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Front of package symbols as a tool to promote healthier food choices in Slovenia: Accompanying explanatory claim can considerably influence the consumer's preferences

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ABSTRACT

Many nutrition and/or health symbols were introduced in different countries in the past years and Slovenia is no exception. The objective of our study was to examine familiarity with and perception of the Protective Food symbol (PF symbol) in Slovenia and to investigate consumers' associations related to the symbol, and the influence of symbols' appearance on their preferences. The study was conducted through online questionnaire with incorporated word-association tasks and conjoint analysis; GfK consumer panel and social media (Facebook) were used for recruitment of Slovenian adults (n = 1050; 534 men, 516 women). The majority (78%) of the participants reported they had previously seen the PF symbol, and 64% declared familiarity with it. Familiarity was verified using a word-association task in which we analysed the nature of the symbol's description, distinguishing the description of symbol's visual appearance or its meaning. In this task, 73% of the participants described the symbol's meaning with reference to health or a healthy lifestyle, confirming their familiarity with it. Women and those responsible for grocery shopping were significantly more familiar with the symbol. The impact of the symbol's appearance on consumers' preferences was investigated using conjoint analysis consisting of two attributes – three different symbols found on foods in Slovenia (PF symbol, Choices Programme symbol and Keyhole symbol), and accompanying worded claims. Although worded claims had less relative importance (29.5%) than the symbols (70.5%), we show that careful choice of the wording can affect consumers' preferences considerably. The lowest part-worth utility was observed without an accompanying claim, and the highest for the claim directly communicating health ("*Protects your health*"). The fact that most participants are well familiar with the PF symbol indicates the symbol's potential to promote healthier food choices, which could be further improved by an accompanying worded claim that clearly describes its meaning. In addition, the use of Facebook ads is shown to be a useful alternative recruitment method for research with consumers.

1. Introduction

Selecting food is a dynamic process (Köster & Mojet, 2007) which often entails a consideration of price, taste, nutritional value and other factors, and involves a complicated decision-making process (Finkelstein & Fishbach, 2010; Sanlier & Seren Karakus, 2010). Sophisticated marketing techniques and the growing assortment of foods in the marketplace are making the consumer's selection and purchasing decisions very challenging (Lahti-Koski, Helakorpi, Olli, Vartiainen, & Puska, 2012). While healthy dietary habits are crucial for preventing several chronic diseases, many consumers find it difficult to follow nutritional recommendations in practice. Two primary aspects of the consumer choice environment should be noted: (a) the availability of product information; and (b) consumers' prior experience with products. The presence or absence of knowledge and experience affects the types of information processed and the processing heuristics used by the consumer (Bettman & Park, 1980). In addition, there are limits to the amount of information consumers can effectively absorb (Jacoby, Speller, & Berning, 1974).

Food labels offer different cues that consumers consider when evaluating them, which could influence their purchase decision (Loebnitz, Schuitema, & Grunert, 2015; van der Merwe, Bosman, & Ellis, 2014). Ideally, food labelling should help consumers make healthier food choices (Lahti-Koski et al., 2012; Rayner et al., 2013; Vyth et al., 2010). Simplified food labels have been shown to enable a quicker choice of healthier food products (van Herpen & van Trijp, 2011). Another approach is to use simple nutrition- and health-related messages, which can appear on labels as either worded or graphic elements. Use of nutrition and

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health symbols on foods that meet relevant nutritional criteria is another example of such an approach (Borgmeier & Westenhoefer, 2009). Consumers have been shown to prefer simple claims (Bitzios, Fraser, & Haddock-Fraser, 2011) and symbols (Andrews, Burton, & Kees, 2011; Feunekes, Gortemaker, Willems, Lion, & Van den Kommer, 2008), and that even those not interested in health might prefer to choose certain products labelled with such symbols (Vyth et al., 2010).

The communication of meaning in its direct, indirect, intentional and unintentional forms can be examined with semiotics that can help better understand human communication and behaviour (Echtner, 1999) since the image serves as a stimulus that influences cognition, interpretation and preference (Schroeder, 2002). Studying symbols' potential to help simplify complex information has become an important part of food and nutrition research related to consumer food choices and eating habits (Institute of Medicine, 2011). Recent research shows that symbols on food packaging are more important to consumers than worded information (Carrillo, Fiszman, Lähteenmäki, & Varela, 2014). Further, research shows that the comprehension of nonverbal symbolic signs requires a minimum level of cognitive effort (DeRosia, 2008; Fitzsimons et al., 2002) since simplified food labels can present complex nutrition information in a more straightforward and easier way (Sonnenberg et al., 2013). In order for a product to be recognised as healthier based on a symbolic meaning, the symbolic values must be effectively communicated to consumers. Symbols do not directly reveal healthfulness, but serve as a salient motive that can influence product evaluation (Chrysochou & Grunert, 2014). When consumers interpret health-related information on food labels, they must rely on the information available and their existing knowledge (Lahteenmaki, 2015). A number of research studies have focused on evaluating health symbols (Emrich, Mendoza, & L'Abbe, 2012; Emrich et al., 2014), familiarity with them (Lahti-Koski et al., 2012; Neuman, Persson Osowski, Mattsson Sydner, & Fjellstrom, 2014; Vyth et al., 2009, Vyth et al., 2010) and a symbol's influence on consumers' product healthfulness evaluation or choice (Bialkova et al., 2014; Roberto et al., 2012; Steenhuis et al., 2010; van Herpen & van Trijp, 2011; van Herpen, Hieke, & van Trijp, 2014; Van Herpen, Seiss, & van Trijp, 2012), but very few have concentrated on consumers' associations with the symbol (Carrillo et al., 2014; Neuman et al., 2014).

In past years, various nutrition and/or health symbols were introduced in different countries. While some present a condensed summary of nutritional information, others are simple symbols that can be used on foods that meet specific (nutritional) criteria (Latortue & Weber, 2010). The first such front-of-package (FOP) symbol was the Heart Guide symbol created by the American Heart Association (AHA) in 1987 (Institute of Medicine, 2011). In fact, heart health associations were pioneers in setting up such labelling schemes, while food manufacturers became involved with additional schemes after 2004 (Institute of Medicine, 2011). Several symbols were introduced in Europe, for example Sweden's *Keyhole symbol* in 1989 (Neuman et al., 2014), the Finnish Heart symbol in 2000 (Lahti-Koski et al., 2012), and the Choices Programme symbol in 2006 (Van der Bend et al., 2014; Vyth et al., 2010). In Slovenia, a symbol known as the *Protective Food* symbol (hereinafter PF symbol) was also introduced very early on, in 1992, by the Society of Cardiovascular Health of Slovenia (Jan, 2000; Pokorn, 2005) aiming to help consumers make healthier food choices, and to encourage the food industry to reformulate food products. The scheme was initially also promoted using government funding, but the promotion was minimised after the new EU nutrition and health claims regulation was introduced in 2007 (EC No. 1924/, 2006). Nevertheless, the symbol can still be found on about 2% of prepacked products in the food supply (Hieke et al., 2016; Pravst & Kusar, 2015).

Almost 17% of adults (Hlastan-Ribič, Šerona, Maučec Zakotnik, & Borovničar, 2012) and 20% of children (aged 11–15) (Adamson, 2013) are overweight in Slovenia, and a high prevalence of overall non-communicable diseases (NCDs) is observed (Murray et al., 2013). Among OECD (Organisation for Economic Co-operation and Development) countries, only Portugal, Canada, Greece and the USA have higher child obesity levels (Adamson, 2013). Considering these facts, a major national public health priority in a new national resolution (The Ministry of Health RS, 2015) is to promote healthy dietary choices and lifestyles. The PF symbol has been used in Slovenia for several years but its promotion has stagnated considerably in the last 10 years. A specific research project was launched by the *Ministry of Health* and the *Slovenian Research Agency* to evaluate use of the existing PF symbol and provide information needed for a future policy decision on the use of FOP symbols as a possible tool for promoting healthy food choices in Slovenia.

The primary objective of the reported study was to investigate familiarity with and the perception of the Protective Food symbol (PF symbol) in Slovenia. We also investigated consumers' associations with the three FOP symbols found on foods in Slovenia (PF symbol, Choices Programme (hereinafter CP) symbol and Keyhole symbol), and the influence of the symbol's appearance (presence of various explanatory wordings) on their preferences. Given the PF symbol's presence in the market for over 20 years, our hypothesis was that the majority of consumers relate this symbol to health and/or a healthy lifestyle, indicating it could be a valuable starting point if the government were to decide to establish a national scheme for promoting healthy food choices in Slovenia. Another intention was to provide insights about how consumers understand FOP symbols, and how to improve this understanding. Given the wide use of the Internet (Seybert & Reinecke, 2014) the study was conducted using an online questionnaire, while recruitment involved use of a standard commercial consumer panel. Additional recruitment also occurred through social media (Facebook) to provide information on whether such a cost-effective technique can be used to reach specific target populations in research with consumers.

2. Methods

2.1. Design of the study

The online questionnaire was prepared using the SPSS Data Collection Software (a survey administered by GfK) and the web survey provider 1 ka.si (used in a social media campaign). The questionnaire included the following sections: (1) participants' socio-demographic characteristics; (2) a word-association task; (3) symbol recall; (4) a conjoint study; and (5) an evaluation of each symbol based on statements provided. In parts 2, 3 and 5 of the questionnaire, the symbols were presented without any additional text. In the conjoint study, the symbols were presented with selected worded claims or without a claim.

2.2. Recruitment of participants

A quota sample of 1050 participants aged between 18 and 60 was obtained via two recruitment methods, a market research company consumer panel (N = 500) and a social media campaign (N = 550). The structure of the sample is comparable with the Slovenian population based on gender and age. For both methods combined, 78% of participants declared either sole or joint responsibility for the grocery shopping. All data were collected in October 2014. The participants' socio-demographic characteristics are reported in Table 1. No significant differences were found in the participants' gender, age distribution, or education, or grocery shopping responsibility in the samples recruited by the consumer panel and social media. Similarly, no significant differences were found between both samples in relation to previous exposure to any of three tested symbols, therefore further analyses were conducted on a sample, compiled using both recruitment methods.