Appetite 55 (2010) 540–550

Contents lists available at ScienceDirect

Appetite

journal homepage: www.elsevier.com/locate/appet

Research report

Gender and food, a study of attitudes in the USA towards organic, local, U.S. grown, and GM-free foods☆

Anne C. Bellows [a,*], Gabriela Alcaraz V. [a], William K. Hallman [b]

[a] Institute for Social Sciences in Agriculture, University of Hohenheim, Schloss, Museumsfluegel, 70593 Stuttgart, Germany
[b] Food Policy Institute – Cook College, Rutgers, The State University of New Jersey, ASB III, 3 Rutgers Plaza, New Brunswick, NJ 08907, USA

ARTICLE INFO

Article history:
Received 3 June 2009
Received in revised form 4 August 2010
Accepted 4 September 2010

Keywords:
Gender
Food attributes
Consumer attitudes
Organic, local, genetically modified, U.S. food

ABSTRACT

Food choice is influenced by consumer attitudes towards food attributes. This U.S.-based study ($n = 601$) simultaneously compares attitudes towards selected food attributes of organic, locally grown, U.S. grown, and GM-free food in relation to other food attributes. Exploratory factor analysis identifies underlying constructs that determine, together and separately, female and male food choice decisions. Gendered analysis of the value of food in life and food behaviours (cooking and shopping) support the investigation of the highlighted food attributes. Respondents generally assigned greater importance to the U.S. grown, followed by GM-free, locally grown, and organically produced food attributes in deciding what to eat. Analysis of the female and male subsamples yielded similar factor results. All four main attributes were captured in a single factor, associated with respondents in both the female and male subsamples who are older, have lower incomes, and who are religiously observant. Additionally, among females, this factor was associated with higher education; and among males, living in households with children and/or with partners. Additional studies should further explore the interaction of food attributes now becoming increasingly important and prevalent in current food products.

Introduction

In recent years, research has focused on identifying the major characteristics influencing consumers' choice of organic products and the willingness to purchase genetically modified foods. Consumer preferences towards geographically defined food attributes such as local or national origin of production have received minor, although increasing attention. The resulting consumer profiles derived from these works have been mainly based on demographic, health, and economic characteristics of the population under study, as well as, their environmental concerns. Additionally, studies examining sets of general values and attitudes towards selected food attributes have shed light on personal and social values that play roles in consumers' food choices.

The objective of this paper is to incorporate data from a U.S.-based national survey to explore gendered consumer attitudes towards diverse food attributes. In particular, the paper examines American consumer preferences for foods that are organic, genetically modified (GM), locally grown, and grown in the United States, and simultaneously placing these process attributes within a broader context of preferences regarding the dietary or nutritional content of foods, their conformity with Kosher or Halal dietary laws, or the strictures of vetegarianism/veganism, as well as attributes representing price, convenience, and familiarity.

These process attributes appear to be growing in importance in the U.S. marketplace. The sale of organic products has risen at rates of up to 21% per year since the late 1990s (Bellows, Onyango, Diamond, & Hallman, 2008). The rapid growth of this food sector has been related to environmental and moral concerns, and recent food scares related to food safety (Arvola et al., 2008; Huang, 1996; Zepeda & Li, 2007) and health outcomes, being the later most recently augmented by the April 2010 release of the (U.S.) President's Cancer Panel Report noting in its preface that "the true burden of environmentally induced cancer has been grossly underestimated", including through the heavy chemical input practices of conventional agriculture that affect the entire population via the exposure to or intake of hazardous materials (United States Department of Health and Human Serviced – USDHHS, 2010, pp. 43–49). In 2000, organic products were sold in 73% of the conventional grocery stores in the U.S, and accounted for about 1% of total food sales. By 2006, this share had grown to an estimated 2.8%, and is expected to continue increasing in the coming years. Fresh fruits and vegetables represent the top selling food category of organic products and are

☆ We wish to express our gratitude to the United States Department of Agriculture (USDA) for its support of this project under the Initiative for Future Agriculture and Food Systems Program (IFAFS) grant 2001-52100-11203 "Evaluating Consumer Acceptance of Food Biotechnology in the United States.".

* Corresponding author.
E-mail addresses: bellows@uni-hohenheim.de (A.C. Bellows), galcaraz@uni-hohenheim.de (G. Alcaraz V.), hallman@aesop.rutgers.edu (W.K. Hallman).

0195-6663/$ – see front matter © 2010 Elsevier Ltd. All rights reserved.
doi:10.1016/j.appet.2010.09.002

followed by dairy products, beverages, and breads and grains (Dimitri & Greene, 2002; Greene & Kremen, 2003; Organic Trade Association – OTA, 2007).

According to Hallman, Hebden, Aquino, Cuite, and Lang, 2003, it has been estimated that up to 70% of processed foods in the U.S. contain a GM ingredient. This situation is derived from the extended use of corn, soybean, and rapeseed components as ingredients in processed foods. Since a large proportion of the country's production of these crops is based on GM varieties, it is not surprising to find traces of such ingredients in most foods. According to Fernandez-Cornejo and Caswell (2006), by 2004 the U.S. accounted for 59% of the total area cropped with genetically modified varieties worldwide. This proportion could grow in the coming years due to the increasing rate of adoption of GM crops by U.S. farmers.

Hinrichs (2000) identifies direct agricultural markets (e.g. farmers or cooperative markets, CSAs,[1] U-pick, and roadside farms stands) as the main venues of local food commercialization. These marketing systems promote the creation of social bonds and identification with the local context. Since the 1970's farmers markets have expanded considerably and can be found in both rural and urban locations in every U.S. state. By 2002, over 3100 farmers markets existed in the U.S. Furthermore, based on the data from the 2002 Agricultural Census, Thilmany and Watson (2004) report that the value of sales via direct agricultural marketing grew 37% between 1997 and 2002, together with a 5% increase in the proportion of farms engaging in this marketing venue. Interesting to note is the fact that while consumers are increasingly interested in "local foods", the "local" as per the "locally grown" produce terms have diverse, contested and sometimes confusing meanings as recent research points out (Bellows & Hamm, 2001; Hess, 2008; Jones, Comfort, & Hillier, 2004; Wilkins, Bowdish, & Sobal, 2002). Roininen, Arvola, and Lähteenmäki (2006) report the association of the local term with short transportation distance, national origin of food, quality, and support to the local production, the environment and the local economy. In pursuit of more information as regards consumers' perceptions, we incorporate both notions of "local" and "U.S grown" in our analyses.

Food choice has increasingly become a form of expression of consumers' personality. Goldsmith, Freiden, and Henderson (1997) state that the selection of some food types reflects beliefs about valued ways of being or living and behaviours. "Life-guiding principles" (per Lindeman & Sirelius, 2001) interact with food choice motives (such as health, shopping or eating convenience, religious reasons, or ecological welfare) and constitute food ideologies, that reflect the consumers' ideals and ways of living and also shape their food-related lifestyle (Brunsø, Scholderer, & Grunert, 2004; Connors, Bisogni, Sobal, & Devine, 2001; Lindeman & Sirelius, 2001; Mansvelt, 2005).

Sex as a demographic variable can be compared with other demographic and descriptive variables to assess its relative bearing on attitudinal constructs of food choice. Beyond the biologically derived and rather static construction of sex as a variable, female and male identity can be investigated as socially constructed (Butler, 1985; Fausto-Sterling, 2005; Pryzgoda & Chrisler, 2000) and revealed i.a. through food choice and food practices (Gough, 2007; Haenfler, 2004). While the literature addresses the former, the latter, particularly in quantitative empirical studies, is scant.

Gender differences in food preferences appear to begin during childhood and have been documented in the past (Cooke & Wardle, 2005; Lam & Leman, 2009; Roos, 2002; Turrell, 1997; Wansink, Cheney, & Chan, 2003). Findings suggest that females and males assign different meanings and values to different types of foods, which translate into gendered preferences towards certain food types or food attributes (Beardsworth et al., 2002; Rappoport, Peters, Downey, McCann, & Huff-Corzine, 1993; Rozin, Fischler, Imada, Sarubin, & Wrzesniewski, 1999; Schritt, 2010; Wardle et al., 2004). Cultural perceptions of appropriate feminine and masculine identities have also been linked to the types of foods preferred and ascribed to each gender in different societies (Fagerli & Wandel, 1999; Kubberød, Ueland, Rødbotten, Westad, & Risvik, 2002; Moisio, Arnould, & Price, 2004; O'Doherty Jensen & Holm, 1999). Studies conducted in relatively food secure conditions relying on dietary data, have shown that females and males do eat differently. In comparison to males, females tend to eat healthier, have higher nutrition knowledge, higher engagement in food-related activities, and show higher preference towards food items that are commonly included in dietary guidelines (O'Doherty Jensen & Holm, 1999; Roos, Lahelma, Virtanen, Prättälä, & Pietinen, 1998; Turrell, 1997; Wardle et al., 2004; Weaver & Brittin, 2001).

Academic fields such as anthropology, philosophy, history, sociology, and nutrition have incorporated a gender perspective in studies around food and eating (e.g. related to females and food, Allen & Sachs, 2007; Avakian & Haber, 2005; Counihan & Van Esterik, 2008; Heldke, 2003; and related to males and food, Julier & Lindenfeld, 2005; Parasecoli, 2005; Sobal, 2005). Specific reasons behind gendered food preferences and practices are not easily identified due to social and cultural differences among groups and individuals. It is argued, however, that the earlier involvement of females in food activities, with respect to males, results in a more direct and knowledgeable contact with food (Bellows, 1996, 2001, 2006; Caraher, Baker, & Burns, 2004; Caraher, Dixon, Lang, & Carr-Hill, 1999). Differences in food preferences and habits are further enhanced by the traditional roles of motherhood and family caregiving for which the provision of adequate food is needed to support family nutrition and harmonizing food preferences (Furst, Connors, Bisogni, Sobal, & Winter Falk, 1996; Turrell, 1997).

Numerous studies have compared different values, attitudes and preferences of consumers separately for organic (Baker, Thompson, Engelken, & Huntley, 2004; Grankvist & Biel, 2001; Grunert & Juhl, 1995; Huang, 1996; Padel & Foster, 2005; Zepeda & Li, 2007), genetically modified (Bredahl, 2001; Burton, Rigby, Young, & James, 2001; Costa-Font, Gil, & Traill, 2008; Verdurme & Viaene, 2003), and local (Loureiro & Hine, 2002; Seyfang, 2006; Wilkins et al., 2002) food products. Additionally, Roininen et al. (2006) and Seyfang (2007) have explored consumer values regarding the local-and-organic food product attribute, and Dreezens, Martijn, Tenbült, Kok, and de Vries (2005) and Saher, Lindeman, and Koivisto Hursti (2006) investigated the attitudes towards GM and organic foods. The work by Loureiro and Hine (2002) measuring consumers' willingness to pay for local, organic and GM-free potatoes in Colorado, USA represents an initial effort of confronting the three product attributes in their relationship to food choice.

Gender based differences in preferences for organic, GM or local food attributes have been explored to varying degree. Among these three attributes, most attention has been devoted to the organic characteristic of food. Previous research in different countries suggests that preference for organics is highest among middle aged wealthy and highly educated females, in families with children, and with persons who claim health, environmentalist, and animal welfare concerns (Davies, Titterington, & Cochrane, 1995; Fotopoulos & Krystallis, 2002; Padel & Foster, 2005; Robinson & Smith, 2003; Tanner & Wölfing Kast, 2003). With regard to GM food, research indicates that females generally do not favour GM products and they are more willing than are men to pay a premium for GM-free foods. As well, other socio-economic characteristics of consumers such as income, place of residence, age, and education are relevant in the acceptance of GM foods (Burton et al., 2001; Costa-Font et al., 2008; Onyango & Nayga, 2004; Saher et al., 2006). Studies of preference or perceptions vis-à-vis local food are still rather scarce, especially those with a gender analysis.

[1] Community-supported agriculture.