

Research report

You eat what you are: Modern health worries and the acceptance of natural and synthetic additives in functional foods

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Abstract

There is an increasing array of functional foods available that are designed to confer health benefits. However, individuals' worries about new technology and modernity may influence the acceptance of these products. In this study, we investigated how modern health worries influence attitudes and decisions about functional foods. We asked participants ($n = 390$) to rate pictures of products with either added vitamins or added scientific compounds. Each product shown purported to have one of three possible targeted effects: to reduce the likelihood of a disease, to reduce a risk factor associated with a disease, or to improve personal appearance. We found levels of modern health worries to be significantly associated with participants' reports of organic food consumption and presence of food allergies. Modern health worries were also significantly related to a preference for foods with natural as opposed to synthetic additives. Participants with higher levels of modern health worries had a greater acceptance of functional foods designed to reduce the likelihood of disease compared to participants with low modern health worries. Overall, the results suggested that modern health worries are an important psychological factor to consider with regards to attitudes toward functional foods.

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Introduction

The concept of functional foods can be traced back to Japanese initiatives in the 1980s sparked by government policies to improve health (Arai, 2002). Put simply, functional foods are foods that are part of a normal diet which have been fortified or enriched to provide additional health-promoting benefits in conjunction with normal nutritive properties (Diplock et al., 1999; Hasler, 2002). Functional foods can be conceptualised as having two primary effects on health: the enhancement of physiological function and the reduction of disease risk (Verschuren, 2002).

Recently, there has been an increased interest from consumers towards functional foods. A US survey on consumer attitudes towards functional foods conducted by the International Food Information Council indicated high

consumer interest in foods with health-promoting benefits: a total of 93% of consumers surveyed believed that some foods, on top of their innate nutritive value, imparted additional health benefits (International Food Information Council, 2002). Increasing consumer interest has consequently seen a developing research base with regard to consumer attitudes towards functional foods (e.g. Bech-Larsen & Grunert, 2003; Gilbert, 2000; Huotilainen, Seppälä, Pirttilä-Backman, & Tuorila, 2006; Urala & Lähteenmäki, 2003). Overall, it seems, functional foods are providing increasing choices to consumers for addressing their health concerns, and consumers in turn are becoming increasingly discerning about such choices.

Despite the burgeoning research on functional foods, at present little is known about which psychosocial factors have an impact on consumers' attitudes towards functional foods. One study found that perceived reward from using functional foods and confidence in functional foods seemed to be the most crucial factors in consumers' willingness to use such products (Urala & Lähteenmäki, 2004). Another study looking at the acceptance of functional foods showed

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that belief in the health benefits of functional foods was the main determinant of acceptance (Verbeke, 2005).

A psychological factor that may influence the acceptance of functional foods is individuals' worries concerning the impact that aspects of modern life can have on health (Barsky, 1988; Petrie et al., 2001). Anxieties about environmental and technological changes affecting personal health are reflected in worries about features of modernity such as mobile phones, high-tension power lines and vaccination programmes (Petrie & Wessely, 2002). These worries are also associated with concerns about food, such as pesticide residue, genetic modification, as well as hormones and additives in food. Modern health worries have been found to influence symptom reporting and the rejection of traditional medical treatment in favour of alternative or natural therapies (Kaptein et al., 2005; Petrie et al., 2001, 2005).

A recent example of how individuals' worries about modernity may influence food choices is the rising consumer interest in bottled water. Bottled water has become the world's fastest growing drink. It is seen as a natural and pure product—a readily available antidote to what the consumer sees as being wrong with modernity and bad for their health. In a similar process to functional foods, bottled water has also become an “aquaceutical” in instances where it is fortified with additives and produced to improve health using special processes (Petrie & Wessely, 2004).

In the current study, we investigated how modern health worries influence attitudes and decisions about functional foods in the context of products with either added vitamins or scientific compounds. These products were designed to either reduce the likelihood of a disease, reduce a risk factor associated with a disease, or improve personal appearance. We hypothesized that individuals who had higher levels of modern health worries would be less likely to choose any product with added scientific compounds as opposed to products with added vitamins, which are likely to be perceived as “natural” ingredients. We also hypothesized that high modern health worries would be associated with a preference for functional foods that either prevented disease or reduced a disease risk factor rather than products that improved appearance.

Method

Participants

The study consisted of 390 medical students from The University of Auckland, New Zealand. The participants were predominantly in their first year of studies (57%), but also included second-year (25%) and third-year (18%) students. Ages ranged from 17 to 48 ($M = 20.8$, $SD = 4.3$). Students identified themselves as either New Zealand European (39%), Asian (27%), Indian (12%), Pacific Islander (6%), Maori (4%), or of other ethnicities (12%).

The sample consisted of predominantly female students (67%).

Procedure and instruments

With informed consent and Auckland University Ethics Committee approval, we asked participants, during their normal lecture times, to complete an anonymous questionnaire comprising the following scales and items.

Modern Health Worries (MHW) Scale: We used the MHW Scale developed by Petrie et al. (2001) to investigate the extent to which students were worried about particular aspects of modern life affecting their health. The measure comprises 27 items scored on a five-point scale, ranging from “no concern” to “extreme concern”. Scores on all items were then summed to obtain a total modern health worries score, with higher scores indicating more concern. This scale has been found to have high levels of internal reliability, with a reported Cronbach's alpha of 0.94 (Petrie et al., 2001).

Food-related behaviour: Participants were asked to report their use of vitamins or supplements and the use of organic food in their diet on a five-point scale from “never” to “every day”. Participants were also asked to report whether they suffered from any food intolerance or food allergies.

Health ratings. We asked participants whether they had any family history of heart disease. As well as this, we asked participants to rate their health on a five-point scale from “very poor” to “excellent”. We also collected participants' perceived risk of heart disease by asking the following question: “Compared to the average person, how likely do you think you will suffer from heart disease during your lifetime?” This was rated on a five-point scale from “much less likely than others” to “much more likely than others”.

Preference for different types of additives: We used pictures of yoghurt or margarine products presented with either added “vitamins” or “scientific compounds” (see Fig. 1). Three different health outcomes were presented—namely, reducing disease (“reduces heart disease”), reducing the risk factor for a disease (“reduces cholesterol”), and enhancing appearance (“for clearer, healthier skin”). The 12 possible combinations were shown in a random order within each questionnaire, and participants were asked to rate these products on their attractiveness, credibility and likelihood of use on a seven-point scale ranging from “not at all” to “extremely”. We created six scales from these ratings by summing the ratings for each of the relevant dimensions for both yoghurt and margarine. Thus, scales were created for preference for either vitamin or scientific compound additives as they related to reducing disease, reducing disease risk and enhancing appearance. All six scales had high levels of internal reliability (Cronbach's alphas ranged from 0.85 to 0.93).

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