Appetite 56 (2011) 269–277

Contents lists available at ScienceDirect

Appetite

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

Research report

Determinants of consumer understanding of health claims

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ARTICLE INFO

Article history:
Received 14 April 2010
Received in revised form 5 January 2011
Accepted 9 January 2011
Available online 14 January 2011

Keywords:
Health claims
Functional foods
Attitudes
Consumer understanding

ABSTRACT

The new EU regulation on nutrition and health claims states that claims can be permitted only if they can be expected to be understood by consumers. Investigating determinants of consumer understanding of health claims has therefore become an important topic. Understanding of a health claim on a yoghurt product was investigated with a sample of 720 category users in Germany. Health claim understanding was measured using open answers, which were subsequently content analysed and classified by comparison with the scientific dossier of the health claim. Based on this respondents were classified as *safe*, *risky* or *other*. In addition to the open questions on claim understanding, respondents rated a number of statements on claim interpretation for agreement and completed scales on interest in healthy eating, attitude to functional foods, and subjective knowledge on food and health. Results showed that respondents with a positive attitude to functional foods are more likely to be classified as *risky*with regard to their claim understanding, whereas respondents with negative or neutral attitudes are more likely to be classified into the *other* category. Implications for testing claim understanding are discussed.

Introduction

The new EU regulation on nutrition and health claims (No. 1924/2006) sets down two general requirements with regard to consumer protection:

- that claims are not false, ambiguous or misleading to the consumer; and
- that claims shall be permitted only if the average consumer can be expected to understand the beneficial effects as expressed in the claim.

While the first objective is mainly to be achieved by a rigorous scientific evaluation of the claims (performed by the European Food Safety Authority), the second objective relates more to the way in which the claim is communicated to the consumer – and the way in which it is understood and sometimes misunderstood. This new requirement, in line with corporate social responsibility in the food sector, makes it necessary to establish a standardized methodology by which consumer understanding of the claims can be assessed, and to achieve a better understanding of the factors that make it more or less likely that a claim is in fact understood (Leathwood, Richardson, Sträter, Todd, & van Trijp, 2007; Williams, 2005). A standardized methodology is needed not only to assess the degree of understanding of any particular claim, but also to be able to compare alternative formulations of claims with regard to their likelihood of being misunderstood, and in order to monitor understanding over time (Wansink & Cheney, 2005). An understanding of factors that make it more or less likely that a claim is understood allows us to design tests of understanding that are targeted at consumers that are especially apt to misunderstand health claims, and to test understanding in situations where misunderstanding is more likely. Such insight will also be helpful in designing claims that have a higher likelihood of being understood correctly (Leathwood, Richardson, et al., 2007).

It is thus the aim of this paper to investigate determinants of understanding of health claims, using a standardized methodology, and derive implications for the testing of consumer understanding of health claims in terms of recruitment of test persons. The rest of this paper is structured as follows. In the following section, we review the literature on consumer understanding of health claims and motivate our choice of independent variables in this study. We then describe the methodology used for testing understanding, the stimulus material, the measures of the independent variables and the sample. We then present results, employing a Bayesian approach for analysing how understanding of health claims is related to the potential determinants. We then close with a discussion of limitations and implications.

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doi:10.1016/j.appet.2011.01.009

Understanding of health claims: previous research and theoretical approach

There is a good deal of literature on how consumers react to health claims (for reviews see Pothoulaki & Chryssochoidis, 2009; Williams, 2005). Topics investigated include the effects of different forms of claims, for example long vs. short claims or functional claims vs. disease reduction claims (e.g., Bech-Larsen & Grunert, 2003; Grunert et al., 2009; Wansink, 2003), effects of claims on attitude to the product and purchase intention (e.g., Garretson & Burton, 2000; Lähteenmäki et al., 2010; Lyly, Roininen, Honkapää, Poutanen, & Lähteenmäki, 2007; Roe, Levy, & Derby, 1999), and effects of the presence of a health claim on overall sales of product or product category (e.g., Ippolito & Mathios, 1991). Also the interaction of health effects with the effect of other (mainly nutritional) information on the package has been investigated (Andrews, Netemeyer, & Burton, 1998; Ford, Hastak, Mitra, & Ringold, 1996; Kozup, Creyer, & Burton, 2003; Mazis & Raymond, 1997).

Compared to this substantial body of literature, studies on understanding of health claims – where consumer understanding is held up against an objective criterion based on scientific evidence on the health effect – have been rather sparse. Qualitative studies showed considerable potential for consumer confusion and misunderstanding (FSA, 2002; Svederberg, 2002). A few studies, not based on any particular theoretical approach, have related understanding to demographic criteria (low-educated consumers understand less, Fullmer, Geiger, & Parent, 1991) and previous knowledge (knowledgeable consumers understand better, Andrews, Burton, & Netemeyer, 2000). The closest we get to studies on understanding that specify the kind of psychological processes that may be responsible for the lack of understanding are a number of studies on inference making. When consumers perceive new information, they engage in some cognitive activity by which they relate the new information to information already stored in the memory, and as part of this process they may make inferences about the product carrying the health claim that go beyond what is manifestly stated in the health claim. The two types of inferences studied most are the halo effect and the magic bullet effect (e.g., Andrews et al., 1998; Levey, Derby, & Roe, 1997; Murphy, Hoppcock, & Rusk, 1998; Roe et al., 1999). A halo effect occurs when positive affect caused by the health claim colours the overall perception of the product, whereas a magic bullet effect occurs when consumers generalize the health claim to believe that the product generally is healthy, whereas the health claim is only about a specific benefit. Both cases can be regarded as misleading consumers, and therefore as cases of a lack of understanding.

Two bodies of theory have been drawn on in studies on inference making from health claims. One is spreading activation theory (Anderson, 1983), where consumers' cognitive structure is viewed as a network of nodes and links, and where information is retrieved by nodes in the network being activated. When new information enters the network, activation may spread to other nodes in the network, which are then retrieved. While this approach specifies a mechanism by which inferences can occur, it is difficult to derive concrete predictions on which inferences are more likely in a given situation, or which type of consumer will be more prone to misunderstanding the claim. The other body of theory is dual processing theories like the Elaboration Likelihood Model (Petty & Cacioppo, 1986) and the heuristic–systematic model of information processing (Chen & Chaiken, 1999) These theories distinguish between various levels of processing of new information, and specify determinants of the levels of processing. More specifically, shallow processing may occur with limited understanding of the message, may rely more on message characteristics than on message content, and will lead to inferences that will be easily changed later. Deeper forms of processing involve more effort in attaching meaning to the message and will lead to inferences that are more stable and more easily remembered later. Dual processing models mostly specify two groups of determinants of level of processing, namely motivation to process and ability to process.

We adopt a dual processing approach here, as we regard it as a promising approach, even though we are not in a position to formulate clear hypotheses on how different levels motivation and ability to process will affect the understanding of health claims. Shallow processing can lead to misunderstanding of health claims, since consumers may not bother trying to understand the details and may just form a vague inference on that the product is healthy. Deep processing will make more previous knowledge available and lead to more inferences, not all of which need to be correct. In this study, we therefore relate understanding of the health claim to motivation and ability to process the information.

As for motivation, different types of motives can be relevant here. When people are generally interested in healthy eating, they will be more motivated to process a health claim (Roininen, Lähteenmäki, & Tuorila, 1999). The same will be the case when people generally have a positive attitude to functional foods (Urala & Lähteenmäki, 2007). Other motives may play a role, like an interest in novel food products or a desire to do the best for one's family, although we will not deal with them in this study. Ability can be related to the available knowledge and competence that the recipient has and that is relevant with regard to the health claim. People who are more knowledgeable about food and health will find it easier to process health claim information than people with less relevant knowledge.

Materials and methods

Measurement of consumer understanding

We measure consumer understanding using the Consumer Understanding Test (CUT) methodology developed by Danone (see Rogeaux, 2010). CUT is a web-based approach, where the health claim is presented to respondents in the context of the packaging and/or the TV commercial in which it appears; for the packaging, respondents have the possibility to view all faces of the product. After exposure, respondents are asked two questions:

> After seeing this pack and commercial, if you had to tell a friend what XXX does, what would you say?
> And if you had to tell a friend how it works?

These are open questions, and respondents type their answers into a screen window. The use of open questions does not preclude any type of answer, and allows to study consumers' inference processes. Answers are content analysed into a hierarchical coding scheme, and each resulting code is then categorized as

- *Safe:* the statement is in line with the scientific dossier.
- *Risky:* the statement is not in line with the scientific dossier.
- *Vague:* the statement expresses a vague notion (e.g., *a healthy product*) or an expression that is irrelevant with regard to the health claim (e.g., *the product is easy to eat*).

The CUT methodology was developed according to the principles recommended by ILSI (Leathwood, MacFie, & van Trijp, 2007; see also Leathwood, Richardson, et al., 2007). It combines a qualitative and a quantitative approach, and it investigates how the health claim is understood in the context in which it appears in a real-life exposure situation.