Our own country is best: Factors influencing consumers’ sustainability perceptions of plant-based foods

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ABSTRACT

Sustainability is becoming increasingly important in consumers’ food choices. Although consumers are known to rely on certain strategies for choosing sustainable food, such as preferring local and organic products, the extent to which these strategies affect the sustainability assessment of foods remains unknown.

In an online experiment with 305 respondents from the German-speaking Swiss population, we examined how consumers evaluated the sustainability of foods that differed by production country, labelling and seasonality. Participants rated bell peppers, apples, coffee, peppermint tea and sugar on both their environmental impact and social sustainability.

Swiss products (i.e. pepper, apple and peppermint tea) were rated more positively on both factors than products from other countries, and distance to the production country seemed to partly influence perceptions of both environmental impacts and social sustainability. The presence of either organic or fair-trade labels significantly decreased the perceived environmental impact and increased the perceived social benefits of both coffee and sugar. No significant differences were found between the labels regarding the foods’ perceived environmental impact, but the products’ social sustainability perception differed between the two labels.

Seasonality had a significant but minor effect on the perceived environmental impact.

To conclude, Swiss consumers mainly relied on an ‘our own country is best’ heuristic and on sustainability labels to evaluate the environmental impact and social sustainability of food products. While this strategy can result in rather accurate sustainability estimations, it can also result in systematic mistakes. It is recommended to address these misconceptions to enable consumers to make better sustainable food choices.

1. Introduction

Increases in food production and consumption have had major impacts on the environment, (Tukker et al., 2011) as well as social implications (Macias, 2008; Nousiainen, Pylkänen, Saunders, Seppänen, & Vesala, 2009). To decrease these negative effects, developing more sustainable food production systems is essential (European Commission, 2014). The development of sustainable food production can be strongly influenced by consumers’ food choices (Grunert, 2011). The intention to purchase sustainable foods depends on different factors, such as consumers’ knowledge (Peschel, Grebitus, Steiner, & Veeman, 2016), motivation and access to accurate information (Vermeir & Verbeke, 2006). In this study, we focused on the first aspect because all consumers, even those who are motivated, require clear information to help them choose more sustainable products. Our results could support improvements in food-related information, which would enable consumers to choose sustainable foods.

An in-depth understanding of how consumers make decisions is essential for enabling them to make better decisions (Hafenbrädl, Waeger, Marewski, & Gigerenzer, 2016). Consumers appear to apply simple heuristics when choosing foods (Scheibeheine, Miesler, & Todd, 2007), and because past research suggests that the use of heuristics can either result in biased decisions (Tversky & Kahneman, 1975) or lead to accurate judgments (Gigerenzer & Gaissmaier, 2011), we examined what information influences lay persons’ evaluation of the sustainability of food products.

Based on previous life-cycle assessment (LCA) results, domestic foods are preferable due to their relatively short transport distances and the avoidance of air freight (Jungbluth, Tietje, & Scholz, 2000; Stoesell, Juraske, Pfister, & Hellweg, 2012). Organic production might induce smaller environmental impacts than conventional production in some impact categories and for certain food products, e.g. for apples (Longo, Mistretta, Guarino, & Cellura, 2017; Meier et al., 2015), and seasonal food generally leads to lower energy consumption because out-of-
season products are either produced in heated greenhouses (Stoessel et al., 2012) or stored using energy-intensive methods (Brooks, Foster, Holmes, & Wiltshire, 2011). Following experts’ recommendations, we examined how strongly cues, such as production country, label1 and season, influence consumers’ sustainability assessment of foods.

Previous research has examined the influence of production country (Denver & Jensen, 2014; Feldmann & Hamm, 2015; Fernqvist & Ekelund, 2014), label (Ellison, Duff, Wang, & White, 2016; Rousseau, 2015) and seasonality (Brooks et al., 2011; Wilkins, 2002) on consumers’ perceptions and preferences for selecting foods. However, few studies have examined the attributes that influence consumers’ evaluation of a food’s environmental friendliness (Lazzarini, Zimmermann, Visschers, & Siegrist, 2016; Lea & Worsley, 2008; Tobler, Visschers, & Siegrist, 2011a, 2011b). Previous research has addressed environmental sustainability for single-product food categories, such as vegetables (Tobler et al., 2011b), and we previously analysed the perceived environmental friendliness of protein products from different categories, such as meat, dairy and legumes (Lazzarini et al., 2016), as well as the climate impact perceptions of various proteins and vegetables (Shi, Visschers, Humann, & Siegrist, in press). However, a systematic investigation of how consumers perceive both the environmental impact and the social sustainability of foods is lacking.

Consumers’ understanding of the term ‘sustainability’ has been studied by various authors, who found that, although it comprises environmental, social and developmental dimensions (Hans & Böhm, 2012), it excludes economic and cultural dimensions (FAO, 2014). According to Grunert, Hieke, and Wills (2014), people mostly relate consumption should be identified.

2. Method

2.1. Procedure

In an online experiment, respondents evaluated products’ environmental and social sustainability in three of the following food groups: bell peppers, apples, coffee, peppermint tea and sugar.

The topic of the study was not revealed in the invitation. Respondents were instructed to estimate the food products’ environmental impacts, according to the definition shown in Text Box 1. The assignment was to evaluate each product’s environmental impact (e.g. Swiss apple) in relation to the same products (e.g. apples in general) with the lowest (0) and with the highest (100) environmental impact. Participants could indicate the perceived environmental impact of each product with a slider on a scroll bar (see Fig. 1a). The order of products was randomized between subjects.

Text Box 1

Definition of foods’ environmental impact.

The next tasks involve the effect of various food products on the environment.

The environmental consequences refer to the whole process of food production; thus, production, processing, transport, storage and retail are included. Factors of the environmental impact include:

- Greenhouse gas emissions
- Land use
- Water pollution
- Resource use.

Participants were also instructed to assess social sustainability following the definition given in Text Box 2. The assignment was to evaluate the social effects of the product (e.g. Swiss apples) in relation to the same products (e.g. apples in general) with the largest social damage (~100) and with the largest social benefit (100). Participants could indicate the perceived social effect of each product with a slider on a scroll bar (see Fig. 1b).

The products in each category were evaluated simultaneously (i.e. in within-subjects designs) and varied based on the following independent variables: country of origin, labelling and seasonality. The order of the two evaluations alternated between the respondents (see Fig. 2). Respondents were therefore divided into two groups. Group 1 first evaluated environmental and then social sustainability, while Group 2

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1 We are aware that there are many different food-related labels. In this research, we focused on organic and fair-trade labelling and will thus refer to these two, unless specified otherwise.
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