper is organized as follows. Section 2 describes the approach adapted to screen the publications prove relevant to the topic, Section 3 discusses specifically the mechanisms that produce appetite, sustain, and terminate consummatory behavior. Section 4 addresses the connection between the food people eat and their psychological well-being, whereas Section 5 looks into how the popular terms and labels of food resonate with the buyers. The subsequent section summarizes the knowledge about the hedonic nature of eating and drinking and Section 7 is devoted to the role of the variety and variability of choices. Section 8 comments on the novelty-seeking and the "collectionist" aspects of food and eating and Section 9 examines the contextual impact. Finally, Section 10 maps the promising future research avenues.

2. Methodology

The task of compiling the (multidisciplinary) extant literature for the review purposes proved pretty challenging. For one, the vastness of material in many specialized journals rendered the task extremely time-consuming. Also, the author was striving to compile a representative sample of the state of the art publications from the leading journals mostly but not exclusively in the field of sensory food science, neuropsychology of food consumption, consumer and behavioral neuroscience. As the field experiences a dynamic development, the main emphasis was on publications from the year 2005 until present, except for some classic theoretical contributions from the earlier period. The search was conducted on the ScienceDirect (www.sciencedirect.com) and Google Scholar (scholar. Google.com) engines. Whenever similar publications by the same author(s) were identified, the most recent one was referenced. Further, only research published in English was included. It is believed that a representative collection of important contributions got included in the present review, however, the author realizes that on occasion he had to make some arbitrary choices. To that effect my previous experience with writing a book on a related topic proved quite helpful.

3. Hunger, satiety and the brain

Mapping the corresponding mechanisms especially as they pertain to the emotional factors is a formidable task and at best the researchers are capable only of pointing out some general tendencies.

In the brain, feeding behavior is mediated by a network of interacting neural circuits that include the hypothalamus, the dorsolateral prefrontal cortex (DLPFC), amygdala, striatum and the midbrain (Berthoud, 2011). In particular, in the amygdala food value is represented whereas the mental accounting of adjusting food attractiveness as a function of the hunger level takes place mainly in the orbitofrontal cortex (Piech et al., 2009). Feeling hungry (and thirsty) is obviously the most basic underlying force behind eating (and drinking). Two hormones—ghrelin and leptin—in conjunction regulate the appetite. The receptors for both are located on the same neurons in the brain. The level of leptin in the body (and the brain) is a function of the amount of fat absorbed, whereas ghrelin is released in the guts in reaction to an empty stomach. A full stomach sends a signal to stop its secretion. Homeostasis is then reached following the combined effect of the concentration of the two substances. In reality, we can fool this mechanism. Desire to eat is in the affluent societies driven more by the psychological factors than by the energy requirements or unfilled gut. Hedonic aspects of eating are powerful enough to trigger resistance to the leptin- and ghrelin functions, the more so because both hormones also act upon the dopamine neurons in the pleasure pathways in the mesolimbic area of the brain.

Different food substances have varying satiation power. Distinctions can be drawn between drinks and solids. Physiologically, the impact of volume and energy content do not work in tandem. Furthermore, there are indications of differences between men and women in the cognitive and emotional processing of hunger and satiation as revealed in their responses in the frontotemporal and occipital areas as well as in the DLPFC and the ventromedial prefrontal cortex—VMPFC (Del Parigi et al., 2002). These are manifested in varying responses to food intake in the gustatory cortex and reward areas in both hunger and satiation condition (Haase, Green, & Murphy, 2011). This provides a further basis for investigating the distinction between eating behavior in men and women, not to mention the recommendations for the gender-specific optimal diet.

There exists a clear link between the appetite, hunger and satiation and the reward balance (Bellisle, Drewnowski, Anderson, Westerterp-Plantenga, & Martin, 2012). A recent review suggests that the brain networks modulating the energy homeostasis and the circuitry mediating food reward do overlap and are far less distinct than previously considered (Williams, 2014). People derive gratification from food and it is possibly the most accessible and cheapest source of pleasure. Moreover, this is what we have to do regularly to survive which is conducive to habit forming and maintenance. In sum, gastronomy big and small outcompetes other sources of pleasure because it is convenient and affordable. The degree of satisfaction from food might not be consciously perceived as ultra-high but the accessibility makes it particularly attractive. Unless eating behavior slips out of control—and judging by the prevalence of overweight individuals in modern society it is a serious issue—indulging in food is treated by many as an innocent "normal" repeat pleasure. In general, dopaminergic and opioid mechanisms seem to work together to promote food intake for which dopaminergic mechanisms promote the anticipation and the motivation for food and opioids are involved in the consummation and possibly the hedonic evaluation (Oliveira-Maia et al., 2011). When (some) food touches the