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Shrinking the food-print: A qualitative study into consumer perceptions, experiences and attitudes towards healthy and environmentally friendly food behaviours

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ABSTRACT

Internationally, there is increasing recognition of the importance of multilevel policies and actions that address healthy and environmentally friendly food behaviours. However it is not yet clear which actions are most suitable to support consumers to adopt both behaviours concurrently. To this end, we undertook a qualitative study to assess consumer perceptions, experiences and attitudes towards healthy and environmentally friendly foods and four target behaviours: reducing overconsumption of food beyond energy needs, reducing consumption of low-nutrient energy dense foods, eating less animal- and more plant-derived foods, and reducing food waste.

Online in-depth interviews were held with 29 Australian food shoppers representing different levels of involvement with health and environment in daily food choices. The results indicate that compared to health, the relationship between food and the environment is rarely considered by consumers. The four target food behaviours were primarily associated and motivated by an impact on health, except for not wasting foods. Participants had the most positive attitude and highest motivation for eating less processed and packaged foods, mostly to avoid excessive packaging and 'chemicals' in foods. This was followed by the behaviours reducing food waste and overconsumption. Conversely, there was a predominantly negative attitude towards, and low motivation for, eating less animal-derived products and more plant based foods.

Overall, consumers found a joined concept of healthy and environmentally friendly foods an acceptable idea. We recommend that health should remain the overarching principle for policies and actions concerned with shifting consumer behaviours, as this personal benefit appears to have a greater potential to support behaviour change. Future consumer focused work could pay attention to framing behavioural messages, providing intermediate behavioural goals, and a multiple target approach to change habitual behaviours.

1. Introduction

1.1. Background

What consumers buy, prepare and eat does not only affect their health but also the environment. Food production is responsible for approximately 30% of global greenhouse gas (GHG) emissions, and accounts for 70% of all human water use (see Garnett, 2014; Tilman & Clark, 2014). Furthermore, the food system is under pressure to produce 'more from less' as it attempts to meet demands from an expanding population with increasingly constrained resources (mainly land, water, fertilizer and transport). Ultimately this poses serious risks to population health and wellbeing (Friel, Marmot, McMichael, Kjellstrom, & Vagero, 2008; McMichael & Butler, 2011; Tilman & Clark, 2014). For a number of decades policy makers have been providing advice and developing actions to support consumers to eat in a healthy way. This paper addresses the pressing need for consumer insights on how to include environmental considerations too, thereby supporting consumers to eat in

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a healthy *and* sustainable way (Friel, Barosh, & Lawrence, 2014; Pearson, Friel, & Lawrence, 2014).

1.2. Health, environment, and food – through the eyes of health professionals

There is a large body of scientific evidence that specifies the features of a *healthy* diet, which provided a framework for strategies and food policies to encourage consumers to eat healthily (Hawkes, Jewell, & Allen, 2013; WHO, 2004). Such strategies include food labelling, economic instruments (taxes and subsidies), and interventions in school settings. Policy tools of particular importance for governments worldwide are food-based dietary guidelines (Hawkes et al., 2013), which offer recommendations for the amount and kinds of foods that consumers should eat for health and wellbeing, and have a large potential impact on consumer's food choices. At present dietary guidelines worldwide are still focussed principally on health. However, an increasing number of nutrition and public health professionals are suggesting that future dietary guidelines should be based on environmental as well as nutritional science (Friel et al., 2014; Horgan, Perrin, Whybrow, & Macdiarmid, 2016; et al.,; Van Dooren, Marinussen, Blonk, Aiking, & Vellinga, 2014). Recently, the US Dietary Guidelines Advisory Committee (February 2015) issued a report suggesting the inclusion of environmental impact in the Dietary Guidelines for Americans (USDA, 2015), while The Netherlands and Sweden launched their new dietary guidelines incorporating environmental aspects (Health Council of the Netherlands, 2015; Livsmedelsverket, 2015). These developments highlight the present-day relevance of this topic.

Policy and actions to encourage consumers towards a more healthy *and* environmentally sustainable diet need to specify what this involves. The FAO (2010) defines sustainable diets as: “those diets with low environmental impacts which contribute to food and nutrition security and to healthy life for present and future generations. Sustainable diets are protective and respectful of biodiversity and ecosystems, culturally acceptable, accessible, economically fair and affordable; nutritionally adequate, safe and healthy; while optimizing natural and human resources”. However, there is not yet a common description that specifies the type of foods or food behaviours that are both healthy and environmentally friendly. Some diet approaches, such as the New Nordic Diet, have incorporated organic and locally produced foods (Mithril et al., 2012). However, the health and environmenlbtal benefits of such foods are still a topic of debate and there is a need for common metrics to measure their real impact (Garnett, Mathewson, Angelides, & Borthwick, 2015). Measuring and incorporating the environmental sustainability of specific foods, especially as they relate to health, is still an area of research that is evolving (Bailey & Harper, 2015; Friel et al., 2014; USDA, 2015).

A recent review summarizes a set of consumption practices and suggests that a healthy diet with a low environmental impact is one centred on a diverse range of tubers, whole grains, legumes and fruits and vegetables, with less animal foods (Garnett et al., 2015). Similarly, Friel et al., (2014) have articulated key principles that underpin a theoretical healthy and sustainable diet in the Australian context. This diet is based on three overarching principles, which can be translated into food behaviours: (1) reducing overconsumption – not eating more than a person's energy requirement; (2) reducing consumption of low nutrient energy-dense foods, which tend to be highly processed and packaged products, and (3) eating less animal- and more plant-derived foods. These food behaviours are in line with and supported by other reports (Garnett, 2014; Pearson et al., 2014; Van Dooren et al., 2014). In addition to these food *intake* behaviours, there are those that relate to food *provisioning*. In this domain, reducing the amount of food waste is an important environmental consideration and hence is highlighted as a priority for change (Pearson et al., 2014; SDC, 2009). Research estimates that about one-third of food produced for human consumption is lost due to waste, of which a substantial amount is discarded by consumers in their homes (Gustavsson, Cederburg, Sonesson, Van Otterdijk, & Meybeck, 2011).

These four food-related behaviours as recommended by professionals are based on the available scientific evidence on health and environmental impact. In summary they are: reducing overconsumption; reducing consumption of low-nutrient energy dense foods; eating less animal- and more plant-derived foods; and finally reducing food waste.

1.3. Health, environment, and food – through the eyes of consumers

In order to develop effective policies, it is vital to consider these four food-related behaviours from the consumer behaviour and acceptance point of view. Additionally, there has been a call for more research to better understand consumer drivers and barriers towards healthy *and* environmentally friendly food choices (SDC, 2009), as previous food-related consumer research has mainly been conducted from either a health or environmental perspective, or on specific food-related behaviours, policy actions or product attributes. For example, Bisogni, Jastran, Seligson, and Thompson (2012) recently reviewed consumer perceptions of *healthy* diets and eating, while Lea and Worsley (2008) and Tobler, Visschers, and Siegrist (2011) investigated consumer acceptance of *ecological food* consumption. Studies into dietary behaviour changes are often performed on only one type of sub-behaviour, i.e. eating more plant based foods or fruits and vegetables (e.g. Lea, Crawford, & Worsley, 2006; Van Duyn et al., 2001). Industry and food policy initiatives, such as food labelling, have been researched for consumer acceptance and understanding of either health logos and nutritional labelling (e.g. Feunekes, Gortemaker, Willems, Lion, & Van den Kommer, 2008; Grunert, Wills, & Fernández-Selemín, 2010) or food logos related to environmental sustainability (e.g. Grunert, Hieke, & Wills, 2014; Hoogland, De Boer, & Boersema, 2007). To our knowledge, the dietary guidelines have only been considered from a *health* consumer behaviour point of view (e.g. Nicklas et al., 2013). In addition, there is a number of publications into consumer perceptions and acceptance of health and environment-related product attributes but only for specific food categories and products, ranging from functional foods through to meat, wine and olive oil (e.g. Koistinen et al., 2013; Krystallis, Maglaras, & Mamalis, 2008; Pomarici & Vecchio, 2014; Santosa & Guinard, 2011; Verbeke, Pérez-Cueto, De Barcellos, Krystallis, & Grunert, 2010).

Another challenge in the consumer research field is that consumers claim to find certain food attributes, such as ‘healthiness’ and ‘environmentally friendliness’, important but this does not necessarily translate into behaviour (Van Dam & Van Trijp, 2013). That is, asking consumers what product attributes are important to them in consumer studies may not reflect what attributes really determine their food choice (Mueller, Lockshin, & Louviere, 2010). Van Dam & Van Trijp (2011) suggest not only to include heavy users but also light users in consumer studies so to get a better understanding of this discrepancy between attitude and behaviour. They also argue it is important to use measures that better predict their actual behaviour, such as attribute determinance rather than importance ratings (Van Dam & Van Trijp, 2013).

Furthermore, there has been a call for a more holistic approach in food consumer research (Köster, 2009). There is a growing attention for less rational decision making by consumers, also in the field of healthy and sustainable diets (Garnett et al., 2015). For example, Aertsens, Verbeke, Mondelaers, and Van Huylenbroeck