



# The Impact of the Organic Label Halo Effect on Consumers' Quality Perceptions, Value-in-Use and Well-Being

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## Abstract

Food well-being is an innovative field of research analysing the complex consequences of food intake on body and mind. In face of mounting civilization diseases and environmental challenges promoting healthy and sustainable diets is crucial. For consumers it is difficult however, to assess the healthiness and environmental friendliness of a product. Food labels, like the organic one, are therefore used as extrinsic cues to help customers distinguish between alternatives.

This paper analyses how the organic label biases consumers' quality perception, a phenomenon that has been referred to as the organic label halo effect. It further intends to uncover the links between several quality dimensions and their consequences as reflected in value-in-use. Finally it aims to detect if those consequences ultimately lead to enhanced post-prandial well-being.

A quantitative study in an experimental canteen setting was conducted to answers those questions. Structural equation modelling (SEM) was applied to test the hypotheses. The results indicate a positive impact of the organic label halo effect on consumers' quality perceptions in terms of health & safety, environmental friendliness & animal welfare as well as prestige. Those in turn were shown to positively influence on several value-in-use dimensions, including social, altruistic, functional and hedonic value. Finally, the latter two were significantly related to well-being.

Hence, this research shows that providing organic food in a canteen ultimately enhances consumer well-being through inferential beliefs on quality and value evoked by the label. The findings help to better understand the links between food consumption and subjective well-being and are therefore of interest for policy makers and researchers around the world.

**Keywords:** food well-being; organic label halo effect; value-in-use; perceived quality; extrinsic cues.

## 1. Introduction

Prevailing global challenges like climate change or the proliferation of civilization diseases cause policy makers around the world to promote sustainable practices that contribute towards the collective well-being of societies (Larceneux et al., 2012). The conventional, industrialised agriculture and food production systems are often criticised for being co-responsible for many of these problems, for instance through their extensive use of pesticides and fertilizers (Lockie et al., 2004). Nowadays, a new generation of shoppers has emerged, who refuses the intensive agricultural practices and shows concern for animal welfare and the environmental impact of farming (Janet Eastwood, 1995). These customers desire more information on production related aspects so they can choose for themselves which product they want to purchase (Zanoli and Naspetti, 2002). This has been referred to as sustainable consumption behaviour.

The concept has been recognized by the United Nations as an important tool for environmental protection and social change and was included as one of the 17 UN Sustainable Development Goals that aim to transform the world until 2030 (Nations, 2015).

Food-labels are important tools to enable sustainable consumption behaviour as a means of information and transparency (Caswell and Mojduszka, 1996). They allow consumers to distinguish between products for example by signalling environmentally benign outcomes and therefore act as information tools (Grankvist et al., 2004). On the market, many different eco-labels exist, however, most of them are rather unknown to customers and hence also not trusted (Drexler and Fiala, 2018). The most well-known eco-label is the organic one. It dates from the 1970s in the US and has consistently been shown to be positively perceived by consumers (Howard and Allen, 2006).

Organic production started as an alternative movement in the 1920s in Europe, driven by the growing industrialization and agglomeration in the agricultural sector. Since then it has grown tremendously and is now regulated at national and supranational levels (Torjusen et al., 2001). As organic products are characterized by many so-called credence attributes that consumers cannot evaluate easily, like production methods, animal welfare or the use of pesticides and fertilizers, labels are used as extrinsic cues to indicate their hidden characteristics. However, since credence food labels are a relatively new phenomenon, the associated body of research is still rather limited (Fernqvist and Ekelund, 2014).

Existing research has focused mainly on identifying demographic characteristics of organic food consumers (e.g. Hughner et al., 2007; Lockie et al., 2004), their purchasing motivations (e.g. Magnusson et al., 2003; Zanolini and Naspetti, 2002) and relevant product attributes of organic produce (e.g. Harper and Makatouni, 2002; Wier et al., 2008). Some have also looked at the purchasing barriers including price, mistrust or convenience (e.g. Magnusson et al., 2001; Padel and Foster, 2005). A few authors have used means-end chain theory to identify the driving forces behind organic food consumption (e.g. Makatouni, 2002; Padel and Foster, 2005; Zanolini and Naspetti, 2002). This research follows the latter authors but aims to examine all constructs in the theory including attributes, consequences and end-goals and specifically the relationships between those concepts.

Attributes are the basis for quality evaluations but since they are not always objective, it is necessary to measure how customers subjectively perceive them (Lee and Yun, 2015). It has been postulated that consumers are often unaware of what the organic label actually certifies so they build their own associations and beliefs about its meaning (Vega-Zamora et al., 2014). These inferential beliefs are likely to positively influence their quality evaluations, a phenomenon that has been referred to as the organic label halo effect (e.g. Apaolaza et al., 2017; Lee et al., 2013). However, more research is needed in order to better understand the mechanisms of the effect in different settings (Apaolaza et al., 2018).

So far, only a few studies have linked organic product attributes to perceived value. Value-in-use is believed to stem from the consequences consumers associate with the use of a product (Woodruff, 1997). One study by Lee and Hwang (2016) found that eco-friendliness and food safety significantly impacted on perceived value. Furthermore, Vega-Zamora et al. (2014) identified that consumers experience hedonic pleasure when eating organic products. Research on those effects is however really scarce (Apaolaza et al., 2018). In fact, it is striking that many studies focusing on purchasing motivations for organic food completely miss out on the differentiation between purchaser and consumer and are therefore likely to be at best incomplete (Hughner et al., 2007).

Finally, there is only limited research on the underlying values of organic food purchasing (Padel and Foster, 2005). One end-goal that is commonly identified in those

studies is well-being (e.g. Padel and Foster, 2005; Zanolini and Naspetti, 2002). Indeed, in the last years, food well-being has emerged as an innovative research stream analysing the complex consequences of food consumption for the body and mind (Bublitz et al., 2013). In a recent contribution, Apaolaza et al. (2018) found a positive impact of the organic label halo effect on subjective well-being and asked for more research into that area. Moreover, in the latest *Ökobarometer* (2017), a representative study on organic food consumption in Germany, the participants referred to individual well-being as one of the top 5 reasons for buying organic products. The study further revealed favourable attitudes and a high demand for organic meals in canteens, where so far the supply is rather limited (*Ökobarometer*, 2017). Even though the well-being of the work-force is fostered by many companies (Diener, 2006), it is striking that so far, to the author's best knowledge, no research has yet analysed how organic food provision in canteens impacts on employee well-being.

This research intends to fill the identified literature gaps by evaluating the mechanisms of the organic label halo effect in a canteen setting. In accordance with means-end chain theory, it analyses how the quality attributes of food products relate to specific value-in-use dimensions in a consumption situation. Finally, this research contributes to the growing research stream of food well-being by assessing consumers' post-prandial well-being. Taken together, the following research questions are addressed:

1. How does the organic label halo effect impact on consumers' quality perceptions of food in a canteen setting?
2. What are the links between specific quality dimensions of organic food and perceived consequences as reflected in value-in-use?
3. Does providing organic food in canteens ultimately lead to enhanced post-prandial well-being through the benefits associated with its consumption?

To answer these questions, a quantitative study in a canteen setting was conducted. Participants were randomly assigned to two groups, one being treated with an organic food offer in a canteen setting. A t-test was used to prove the halo effect by analysing group differences in terms of respondents' quality evaluations. Subsequently, structural equation modelling (SEM) was applied to test for the hypothesized relationships between the constructs in the model.

The findings show a clear indication of a positive organic label halo effect on quality evaluations in a canteen. Moreover, the quality beliefs are significantly related to several value-in-use dimensions and ultimately well-being. Hence, this research argues that providing organic food in canteens positively biases consumers' quality perceptions leading to enhanced employee well-being through the benefits associated with its consumption. The findings of this research help to better understand how food influences consumer well-being and may therefore be useful for researchers as well as practitioners.

The remainder of the paper is structured as follows: In the literature review, the theoretical foundations of this research will be explained. Based on this analysis, hypotheses and a conceptual model will be derived. Thereafter, in the methodology chapter, the data collection and analysis methods will be justified. Having discussed the research method, the findings will be presented and subsequently discussed with reference to existing literature. The paper will end with a short summary, practical implications and limitations as well as recommendations for future research.

## 2. Literature Review

In the following chapters, a conceptual framework will be derived based on existing literature on organic food, value-in-use and well-being. First, means-end chains as the underlying theory of this research will be explained. Thereafter, the distinct constructs of the theory i.e. product attributes, consequences and ends will be discussed in detail.

### 2.1. Theoretical Foundation: Means-End Chains

Means-end chain theory (Gutman, 1982) relates products to personal values. It builds on previous work of researchers like Abbott (1955) who supposed that goods are not purchased and consumed for their own sake, but for what they mean and stand for and the experience they provide. In this theory, objects or products can be seen as means that help to achieve desired end-goals through the benefits of their consumption. In other words, the attributes of a good lead to specific consequences that contribute to higher-order ends (Grunert, 1995).

A great example of a means-end chain for a low fat product by Grunert (1995, p. 172) helps to differentiate between the constructs in the model and illustrates how they are related to one another: "[...] the concrete product characteristic low fat is linked to the abstract product characteristic fewer calories, linked to the consequences slimming (functional) and social acceptance (psychosocial), which leads to the values self-confidence (instrumental) and self-esteem (terminal)".

Similar chains are likely to occur in the case of organic food consumption. Zanolini and Naspetti (2002) for instance showed that the quality attributes of organic produce centring around ingredients, certified production methods and taste are related to perceived benefits when consuming and higher order ends like health and well-being. In fact, means-end chain models have frequently been used to identify the driving forces behind organic food consumption (e.g. Makatouni, 2002; Padel and Foster, 2005).

The following chapters are structured according to the components of means-end chains. First, it will be looked at how product attributes, including the organic label as an extrinsic cue, form the basis of consumers' quality perceptions. Thereafter, the discussion will turn towards the consequences of these attributes as reflected in value-in-use. Hypotheses will be formulated on how specific quality attributes

of organic food products influence on consumer value perceptions. Finally, the concept of well-being as an end-goal in organic food consumption will be presented.

### 2.2. Perceived Quality

This chapter takes a closer look at the concept of perceived quality. Based on cue theory, it will be argued that the label as an extrinsic attribute leads to the activation of descriptive and inferential beliefs creating a halo effect that biases consumers' quality evaluations. On the basis of existing literature, hypotheses will be derived on the effect of the label on specific quality attribute perceptions, including health & safety, environmental friendliness & animal welfare as well as prestige. To start with, the chapter will begin with a definition of quality and product attributes.

#### 2.2.1. Product Attributes as the Basis for Quality Perceptions

Product attributes form the basis of means-end chain models. Any product represents a bundle of attributes (Gutman, 1982). The term refers to the properties or characteristics of a product, i.e. what a good encompasses or is made of. Hence, product attributes simply constitute quality aspects of a good that influence consumers' quality evaluation (Grunert, 1995).

Perceived quality has been defined as "the customer's perception of the overall quality or superiority of a product or service with respect to its intended purpose, relative to alternatives" (Aaker, 1991, p. 85). According to Porter (1980), the superior quality of a product is the basis for consumer value and may lead to a sustainable competitive advantage. In the words of Golder et al. (2012, p. 1) "firms compete on quality, customers search for quality, and markets are transformed by quality".

Zeithaml (1988) ascertained the influence of product intrinsic and extrinsic attributes on quality perceptions. According to her, perceived quality is a global assessment of attributes on a higher level of abstraction that is similar to attitude, but differs from objective quality (Zeithaml, 1988). This idea is supported by the notion, that quality perceptions do not necessarily require experience but can just be formed based on specific attributes of a product (Rust et al., 1994).

In the literature, three different categories of product attributes are mentioned; search, experience and credence attributes (Darby and Karni, 1973; Nelson, 1970). Search attributes include characteristics that can be seen and assessed via the senses before purchase, like the colour or smell of a good. Experience attributes encompass things that can only be appraised during consumption like a food's taste, while credence attributes, like production methods, cannot be evaluated by customers even after consumption (Caswell and Mojduszka, 1996).

Many of the issues that are of increasing importance for consumers nowadays belong to the category of credence attributes for which they have to rely on information provided by others (Ophuis and Van Trijp, 1995). As customers cannot assess the safety or environmental friendliness of a product,

organic food is generally considered to be a so-called credence good (Caswell and Mojduszka, 1996). Hence, the only way to build quality evaluations and to distinguish organic from conventional products is to refer to a cue (Vega-Zamora et al., 2014).

### 2.2.2. Cue Theory

Cue Utilization Theory was mainly developed by Cox (1967) and Olson and Jacoby (1972). In order to choose between a given set of alternatives, customers try to overcome the existing information asymmetry and uncertainty by using quality indicators, so-called cues, that help them evaluate and choose between the offers (Cox, 1967). A cue is valued because consumers think it indicates a product's quality characteristics (Steenkamp, 1990). According to Cox (1967, p. 625), consumers "prefer cues highest in information value, that is, cues that best reduce the amount of their uncertainty." This is especially the case for goods with many credence attributes that cannot be determined by customers otherwise. It is important to mention that for Steenkamp (1990) quality cues classify as search attributes since they can easily be observed and analysed visually.

One differentiates between intrinsic and extrinsic product cues (Olson and Jacoby, 1972). The former ones include indicators such as shape or appearance that are related to the physical attributes and cannot be changed without altering the good itself. In contrast, extrinsic cues can be manipulated without changing the composition of the product for instance price, brand and information about manufacturing processes or animal welfare (Olson and Jacoby, 1972). Examples of extrinsic cues that help customers to assess the contents and production methods of food products are nutritional tables or eco-labels (Steenkamp, 1990).

### 2.2.3. Organic Label as a Cue

The organic label is a marketing tool (Drexler and Fiala, 2018). It helps customers to identify certain quality characteristics of goods that are otherwise invisible (Howard and Allen, 2006). In fact, the label might be the only reliable information consumers have on credence attributes such as production related issues. Hence, the label acts as a cue, transforming credence characteristics into search attributes (Caswell and Mojduszka, 1996).

In the European Union, common standards for organic produce have been defined that "aim at producing products of high quality; [...] that do not harm the environment, human health [...] or animal [...] welfare." (EC, 2007, p. L189/6). The regulation forbids genetically modified (GM) content and highly restricts the use of chemicals, fertilizers, pesticides and food additives. Furthermore, clear standards for animal rearing exist including housing conditions, breeding and feeding. The use of growth hormones for instance is strictly prohibited while access to open air areas is required by the regulation (EC, 2007).

Compliance with these standards is shown by using certified labels that are often directly printed on the packaging and prove a producer's attempts to ensure environmentally

sound production systems (Drexler and Fiala, 2018). The German national organic label ("Bio-Siegel") was introduced in 2001 for all products complying with the European regulations of organic farming. It may be used alongside the mandatory European logo that was introduced in 2010 to have a common label throughout the EU (BLE Bundesanstalt für Landwirtschaft und Ernährung, 2016).

Organic labels can be classified as positive labels, signifying better environmental performance in contrast to negative ones that warn about the harmful impacts of a product (Grankvist et al., 2004). For producers the certification is a way to distinct their offers in the market and achieve higher appreciation for their goods (Vega-Zamora et al., 2014). According to MINTEL (2000), the word organic has become a brand itself, thereby facilitating the charging of price premiums (Howard and Allen, 2006). In other words, the organic label acts as a quality enhancer and might lead to a competitive advantage for the supplier (Grankvist et al., 2004).

In consumer research, it is important to differentiate between the standards of labels as defined by regulators and the perceptions of customers who, according to Vega-Zamora et al. (2014), will have their own interpretation of the label. In fact, it has been postulated that even though most consumers have heard of the term organic and know some of its central features such as being chemical-free, they are often unaware of the actual standards of organic farming and production (e.g Hill and Lynchehaun, 2002; Yiridoe et al., 2005). In other words, regardless of the official meaning of the label, customers will build their own associations and their subjective perception will impact on how they see the product (Vega-Zamora et al., 2014).

### 2.2.4. Organic Label Halo Effect

Based on spreading activation theory (Collins and Loftus, 1975), it can be reasoned that the meaning of terms such as natural or organic stems from an individual's inferences of these words (Larceneux et al., 2012). Consumers associate different aspects with organic labels, which can be classified as descriptive or inferential beliefs based on whether they result directly from the information provided by the label or arise indirectly through cognitive associations. Those inferential beliefs stem from inferences between a cue, specific product attributes and their perceived benefits and are especially prevalent in the case of credence characteristics, which cannot be easily validated by the customer (Steenkamp, 1990).

As argued before, quality perceptions are formed on the basis of specific product characteristics (Ophuis and Van Trijp, 1995). With regards to organics, the label acts as a heuristic cue indicating the perceived superiority of the good in comparison to others (Vega-Zamora et al., 2014). Such a perceptual bias, where one specific attribute, in this case the label, affects the evaluation of others and thus determines the overall assessment of an object, has been referred to as a so-called halo effect (Thorndike, 1920).

The existence of an organic label halo effect has been previously shown (e.g. Apaolaza et al., 2017; Lee et al., 2013).

In fact, organic food is generally believed to be of higher quality than conventional alternatives (e.g. Hill and Lynchehaun, 2002; Larceneux et al., 2012). In a study by Apaolaza et al. (2017) on organic wine, the label led to higher ratings in almost all of the sensory attributes measured like aroma, taste and healthiness extending towards a higher hedonic liking and purchase intention. Similar effects were found by Vega-Zamora et al. (2014). In their focus-group study, organic food was considered advantageous in most of the properties studied, including flavour and naturalness, while at the same time participants were mostly unaware of the differences between organic and conventional products. In their words, the latter ones are not bad, but the organic ones are just better (Vega-Zamora et al., 2014).

Hence, the label biases a product's evaluation in different quality dimensions (Apaolaza et al., 2017; Fernqvist and Ekelund, 2014). In the following, a closer look will be taken at three quality dimensions in particular: health & safety, environmental friendliness & animal welfare as well as prestige. The former two have been shown to be the most important quality characteristics of organic food (e.g. Magnusson et al., 2003; Makatouni, 2002; Wandel and Bugge, 1997). Prestige was included as an interesting dimension which has not yet received much of attention in the literature.

#### *Health & Safety*

Health related aspects can be considered main elements of perceived product quality (Vega-Zamora et al., 2014). They belong to the typical credence attributes of groceries (Ophuis and Van Trijp, 1995). A food of higher quality is commonly understood as being healthier and vice versa. Health & safety aspects of groceries centre around ingredients, nutrients, additives and chemical residues. The organic label thereby acts as a cue that leads to the activation of consumer beliefs about the healthiness of the products (Vega-Zamora et al., 2014). Following different authors (Lee and Hwang, 2016; Vega-Zamora et al., 2014), in this research, naturalness was included as a sub-category of health & safety. As consumers consider natural products to be unprocessed and contain no additives the link to health & safety aspects is rather strong.

In a computer-based experiment by Schuldt and Schwarz (2010), participants rated an organic cookie as having lower calories than the non-labelled version thereby proving the halo effect of the label on health related aspects. This has also been shown for other products such as yoghurt (Lee et al., 2013). Furthermore, some studies identified consumer beliefs of organic food being more nutritious (Hill and Lynchehaun, 2002; Hoefkens et al., 2009). Hoefkens et al. (2009) for example found that compared to conventional vegetables, organic produce is considered superior in terms of nutritional value. To date, no consensus exists among researchers whether organic food actually comprises more nutrients than conventional ones (e.g. Yiridoe et al., 2005). However, customers perceive them to have less calories and more nutrients and hence, as healthier than their conventional alternatives (Hoefkens et al., 2009; Magnusson et al., 2001).

Moreover, consumers believe organic food to be produced in a natural way, thereby containing less chemicals (Hoefkens et al., 2009; Padel and Foster, 2005). Organic products are seen to be free from added substances, artificial ingredients and genetically modified materials (Harper and Makatouni, 2002). They are regarded as authentic, real food that comes directly from the farm to the customer (Vega-Zamora et al., 2014). Consequently, organic food is also considered to be safer than conventional alternatives (e.g. Hoefkens et al., 2009; Wier et al., 2008). According to Lockie et al. (2002), food safety includes issues around chemical residues or GM-content. Lower residues are of particular importance for fruits and vegetables as they are often eaten with their skin (Padel and Foster, 2005). The cognitive link between organic and food safety is regularly reinforced by food scares and outbreaks of animal diseases with the most prominent example being the BSE crisis (Hughner et al., 2007). Accordingly, it is hypothesized that:

H 1.1: The organic label (no label) leads to higher (lower) quality evaluations in terms of health & safety.

#### *Environmental Friendliness & Animal Welfare*

The environmental quality of food is gaining importance as part of the overall quality assessment (Torjusen et al., 2001). Consumers are increasingly aware of the ecological consequences of intensive farming (Harper and Makatouni, 2002). Organic production methods and the absence of agrochemicals are thought to lower the environmental impact (Padel and Foster, 2005). Environmentally sound production has been identified as a quality property of food in a study by Wandel and Bugge (1997). As organic farmers refrain from the extensive use of fertilizers and pesticides on their fields and have to adhere to specific regulations on bio-diversity, organic produce is generally seen as being more environmentally friendly (Larceneux et al., 2012; Lee and Yun, 2015).

In case of animal products, animal welfare is believed to represent an important quality attribute too (e.g. Howard and Allen, 2006; Wier et al., 2008). Generally, consumers nowadays are more aware of those issues due to emotive media coverage and campaigns of animal welfare associations (Janet Eastwood, 1995). Ethical issues related to rearing and husbandry are multifaceted and can be linked to intensive farming practices, like the use of growth hormones to produce meat in a fast and cheap way (Janet Eastwood, 1995). Furthermore, there is a high level of support among customers for specialised animal welfare labels (Howard and Allen, 2006) which are currently discussed and introduced in different markets like Germany.

Harper and Makatouni (2002) found evidence for the significant role of animal welfare concerns in purchasing decisions of organic food. They ascertain that consumers equate organic with free-range farming and animal friendliness. Moreover, participants in their survey indicated a clear link between the happy, healthy life of livestock on the farms and the quality of their products, be it eggs or meat (Harper and Makatouni, 2002). Organic meat may also be

considered superior in quality due to the non-use of growth hormones and antibiotics (e.g. [Torjusen et al., 2001](#)). Hence, it is hypothesized that:

H 1.2: The organic label (no label) leads to higher (lower) quality evaluations in terms of environmental friendliness & animal welfare.

### *Prestige*

Prestige was identified as an important quality dimension in a study by [Brucks et al. \(2000\)](#) referring to a product's inherent superior characteristics and its image. Goods fulfil symbolic needs, construct social identity and provide status ([Holbrook, 1999](#)). Especially in case of many credence attributes, symbolic aspects and brands become important quality characteristics as they signal a certain type of image and exclusivity ([Brucks et al., 2000](#)).

Organic has been identified before as being similar to a brand (MINTEL, 2000). Furthermore, it is considered to be a premium segment for higher socio-economic classes ([Harper and Makatouni, 2002](#); [Hill and Lynchehaun, 2002](#)). In a fMRI study, [Linder et al. \(2010\)](#) found that an organic label activated the same brain sections as luxury goods or brands. In fact, organic products have also been criticized for drawing symbolic boundaries and attracting only a wealthy, educated elite ([Johnston et al., 2011](#)). [Hill and Lynchehaun \(2002\)](#) already stated over fifteen years ago that organic food consumption is perceived fashionable as a result of media coverage, promotional activities and price premiums. It is likely that nowadays this relation is even more valid than before, considering the growing market share of ethical goods and recent food trends like veganism. Hence, organic products can be seen as status symbols ([Barrena and Sanchez, 2010](#)) and it is hypothesized that:

H 1.3: The organic label (no label) leads to higher (lower) quality evaluations in terms of prestige.

## 2.3. Value-in-Use

Having looked at how the organic label influences on customers' quality perceptions of food, this chapter turns towards the benefits that stem from the use of a product. While a product's quality attributes are generally important in buying decisions, consequences are pivotal in usage situations ([Woodruff, 1997](#)). It has been postulated that consumers derive value from quality ([Zeithaml, 1988](#)). Hence, value creation happens at the consequence level rather than the attribute one and consequences are reflected in value-in-use ([Woodruff, 1997](#)).

In the following, the concept of value and a typology of its different dimensions will be discussed. Thereafter, hypotheses will be derived on the links between the quality attributes of organic food and the respective value-in-use categories.

### 2.3.1. Consequences as Reflected in Value-in-Use

In the means-end chain hierarchy, value is believed to be a higher level of abstraction than quality ([Zeithaml, 1988](#)).

Based on a product's quality attributes, consequences and benefits arise that stem from the consumption of those goods. They can be defined as all results originating from the use of the product, including physiological and psycho-social consequences such as satisfying hunger or enhanced self-esteem and status ([Gutman, 1982](#)). The quality characteristics and product related inferences evoked by the organic label are likely to impact on consumers' evaluation of these goods for instance in terms of their functional health benefits ([Lee and Yun, 2015](#)).

Central to the model of means-end chains is the idea, that customers choose and consume goods that produce favourable outcomes while minimizing undesired consequences. Healthy products are chosen over harmful ones because they provide more benefits and reduce risks associated with their consumption ([Gutman, 1982](#)). According to [Gutman \(1982, p. 61\)](#), "all consumer actions have consequences and consumers learn to associate particular consequences with particular actions". As consequences are generally important for the evaluation of usage situations, they are reflected in consumers' value-in-use ([Woodruff, 1997](#)).

For a long time, value was believed to be embedded in the goods that were manufactured and delivered by companies to the customer ([Grönroos, 2008](#)). This was referred to as value-in-exchange. According to [Steenkamp \(1990\)](#), however, perceived value does not stem from the purchase of a product but from its consumption, referring back to the idea that products are not cherished for their own sake but for the experience they provide ([Abbott, 1955](#)). Groceries for example are not bought to simply possess them, but rather for their ability to provide value in the form of an enjoyable, nurturing meal ([Grönroos, 2008](#)). This idea has been coined value-in-use. The concept has been defined by [Macdonald et al. \(2016, p. 98\)](#) as the "customer-perceived consequences arising from a solution that facilitate or hinder achievement of the customer's goals". This definition also includes the idea that value can never be delivered, rather it is always uniquely determined by the beneficiary in usage situations ([Vargo and Lusch, 2008](#)).

### 2.3.2. Value Dimensions

Just like consumer goals, value-in-use proves to be a multifaceted construct (e.g. [Macdonald et al., 2016](#)). A useful typology to differentiate between the value concepts has been proposed by [Holbrook \(1994\)](#). He distinguished between 3 factors: extrinsic/intrinsic, self-oriented/other-oriented and active/reactive to create a 2x2x2 framework of consumer value. Later, he simplified the model to only include the two first mentioned factors ([Holbrook, 2006](#)), as depicted in Figure 1.

The differentiation between extrinsic and intrinsic value captures the basic idea of means-end theory. In case of extrinsic value, the consumption experience serves as a functional, instrumental means to achieve further goals, while in the case of intrinsic value the experience is appreciated for its own sake ([Holbrook, 1994](#)). Furthermore, value is considered self-oriented when it is valued for selfish reasons

	<i>Extrinsic</i>	<i>Intrinsic</i>
<i>Self-oriented</i>	Economic Value	Hedonic Value
<i>Other-oriented</i>	Social Value	Altruistic Value

**Figure 1:** Typology of Customer Value (Holbrook, 2006, p. 715)

or other-oriented when it is valued for the sake of others like family members, a community or even the planet at the macro level (Holbrook, 1994).

Based on these classifications, four distinct dimensions of value-in-use emerge that are regularly referred to in the literature (see Figure 1): economic/functional value, hedonic value, social value and altruistic value (Holbrook, 2006). However, these are not mutually exclusive as "any given consumption experience can and generally does entail many or even all of the different types of consumer value" (Holbrook, 1999, p. 186).

Other authors have found further value dimensions. Sheth et al. (1991) for example also included epistemic value that stems from the novelty of a product and conditional value which incorporates situational circumstances. In a recent contribution, Kleinaltenkamp et al. (2018) included among others environmental sustainability as a separate value-in-use dimension. In Holbrook (2006) framework this is covered by the more general category of altruistic value.

To decide on the relevant value dimensions for any analysis, one has to consider the context and type of product or service researched (Bruns and Jacob, 2016). Consumers of food products can obtain value from its taste or healthiness, but likewise from an enjoyable consumption experience or by contributing towards environmental protection (Wier et al., 2008). The consequences customers are interested in when consuming products or services are reflected in their buying motives (Grunert, 1995). Correspondingly, it can be looked at the drivers of food purchases to find out what consumers desire in terms of value.

Food consumption has been shown to be driven among others by egoistic and hedonic reasons, such as perceived benefits for one's health or pleasure and enjoyment (Step-toe et al., 1995). Moreover, altruistic considerations related to the environment and animal welfare are increasingly reflected in customers' buying motives (Lindeman and Väänänen, 2000). Last but not least, food choice is also believed to be influenced by the social image of a product (Renner et al., 2012).

Based on these findings, it was decided to refer to the four value dimensions of Holbrook (2006) framework. The quality aspects of food products as discussed in chapter 2.2 including health & safety, environmental friendliness & animal welfare, and prestige can all be related to those four value dimensions. In the following, each of them will be discussed

in detail and hypotheses on the links between the quality attributes and those value dimensions will be derived.

#### *Functional Value*

According to Sheth et al. (1991, p. 160), functional value can be defined as "the perceived utility acquired from an alternative's capacity for functional, utilitarian or physical performance [...] through the possession of salient functional, utilitarian or physical attributes". Hence, the term refers to the practical utility provided by using a specific product or service. This type of value is sought for the personal benefit, rather than a social one (Holbrook, 2006). With regards to food, this could be the intake of healthy nutritious products to maintain a healthy lifestyle (Grunert, 1995).

Health motives are often found to be the most important factor for food choices, especially in case of organic products (e.g. Padel and Foster, 2005; Zanolini and Naspetti, 2002). Health related goals can be subdivided into different categories: promotion i.e. high fiber intake (Bublitz et al., 2013), prevention i.e. pursuing a healthy lifestyle, and defence i.e. not eating harmful ingredients (Vega-Zamora et al., 2014).

The absence of chemicals and genetically modified content positively impacts on the perceived health consequences of food consumption (Baker et al., 2004; Vega-Zamora et al., 2014). Lockie et al. (2004) for example identified natural content to be related to functional aspects such as lower risks. As consumers believe natural products to be healthier, they realise short-term health benefits through their consumption (Magnusson et al., 2003). Nevertheless, some customers also link naturalness to negative associations like a worse physical appearance of fruits and vegetables (e.g. Padel and Foster, 2005). However, the functional benefits associated with the absence of additives and GM-content are likely to be more important in the context of food products.

Food safety concerns have been found to drive consumption of organic food too (e.g. Harper and Makatouni, 2002; Yiridoe et al., 2005). Generally speaking, the use of chemicals and additives is linked to unknown long-term health effects by customers (Lockie et al., 2004). Hence, avoiding those products is likely to reduce consumers' perceived risks, giving them a sense of higher security (Torjusen et al., 2001). Therefore, it is hypothesized that:

H2.1a: The higher the perceived quality of food in terms of health & safety, the higher consumers' functional value.

Food attributes linked to the environment, like the use of less pesticides and fertilizers may contribute towards the collective welfare of the community but may at the same time be beneficial for the individual, for example due to functional reasons (Harper and Makatouni, 2002; Wandel and Bugge, 1997). The non-use of pesticides or wax for instance is seen to be beneficial for one's health (Baker et al., 2004). This is especially true for fruits and vegetables as they are often eaten with their skin (Padel and Foster, 2005). In some cases, customers reported lower functional value for environmentally friendly goods e.g. for household cleaners without chemical ingredients (Green and Pelozo, 2011). However, the before mentioned aspects seem to be predominant for food products.

Regarding meat products, participants in a study by Harper and Makatouni (2002) also rose concerns about the use of growth hormones or antibiotics in conventional animal rearing. Furthermore, a means-end study by Makatouni (2002) revealed that consumers see a clear correlation between animals' living conditions on the farm and their own life and health, reflected by the idea of "you are what you eat" (Makatouni, 2002, p. 351). In this sense, animal welfare provides consumers with personal i.e. functional benefits in terms of their own health (Harper and Makatouni, 2002). Hence, it is hypothesized that:

H2.2a: The higher the perceived quality of food in terms of environmental friendliness & animal welfare, the higher consumers' functional value.

#### *Hedonic Value*

Hedonic value stems from the pleasure associated with a consumption experience (Holbrook, 2006). It is derived from feelings and affections (Sheth et al., 1991). Food for example may be associated with childhood memories and could provide feelings of comfort (Sheth et al., 1991).

Besides being related to functional value, health & safety aspects of food products are also likely to be linked to hedonic value, as food additives and chemicals impact on how customers feel about a product (Lee and Yun, 2015; Padel and Foster, 2005). In a study by Baker et al. (2004), the avoidance of unnatural content was found to be related to better taste and higher state of enjoyment when consuming. Lockie et al. (2004) identified natural content to evoke emotional appeal and pleasure among consumers. Moreover, in a study by Vega-Zamora et al. (2014), naturalness was associated with pleasant feelings and evocations of childhood and nature. Hence,

H2.1b The higher the perceived quality of food in terms of health & safety, the higher consumers' hedonic value.

Pickett-Baker and Ozaki (2008) found that people felt good about using products that were less harmful for the environment. Supporting the idea of a hedonic satisfaction, De Young (1996) posited, that people engage in sustainable behaviours for their personal contentment. It has been

shown that in case of organic food, consumers may get emotional satisfaction through its consumption as they feel to contribute to the well-being of animals and the wider environment (Harper and Makatouni, 2002, p. 297). But even for conventional products, animal welfare remains a highly emotional issue and is thus likely to impact on the emotional benefits associated with its consumption (Janet Eastwood, 1995). Accordingly, it is hypothesized that:

H2.2b: The higher the perceived quality of food in terms of environmental friendliness & animal welfare, the higher consumers' hedonic value.

#### *Altruistic Value*

Altruistic value occurs from the pursuit of doing something for the sake of others rather than for one's own benefit. It encompasses ethical as well as spiritual issues and is characterized as other-oriented in the framework of Holbrook (2006). With regards to food products, the belief to contribute to environmental protection or to support better housing conditions for animals may provide customers with this type of value.

When buying environmentally friendly goods consumers can get positive rewarding feelings from that activity (Pickett-Baker and Ozaki, 2008). It has been argued before that consuming altruistically in line with one's moral principles provides customers with a "warm glow" (Andreoni, 1990, p. 464). This might be especially important for buyers of organic products who feel like they contribute to something better and act morally right (Dean et al., 2008). In fact, means-end studies on organic food consumption regularly identify links between the use of organics and consumers universal values of benevolence and altruism (e.g. Makatouni, 2002; Zanolli and Naspetti, 2002).

Generally speaking, customers have become increasingly aware of the inhumane treatment of animals in industrialized farming due to emotive media coverage (Janet Eastwood, 1995). Hence, especially in case of animal products, altruistic benefits like the support of better animal housing conditions are sought for by customers. In a study by Baker et al. (2004) for example, taking responsibility for other creatures was identified as an important higher-order goal that was valued by consumers. Therefore, it is hypothesized that:

H2.2c: The higher the perceived quality of food in terms of environmental friendliness & animal welfare, the higher consumers' altruistic value.

#### *Social Value*

Social value stems from customers' associations of a good with specific reference groups (Sheth et al., 1991). It has been defined as "the utility derived from a product's ability to enhance social self-concept" (Sweeney and Soutar, 2001, p. 211) and is related to self-image, prestige and status (Holbrook, 1994). Feeling accepted and appreciated can constitute a source of value (Grönroos, 2008) especially in the presence of strong normative beliefs that have been defined by



Ajzen (1991, S. 195) as an individual's perception of the approval of a behaviour by a so-called "important others". Consequently, when the use of specific products enhances one's status, social value occurs (Holbrook, 2006).

In means-end theory, psychological and sociological consequences such as self-esteem or status are considered important aspects linking products to end-goals (Gutman, 1982). There appears to be a concurrence between a person's lifestyle and the goods he or she purchases. Products have long been regarded as carrying personal and social meaning (Levy, 1959). From that perspective, they are not seen as objects but rather as symbols used for distinction and proof of social positions.

It has been argued before that buying ethical products or adopting a certain diet like veganism may also be driven by the desire to be associated with a particular group (Bublitz et al., 2010). This might be especially true for organic produce, that is associated with higher prices and prestige (Harper and Makatouni, 2002). It is considered a status symbol that may lead to enhancement in the eyes of others (Barrena and Sanchez, 2010; Green and Peloza, 2011). In fact, Johnston et al. (2011) showed that privileged groups constructed symbolic boundaries around ethical food consumption to show themselves as behaving morally right. Eating high-quality products was seen by participants as providing status and cultural distinction. Hence, it is hypothesized that:

H2.3: The higher the perceived quality of food in terms of prestige, the higher consumers' social value.

## 2.4. Well-Being

While the previous chapter looked at the links between specific quality dimensions of food products and value-in-use perceptions, this chapter presents the concept of well-being as an end that customers try to achieve through the consumption of high quality goods (e.g. Padel and Foster, 2005; Zanolli and Naspetti, 2002). First, the concept will be explained in general with a specific focus on the work environment. Then, the rather new research stream of food well-being will be presented and used in order to derive hypotheses on the links between value-in-use and well-being with regards to food consumption.

### 2.4.1. Well-Being as an End-Goal and Societal Value

It is important to note the difference between the concepts of value and values in the plural form as both are distinct yet related to one another. Value refers to the outcome of a consumer's evaluative judgement of the consequences associated with a consumption situation as described before, whereas values are the underlying norms, ideals or goals that form the basis of the underlying evaluation criteria (Holbrook, 1999). In the words of Gutman (1982, p. 61): "values give consequences valence and importance".

Values can be defined as specific end-states of existence that are preferred over others. They stem from culture, social surroundings and personality and are shaped by institutions existing in any society (Rokeach, 1973). Values serve as guiding principles in everyday life and may vary in their relative importance depending on the situation. In studies on organic food consumption well-being is commonly identified as an important end-goal (e.g. Padel and Foster, 2005; Zanolli and Naspetti, 2002).

Even though a common definition of the term well-being is missing so far, it is agreed that it is a broad concept that includes much more than just physical health (Diener, 2006). According to the Dictionary (1989, p.133), well-being is "the state of being or doing well in life; happy, healthy, or prosperous condition; moral or physical welfare (of a person or community)". What is important though, is that the term is subjective in its nature as it is an umbrella term for an individual's evaluation regarding his or her life, body and mind (Diener, 2006). The evaluation can either occur at a given moment or over a longer period of time and normally includes cognitive and affective components, ranging from work satisfaction to happiness and fulfilment (Diener, 2006). Marks and Shah (2004) further denote personal development and contribution to society as important constituents of the construct. Taken together, subjective well-being has been referred to as a measure for both, individual and societal quality of life (Diener, 2006).

The concept is of increasing interest for various stakeholders, including managers, politicians and supranational organisations due to the benefits associated with it (Diener, 2006). An individual's state of well-being affects the cognitive and emotional functioning of the being and may also have positive spill-over effects on other people. Indicators of subjective well-being provide useful insights that may inform policies for work life, social services, recreation and the environment (Diener, 2006).

Besides in global measures of life satisfaction, well-being indicators can further be used in specific domains such as the work environment (Diener, 2006). HR-managers in many companies are committed to foster the topic by regularly gathering and evaluating data on well-being through surveys (Grant et al., 2007). Their focus on this topic seems to be justified by its significant impact on job performance and motivation as well as absenteeism and turnover rates (Tenney et al., 2016).

Well-being related interventions may be directed towards the individual or the collective and can be classified proactive, e.g. fitness classes or reactive measures in case of massages (Evans and Prilleltensky, 2007). Important in this regard is also the provision of healthy, nutritious meals that satisfies employees' needs and gives them hedonic pleasure. Access to nutritious food and a clean environment were identified before as signs of collective well-being, that are beneficial for the individual too (Evans and Prilleltensky, 2007). In fact, it has been proposed that workplace lunches contribute to employee well-being (e.g. Haugaard et al., 2016; Price et al., 2016). Hence, in the following, it will be looked at

how food influences on consumer well-being.

#### 2.4.2. Food Well-Being

Food well-being (FWB) is a rather recent stream of transformative consumer research which focuses on analysing the impacts of food choices on health and subjective well-being (Bublitz et al., 2013). There has been a growing interest into that topic in recent years due to the mounting number of so-called civilization diseases (Ares et al., 2014). The concept of FWB is linked to the diverse consequences people experience when consuming food, ranging from physiological to psychological and social ones (Block et al., 2011). It refers to the post-prandial state after food consumption and includes dimensions such as satisfaction, relaxation, energy or sleepiness (Boelsma et al., 2010).

Indeed, well-being has been identified as an important motive and end-goal in the means-end hierarchy of organic food consumption (e.g. Padel and Foster, 2005; Zanolli and Naspetti, 2002). Prior research has shown that labelling which refers to production methods, environmental impact or animal welfare may enhance consumer well-being (Block et al., 2011). Moreover, Yiridoe et al. (2005) reasoned that the quality attributes of organic products can be considered input factors of a consumer's demand function for enhanced well-being. The positive link between organic food and well-being may either stem from the physiological reasoning of organics being healthier or from a purely cognitive perception based on consumers' beliefs and expectations of labelled products (Apaolaza et al., 2018). In the latter case, the influence of food consumption on subjective well-being may be attributed solely to the halo effect of the organic label. In fact, in their study, Apaolaza et al. (2018) also tested this effect empirically and found highly significant effects on the proposed causal relationships between the consumption of organically labelled food and subjective well-being.

Generally speaking, it is believed that food choices strongly affect subjective well-being (Ares et al., 2014). In their study, the authors showed that the effects of food consumption on well-being were related to hedonic aspects, such as pleasure but also physical health and personal fulfilment. When participants were prompted to think about top of mind associations on food and well-being, they mostly mentioned health as well as fruits and vegetables (Ares et al., 2014). Important food characteristics were vitamins, fibre intake and naturalness with food additives being negatively linked to perceived well-being. Food choice was thought to be related to intellectual dimensions such as participants' mental performance, concentration and sleepiness but likewise to psychological ones like pleasure, good mood, energy and vitality (Ares et al., 2014).

Even if the results of Ares et al. (2014) were only derived from a group of 120 individuals with similar sociocultural backgrounds, participants' associations and conceptualisation of food related well-being provide valuable insights. When consumers perceive meals to be healthy, nutritious and without additives, its consumption could have a positive impact on their subjective well-being (Apaolaza et al., 2018).

However, in this research it is argued that it is not the quality attributes of food products that directly impact on well-being but rather, in accordance with means-end chain theory, the consequences that arise from these attributes in usage situations. Bublitz et al. (2013) for example contended that FWB stems from functional, hedonic and symbolic consequences. Grant et al. (2007) further referred to eudaemonic fulfilment and social aspects as being important in workplace settings. Thus, subjective post-prandial well-being is likely to be influenced by all of the value dimensions of food products. Hence it is hypothesized that:

H3.1: The higher the functional value-in-use of food, the higher consumers' subjective well-being in the post-prandial state.

H3.2: The higher the hedonic value-in-use of food, the higher consumers' subjective well-being in the post-prandial state.

H3.3: The higher the altruistic value-in-use of food, the higher consumers' subjective well-being in the post-prandial state.

H3.4: The higher the social value-in-use of food, the higher consumers' subjective well-being in the post-prandial state.

#### 2.5. Research Model

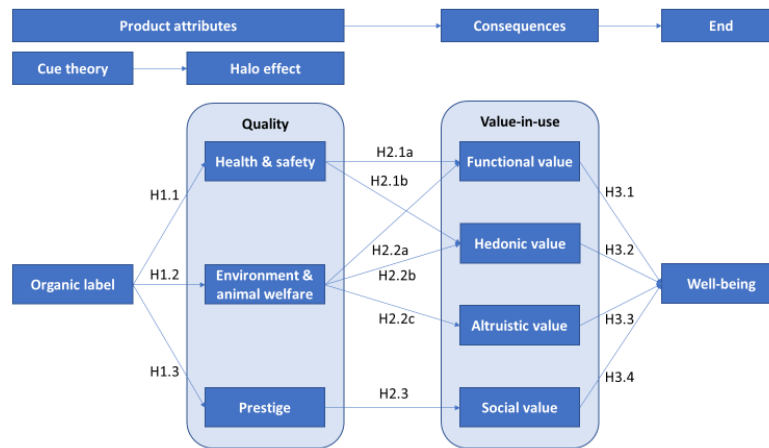
The hypothesized relationships between the latent variables are summarized in the research model (Figure 2). The organic label as an extrinsic cue is believed to positively impact on consumers' quality evaluations in terms of health & safety, environment & animal welfare as well as prestige through the halo effect. These quality perceptions are likely to lead to specific consequences, reflected in the four value-in-use dimensions by Holbrook (2006). Finally, these value categories are hypothesized to positively contribute to consumers' subjective state of well-being after consumption.

### 3. Methodology

Having discussed the literature on organic food consumption, value-in-use and well-being, this chapter describes the methodology that was chosen in order to answer the research questions and to prove the hypothesized links between the constructs in the conceptual model. First, the study design, the pre-test and the data collection methods will be explained. Thereafter, the sample characteristics and the items used to measure the constructs will be presented. The chapter closes with a short description on the method of analysis.

#### 3.1. Study Design

In this research project, a quantitative study design was applied that allowed for an efficient collection of data from many participants and a convenient statistical analysis (Saunders et al., 2009). Throughout the research process,



**Figure 2:** Research Model

the collected data was treated confidentially. It was only used for the purpose of this project and will be deleted upon completion. Before starting the survey, every participant received information on the topic of the study and was informed about data privacy. The participation was voluntary and every participant was able to withdraw from answering the questions at any time. However, in order to ensure a high response rate, it was decided to incentivise participation by raffling three Amazon vouchers among all participants who voluntarily consigned their e-mail addresses.

The survey was conducted online in a virtual canteen setting. At the beginning of the questionnaire, respondents were randomly allocated to two groups. Both groups received a short description of the canteen setting. Participants were asked to project themselves into the situation before answering the questions. Subsequently, three exemplary meals were shown, which were adapted from the menu charts of *Apetito* (2018), one of the biggest food service providers in Europe. Two meals with meat were included: pork escalope with spaetzle and mixed vegetables as well as chicken breast with rice, cauliflower and carrots. Moreover, one vegetarian option was added: spinach cappelletti with pesto sauce.

Both groups received the same meals and pictures, however, the experimental group was treated with a verbal description and visual stimuli of the German national organic label in combination with the European logo (see Figure 3). This single-cue design secured that all other stimuli were held constant so that differences between the two groups could be traced back to the label. Organic standards were not explained in the survey, as participants' beliefs about the meaning of the label and its impact on quality and value perceptions were of interest. A manipulation check was placed at the end of the questionnaire in order not to prime the answers of both groups. The full survey can be found in the Appendix.

### 3.2. Pre-Test

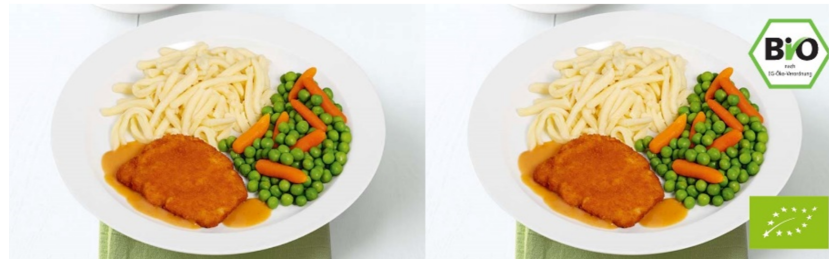
Before running the survey, the questionnaire was pre-tested between the 24th of May and the 1st of June 2018 by

twelve respondents, focusing on comprehensibility and orthography. Additionally, cognitive interviewing was applied with two participants. They were asked to fill in the survey in the presence of the researcher and to voice all concerns or thoughts they had while answering the questions. This procedure ensured, that all items were interpreted and understood as intended (Bruns and Jacob, 2016). The feedback of these pre-tests led to slight adjustments in the wording of some items. Furthermore, one of the meals was renamed as both participants of the cognitive interviews were unsure about the meaning of the word cappelletti, hence this was changed to the more well-known term ravioli.

### 3.3. Data Collection and Sample

For this research project, the data was primarily collected online through a self-administered web survey using Qualtrics. A print-out version was also derived to reach more participants. However, the focus of the data collection was on the online survey. This was considered to be most convenient for the respondents who could answer the questions wherever and whenever they wanted. One drawback, that is commonly referred to when gathering data through an online questionnaire is that the answers are standardised which does not allow for in-depth understanding (Saunders et al., 2009). However, given the time-constraints of this research, this data collection method was considered to be most effective in order to reach a large sample size.

The data was gathered between the 5th of June and the 1st of July 2018. The survey was distributed via mail and through social media channels but handed out in print at different occasions, too. Hence, a mix of self-selection and convenience sampling was applied in this research. This ensured high response rates but led to an unrepresentative sample so that the findings cannot easily be generalised (Saunders et al., 2009). Nevertheless, this sampling strategy was chosen to get as many people as possible to answer the questionnaire thereby also enhancing the representativeness of the findings.



**Figure 3:** Manipulation of the Food Offer (Pictures adapted from [Apetito, 2018](#))

**Table 1:** Sample Characteristics

		Total sample		Experimental group		Control group	
Demographics		N	Rel. Freq.	N	Rel. Freq.	N	Rel. Freq.
Gender	Female	104	61%	55	62%	49	60%
	Male	66	39%	33	37%	33	40%
	N/A	1	-	1	1%	-	-
	Total	171	100%	89	100%	82	100%
Age group	<20	7	4%	3	3%	4	5%
	20-30	97	57%	53	60%	44	54%
	31-45	20	12%	10	11%	10	12%
	46-60	35	20%	17	19%	18	22%
	>60	8	5%	4	5%	4	5%
	N/A	4	2%	2	2%	2	2%
	Total	171	100%	89	100%	82	100%

Altogether, 213 responses could be collected that were closely examined and cleansed before the subsequent analysis. In order to deal with missing value problems, a forced-answer approach was used to make participants answer all questions, risking that some respondents might then exit the survey ([Hair Jr. et al., 2014](#)). In fact, 33 responses had missing values above 15%. These were excluded from the data set. Moreover, in nine cases, the manipulation was not successful. The manipulation was considered unsuccessful when respondents in the control group agreed or strongly agreed to the statement that organic food was offered in this canteen, and vice versa for the experimental group. Last but not least, one answer was excluded due to implausible answer patterns.

Hence, taken together, 171 valid responses could be collected. The total sample consist of 61% female and 39% male participants ranging from 14 to 93 years with an average age of 34,45. The demographic profiles of the two groups are rather similar as can be seen from the data in Table 1.

### 3.4. Measurement Items

In order to assess the latent variables in the model, it was referred to established scales on food quality dimensions, value-in-use and well-being. As all constructs were measured reflectively, the items were interchangeable and highly correlated so that items could be left out without changing the meaning of the construct ([Hair Jr. et al., 2014](#)).

Participants' quality perceptions of the meals offered in the canteen were recorded by using items referring to their

beliefs about the foods' attributes (see Table 2). Health & safety qualities were measured using five items from [Step-toe et al. \(1995\)](#), three items of [Lockie et al. \(2002\)](#) and two items by [Renner et al. \(2012\)](#). Those also included specific items on naturalness, which, as argued in Chapter 2.2.4.1, was considered a subcategory of health & safety in this survey. The items on environmental quality & animal welfare were taken from [Renner et al. \(2012\)](#) and [Lindeman and Väänänen \(2000\)](#), while prestige was measured with three items of [Renner et al. \(2012\)](#) and one item from [Sweeney and Soutar \(2001\)](#).

Value-in-use scales were adapted from [Sweeney and Soutar \(2001\)](#) for hedonic and social value and [Magnusson et al. \(2003\)](#) for functional value. Here, participants were asked to indicate their agreement with statements on the benefits associated with the consumption of the canteen food. The same applied for altruistic value which was assessed with three items by [Dean et al. \(2008\)](#) and two items from [Kleinaltenkamp et al. \(2018\)](#).

In the end, respondents were requested to answer six questions on their perceived post-prandial well-being, which were taken from [Boelsma et al. \(2010\)](#). All items were measured on a symmetric, equidistant 7-point Likert scale ranging from 1 (strongly disagree) to 7 (strongly agree). The wording of all items was slightly adjusted to fit to the context of this study. All answers were coded numerically to allow for an application of multivariate analysis. A detailed code plan can be found in the Appendix.

**Table 2:** Measurement Items

Construct	Items	Adapted from
Health & safety	... contains a lot of vitamins and minerals	Steptoe et al. (1995)
	... is nutritious	
	... is low in calories	Lockie et al. (2002)
	... contains no additives/artificial ingredients	
	... contains only natural ingredients	
	... is healthy to eat	
	... has low chemical residues (e.g. pesticides)	
	... is prepared in a way that preserves its natural goodness	
... is safe to consume	Renner et al. (2012)	
... is natural (e.g. not genetically modified)		
Environmental quality & animal welfare	... is environmentally friendly (e.g. production, transport)	Renner et al. (2012)
	... have been prepared in an environmentally friendly way	Lindeman and Väänänen (2000)
	... have been produced in a way that animals have not experienced pain	
	... have been produced in a way that animals' rights have been respected	
Prestige	... is trendy	Renner et al. (2012)
	... is liked by others	
	... can be considered to be special	
	... has a positive social image	Sweeney and Soutar (2001)
Functional value	... I improve my health	Magnusson et al. (2003)
	... gives me a good conscience	
	... I avoid food related risks	
	... reduces the risk for illness	
Hedonic value	... I enjoy it	Sweeney and Soutar (2001)
	... I feel relaxed about it	
	... it makes me feel good	
	... it gives me pleasure	
Social value	... improves the way I am perceived	Sweeney and Soutar (2001)
	... would help me feel accepted	
	... would make a good impression on other people	
	... would give me social approval	
Altruistic value	... I contribute to something better	Dean et al. (2008)
	... it feels like the morally right thing	
	... I feel like a better person	
	... I contribute to environmental protection	Kleinaltenkamp et al. (2018)
	... I reduce environmental pollution	
Well-being	... I feel pleasant	Boelsma et al. (2010)
	... I feel satisfied	
	... I feel relaxed	
	... I feel sleepy	
	... I feel physically energetic	
	... I feel mentally alert	

### 3.5. Method of Analysis

In order to analyse significant differences between the experimental and the control group in terms of their quality perceptions, a two-tailed t-test was used. For that purpose, participants' evaluation of quality in terms of health & safety, environmental quality, animal welfare and prestige

were compared between the groups. This allowed to substantiate the hypothesized halo effect of the organic label on consumers' quality perception.

Afterwards, partial least squares structural equation modelling (PLS-SEM) was applied to assess the relationships between the latent variables in the model. SEM is an advanced

statistical analysis method that combines techniques of regression and factor analysis allowing for the examination of multiple relationships simultaneously (Hair Jr. et al., 2014). The PLS approach is the appropriate method for testing complex models and can be applied even in case of small sample sizes (Hair Jr. et al., 2014). Moreover, it is highly robust to missing values and does not require a specific distribution of the data. Thus, it can be applied in many research settings especially for testing many structural relationships at the same time (Hair Jr. et al., 2014). For the purpose of analysis, SmartPLS version 3.2.7 was used as a statistical software.

## 4. Results

Having described the methodology applied in this research, this chapter now turns towards the findings of the survey. First up, the results of the organic label halo effect on consumers' quality evaluations will be presented. Thereafter, the results of the SEM analysis will be outlined.

### 4.1. Results of the Organic Label Halo Effect

An overview on the descriptive statistics of the overall sample can be found in Table 3. Correlations between the constructs were calculated and can be found therein.

The results of the two-tailed t-test are summarized in Table 4. The assumptions of variance analysis like homogeneity of variances and normal distribution have been tested and verified. The treatment of the experimental group was successful, as indicated by the significant difference between the two groups with regards to the manipulation check question. While the experimental group on average agreed with the statement that organic food was offered in the canteen ( $\mu=5.71$ ), the control group did not ( $\mu=3.31$ ).

In order to test for group differences between the quality dimensions, an average of the respective items for each construct was calculated. The group treated with the organic label evaluated the food significantly higher ( $\mu=4.56$ ) in terms of health & safety than the control group ( $\mu=3.48$ ). Therefore, H1.1 is supported by the data. Similarly, the results for environmental quality & animal welfare as well as prestige show significant differences between the groups at  $\alpha$ -levels of at least 5%. In both cases, respondents in the organic setting evaluated the food offer significantly higher in comparison to the ones in the normal setting. Hence, H1.2 and H1.3 can be confirmed.

Table 4 further includes data for the evaluations of value-in-use and well-being by both groups. All differences were found to be highly significant. To test the hypothesized relationships between the constructs subsequently PLS-SEM was applied.

### 4.2. Results of the SEM Modelling

The analysis of the SEM results is two-folded. First, the measurement models have to be tested for reliability and validity. Then, in a second step, the structural model can be as-

essed and tested for the hypothesized relationships between the constructs (Hair Jr. et al., 2014).

#### 4.2.1. Assessment of the Measurement Model

As described before, in this research all constructs were measured reflectively. In order to evaluate the reflective measurement models, composite reliability as well as convergent and discriminant validity were considered. First, the outer loadings between the latent variables and their reflective items were derived from the analysis to test for the reliability of the measures. The results can be found in Table 5. Three items with outer loadings of less than 0.7 were excluded from the analysis following Hair Jr. et al. (2014).

To assess internal consistency, composite reliability (CR) was considered. The recommended threshold for CR is at least 0.6 or 0.7 in more advanced stages of research (Hair Jr. et al., 2014). In this study, all CR values reach satisfactory levels above 0.85 (see Table 6).

Convergent validity was assessed via average variance extracted (AVE). The threshold for AVE was set to 0.5 as commonly suggested, to secure that the constructs explain at least half of the variance of their indicators (Chin, 2010). The results show that AVE for all constructs is above this threshold.

Last but not least, the Fornell-Larcker criterion was used to test for discriminant validity. The results in Table 7 show no correlation between any two constructs higher than the square root of the respective AVE. Hence, discriminant validity is supported by the data and the analysis can move on with assessing the structural model.

#### 4.2.2. Assessment of the Structural Model

Having secured the reliability and validity of the construct measures, the theoretical model can be examined. To assess the predictive power of the model, it was looked at the  $R^2$ -values of the endogenous variables in the model in order to see how much of their variance is explained by the hypothesized relationships in the model. PLS-SEM tries to maximize  $R^2$ -values of the endogenous latent variables (Chin, 2010). In consumer research, values above 0.2 can be considered high (Hair Jr. et al., 2014).

The model is able to explain over 50% of the variance for functional ( $R^2=0.58$ ) and altruistic value ( $R^2=0.538$ ). Moreover, 45.5% of the variance in hedonic value and 19.3% for social value respectively can be explained by the data. Ultimately the model is able to explain 60.3% of the variance in well-being. Hence, the  $R^2$ -scores can be considered satisfactory (see Table 9).

Next, the path coefficients were analysed to assess the hypothesized effects between the latent variables. However, before being able to test for the significance and relevance of the relationships, collinearity needed to be looked at (Hair Jr. et al., 2014). All VIF values are below the threshold of 5, consequently, collinearity was not indicated and the bootstrapping routine could be applied. The number of bootstrap samples was set to 1,000. The path coefficients and their respective significance levels are presented in Table ??.

**Table 3:** Descriptive Statistics and Correlation

Construct	Mean	SD	Correlation							
			(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Health & safety (1)	4.03	1.19	1							
Environment & animal welfare (2)	3.62	1.36	0.79	1						
Prestige (3)	4.05	1.03	0.53	0.44	1					
Functional value (4)	3.08	1.03	0.72	0.70	0.46	1				
Hedonic value (5)	4.31	1.16	0.66	0.61	0.47	0.67	1			
Altruistic value (6)	3.54	1.31	0.67	0.72	0.44	0.83	0.65	1		
Social value (7)	3.79	1.17	0.51	0.44	0.43	0.69	0.55	0.67	1	
Well-being (8)	4.14	0.85	0.62	0.54	0.47	0.67	0.69	0.61	0.60	1

**Table 4:** Results of the t-Test for Group Differences

Note: \*\*\*p<0.01; \*\*p<0.05; \*p<0.1

Construct	Organic group	Control group	t-test		Manipulation/ Hypothesis
			t-Wert	p-Wert	
Manipulation check: Organic food?	5.71	3.31	-12.14***	<0.0001	Manipulation successful
Health & safety	4.56	3.48	-6.66***	<0.0001	H1.1 supported
Environment & animal welfare	4.31	2.89	-7.87***	<0.0001	H1.2 supported
Prestige	4.23	3.86	-2.34**	0.02	H1.3 supported
Functional value	3.54	2.59	-6.77***	<0.0001	
Hedonic value	4.61	3.99	-3.68***	0.0003	
Altruistic value	4.13	2.92	-6.76***	<0.0001	
Social value	4.15	3.41	-4.31***	<0.0001	
Well-being	4.35	3.91	-3.52***	0.0006	

As expected, the results show a significant positive effect of health & safety on functional and hedonic value, thus providing support for H2.1a+b. Moreover, as hypothesized in H2.2a-c, the quality of food products in terms of environment & animal welfare positively contributes to functional, hedonic and altruistic value. All of those paths are highly significant at  $\alpha$ -levels of less than 1%. Additionally, prestige is found to significantly impact on social value, thereby supporting hypothesis H2.3.

Last but not least, well-being is found to be driven by hedonic and functional value, however, the hypothesized links to altruistic and social value are insignificant, thus, H3.3 and H3.4 cannot be supported. The final model, including all path coefficients can be found in Figure 4. Dotted lines indicate insignificant relationships.

**5. Discussion**

In this section, the findings as presented in the last section will be critically evaluated in reference to existing literature. The chapter is structured according to the research questions and will thus start with an examination of the organic label halo effect. It will then go on to discuss the links between quality and value for food products and ultimately end with analysing the impact on post-prandial well-being.

**5.1. The Organic Label Halo Effect in a Canteen Setting**

Several researchers have identified organic products to be perceived higher in quality in comparison to conventional alternatives (e.g. Hill and Lynchehaun, 2002; Larceneux et al., 2012). This inference has been attributed to the so-called halo effect (Thorndike, 1920). This survey aimed at analysing the organic label halo effect on consumers' quality perceptions in a canteen setting. The results show support for its existence.

The food in the experimental setting is considered superior in terms of healthiness and nutritional value, supporting previous findings by Magnusson et al. (2001) and Hoefkens et al. (2009). Moreover, through inferences about natural production methods and the use of less artificial ingredients, participants in this study believe the labelled meals to be safer. Due to the prohibition of artificial pesticides and fertilizers in farming, organic food is certain to contain less residues and nitrate levels, particularly in fruits and vegetables (Hoefkens et al., 2009). However, it can be argued that all food products are strictly regulated to ensure they are safe to consume. Besides, only inconclusive evidence exists, that organic produce is healthier or more nutritious in terms of vitamins and minerals than conventional alternatives (Yiridoe et al., 2005). Hence, consumers' perception of organic food being healthier can be attributed to inferential beliefs evoked by the label. Especially in case of many credence attributes, the label might in fact be the only available cue for consumers' quality evaluations (Caswell and Mojduszka,

**Table 5:** Outer Model Loadings

\* Items were excluded from further analysis

Items	Constructs						Social value	Well-being
	Health & safety	Environ.& animals	Prestige	Functional value	Hedonic value	Altruistic value		
Health_1	0.814							
Health_2	0.708							
Health_3	0.723							
Health_4	0.841							
Health_5	0.610*							
Health_6	0.746							
Natural_1	0.851							
Natural_2	0.870							
Natural_3	0.787							
Natural_4	0.843							
Animal_1		0.860						
Animal_2		0.899						
Environ_1		0.850						
Environ_2		0.877						
Prest_1			0.822					
Prest_2			0.723					
Prest_3			0.762					
Prest_4			0.752					
Funct_1				0.909				
Funct_2				0.826				
Funct_3				0.845				
Funct_4				0.876				
Hedon_1					0.850			
Hedon_2					0.876			
Hedon_3					0.853			
Hedon_4					0.888			
Altru_1						0.802		
Altru_2						0.911		
Altru_3						0.817		
Altru_4						0.883		
Altru_5						0.852		
Social_1							0.866	
Social_2							0.662*	
Social_3							0.919	
Social_4							0.862	
Well_1								0.897
Well_2								0.806
Well_3								0.768
Well_4								0.460*
Well_5								0.846
Well_6								0.764

1996). It can be summarized that the organic label positively biases their quality evaluations in terms of health & safety in a canteen setting, thereby supporting findings of previous research (e.g. Apaolaza et al., 2017; Lee et al., 2013).

Similar results could be found for environmental friendliness & animal welfare that are believed to form important quality aspects of food products (Torjusen et al., 2001). Even though it has been claimed that customers are often un-

aware of the exact standards of ecological production methods (e.g. Hill and Lynchehaun, 2002; Yiridoe et al., 2005), they equate organic with environmental and animal friendliness (Harper and Makatouni, 2002). Therefore, those products are generally perceived to be better for the environment (e.g. Larceneux et al., 2012; Lee and Yun, 2015). This could also be shown by the results of this survey. The food offered in the organic setting is evaluated significantly higher



**Table 6:** Assessment of the Measurement Model

(1) Cronbach's alpha (2) Composite reliability (c) Average variance extracted

Construct	No. items	GRA (1) (>0,7)	CR (2) (>0,7)	AVE (3) >0.5)
Health & safety	9	0.930	0.942	0.645
Environment & animal welfare	4	0.895	0.927	0.760
Prestige	4	0.764	0.850	0.586
Functional value	4	0.887	0.922	0.748
Hedonic value	4	0.890	0.924	0.751
Altruistic value	4	0.907	0.931	0.729
Social value	3	0.884	0.928	0.811
Well-being	5	0.878	0.912	0.674

**Table 7:** Fornell-Larcker Criterion

Construct	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Health & safety (1)	0.803							
Environment & animal welfare (2)	0.786	0.872						
Prestige (3)	0.545	0.438	0.766					
Functional value (4)	0.726	0.713	0.460	0.865				
Hedonic value (5)	0.655	0.615	0.472	0.677	0.867			
Altruistic value (6)	0.676	0.733	0.438	0.827	0.658	0.854		
Social value (7)	0.539	0.471	0.440	0.717	0.560	0.697	0.901	
Well-being (8)	0.666	0.582	0.477	0.708	0.711	0.639	0.574	0.821

**Table 8:** R<sup>2</sup> - Values of the Endogenous Latent Variables

Construct	R <sup>2</sup>
Functional value	0.580
Hedonic value	0.455
Altruistic value	0.538
Social value	0.193
Well-being	0.603

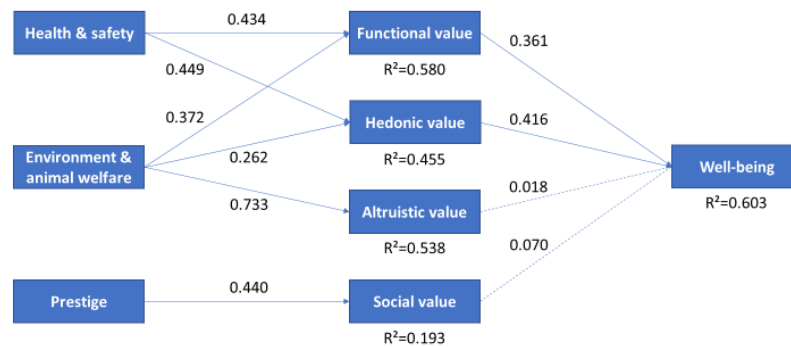
**Table 9:** Significance Testing of the Structural Model Path Coefficients

Note: \*\*\*p<0.01; \*\*p<0.05; \*p<0.1

Path	Path coefficients	t-values	p-values	Hypothesis
Health & safety → Functional value	0.434	5.154***	<0.0001	H2.1a supported
Health & safety → Hedonic value	0.449	5.042***	<0.0001	H2.1b supported
Environment & animal welfare → Functional value	0.372	4.259***	<0.0001	H2.2a supported
Environment & animal welfare → Hedonic value	0.262	2.957***	0.003	H2.2b supported
Environment & animal welfare → Altruistic value	0.733	18.701***	<0.0001	H2.2c supported
Prestige → Social value	0.440	7.112***	<0.0001	H2.3 supported
Functional value → Well-being	0.361	3.927***	0.0001	H3.1 supported
Hedonic value → Well-being	0.416	6.127***	<0.0001	H3.2 supported
Altruistic value → Well-being	0.018	0.199	0.843	H3.3 not supported
Social value → Well-being	0.070	0.935	0.350	H3.4 not supported

in terms of environmental friendliness & animal welfare in comparison to the control group. In other words, the label is used as a cue for consumers' quality perception leading to positive inferences about the product's environmental performance. Of all quality dimensions studied, this showed the most significant difference between the two groups, indicating consumers' strong cognitive links between the organic la-

bel and ecological issues. Furthermore, the label leads to higher ratings of the food offered in terms of prestige. Referring to a good's superior image, prestige has already been identified as an important quality dimension for example in a study by Brucks et al. (2000). As organics are generally considered to be premium products that attract higher socio-economic classes (e.g. Harper and Makatouni, 2002; Hill and



**Figure 4:** Structural Results of the Final Model

Lynchehaun, 2002) this inference seems to be consequential. The organic label is the most successful eco-label on the market and is perceived positively by customers (Howard and Allen, 2006). Moreover, it has been postulated before that the organic logo is similar to a brand (MINTEL, 2000) and activates the same brain sections like luxury goods (Linder et al., 2010). The results of this survey show that the label positively biases customers' quality evaluations through inferences about its exclusiveness and positive image. This is an interesting finding that might play an important role in the consumption of organic products as the use of goods is always related to symbolic issues. Prestige has so far not received much of attention in the organic food literature, but the findings indicate that it is actually quite influential in consumers' quality evaluations and should thus be considered in future studies.

In sum, the findings of this survey are in line with previous works on the quality perceptions of organic food and show that the label's halo effect also applies in a canteen setting. In fact, the rather low means in the control group for the quality dimensions under study, ranging from 2.89 for environmental friendliness & animal welfare to 3.86 for prestige demonstrate that consumers in general perceive the normal, average canteen food as being of low quality. It has been argued before, that customers expect less from meals in canteens in terms of quality and taste in comparison to food cooked at home or in a restaurant (Price et al., 2016). In this case, labels can be used as cues indicating the product's hidden characteristics (Fernqvist and Ekelund, 2014) leading to higher quality evaluations of credence attributes like health & safety or animal welfare.

Last but not least, the results of the t-test further reveal significant differences in the evaluations of the other constructs in the model. On average, participants in the organic setting indicate a higher value-in-use in all four dimensions under study and eventually also a superior state of post-prandial well-being. Therefore, in a second step, the relationships between the constructs in the model were analysed as it was hypothesized that the positive quality perceptions evoked by the label are causative for consumers higher

value-in-use and well-being evaluations.

## 5.2. Links between Quality Perceptions and Value-in-Use

Previous research has shown, that when eating food consumers obtain value from its healthiness, a pleasurable experience or the feeling to contribute towards environmental protection (Wier et al., 2008). In means-end chain theory, value is believed to stem from quality attributes (Zeithaml, 1988). Hence, it was decided to take a closer look at the links between different value dimensions and consumers' quality perceptions.

The results of the SEM-modelling show that health & safety aspects of food products are the more important drivers of consumers' functional value-in-use than environmental friendliness & animal welfare. This was to be expected, as this type of value, classified as self-oriented, is primarily sought for personal benefits (Holbrook, 2006). It is also in line with Grunert (1995) who posited that the functional value of food stems from its nutritional value and healthiness. Moreover, the results of this study show that naturalness such as the absence of chemicals or artificial ingredients is important for customers, providing them with functional benefits. Natural products are generally considered healthier as consumers link the use of chemicals and food additives to unknown long-term health effects (Lockie et al., 2004; Magnusson et al., 2003). As organics are considered superior in terms of health & safety due to the halo effect, their consumption provides customers with higher levels of functional value. This is in accordance with previous findings of consumers trying to achieve the higher goal of a healthy life through eating organic products (Vega-Zamora et al., 2014).

The environmental quality of food is likewise positively related to functional value. It has been argued before that the use of less pesticides and fertilizers is not only beneficial for the environment but also for the individual, due to functional health benefits especially in the case of fruits and vegetables (Padel and Foster, 2005; Wandel and Bugge, 1997). The data of this survey support the hypothesized link between functional value and environmental friendliness, thereby contradicting findings of lower functional value for eco-friendly

goods in other product categories like household cleaners as postulated by Green and Pelozo (2011). Food products that are considered environmentally friendly are actually perceived advantageous in functional value by consumers due to the health benefits associated with the naturalness and non-use of pesticides and chemicals.

In addition, animal welfare issues are found to be positively related to functional value, driven by the notion of "you are what you eat" (Makatouni, 2002, p. 351). The use of growth hormones or antibiotics in intensive farming to produce meat fast and cheap is opposed by a growing number of costumers (Janet Eastwood, 1995). At the same time, specialised animal welfare labels as currently discussed in Germany find high levels of support among the general population (Howard and Allen, 2006). Customers see a clear link between happy, healthy livestock and the quality of their products (Harper and Makatouni, 2002). Hence, it can be concluded that consumers are increasingly interested in the rearing conditions of animals and that they link those to functional benefits when consuming. Summing up, the functional value of food is found to be driven by a product's quality perception of health & safety as well as environmental friendliness & animal welfare.

Hedonic value is derived from feelings and affections in a consumption experience (Sheth et al., 1991). It seems reasonable that health & safety aspects, like the use or non-use of specific ingredients impacts on how people feel about products (Lee and Yun, 2015; Padel and Foster, 2005). Long lists of e-numbers for instance will probably lead to disapproval among consumers. It has been argued before that naturalness of food products leads to pleasurable feelings and emotional appeal (Lockie et al., 2004; Vega-Zamora et al., 2014). Baker et al. (2004) for example showed that the use of natural ingredients is related to higher pleasure and enjoyment when consuming. This research extends those findings by showing that the health & safety aspects of food products directly and significantly impact on consumers hedonic value-in-use when eating them. As food in the normal canteen is believed to include many artificial ingredients and is rated rather low in terms of healthiness, it seems only consequential that in those canteens customers on average have less fun and experience lower enjoyment when eating there. Hence, the higher hedonic satisfaction in the experimental setting is the consequence of the use of an organic label that leads to positive inferences about the food's naturalness and healthfulness.

Besides, environmental friendliness & animal welfare is also significantly related to hedonic value. Customers seem to enjoy eating food that stems from animal friendly production and is less harmful for the environment. Some authors have postulated before that people engage in ethical activities for their personal contentment (De Young, 1996) and that they feel good using eco-friendly products (Pickett-Baker and Ozaki, 2008). Consumers of organic produce for instance have been shown to experience emotional satisfaction in consumption situations, driven by the belief to support better animal rearing conditions (Harper and Makatouni, 2002).

Hence, it can be summarized that the perception of food products as being environmentally friendly leads to higher hedonic ratings, however only to a lesser extent than health & safety aspects, which seem to be predominant for both functional and hedonic value evaluations.

With regards to altruistic value, environment & animal welfare is highly influential with a path coefficient above 0.7. This is the highest link between any two constructs in the model. In addition, this single factor is able to explain 53,8% of the variance in altruistic value, showing that the link between the two constructs is very strong. This seems reasonable, since this type of value by definition stems from the welfare of others and encompasses ethical issues (Holbrook, 2006; De Young, 1996). It has been argued before that consuming in line with one's moral principles provides customers with a "warm glow" (Andreoni, 1990, p. 464). In case of organic products, Dean et al. (2008) identified the feeling to contribute to something better as an important purchasing motive. This research shows, that when products are considered superior in terms of environmental quality & animal welfare, like in case of organics, they provide consumers with higher levels of altruistic value.

Last but not least, social value was analysed in this study. It was hypothesized that food that is considered prestigious leads to a higher status and self-image when consuming, thus providing social value (Holbrook, 1999). The results of this study show support for this notion. When people perceive products to be special and liked by others, they attribute higher social value in a usage situation. As Levy (1959) so famously noted, products carry symbolic meaning and can be considered representatives of a specific lifestyle. Moreover, it has been argued that food choices and the adoption of a particular diet like veganism is also driven by the desire to be associated with a particular group (Bublitz et al., 2010). Consequently, food can provide social value, especially in the case of organics that are considered to be status symbols enhancing social standing (Barrena and Sanchez, 2010).

### 5.3. Impact on Post-Prandial Well-Being

In means-end chain theory, values can be defined as specific end-states of existence that serve as guiding principles in life (Rokeach, 1973). Following the growing stream of research, well-being was analysed as an important goal consumers try to achieve through their food consumption (e.g. Boelsma et al., 2010; Bublitz et al., 2013). Previous research showed that when prompted to think about food well-being, customers referred to health aspects, nutritional value or naturalness (Ares et al., 2014). Yiridoe et al. (2005) postulated that the quality attributes of food products represent input factors in consumers' demand function for well-being. However, this research followed a different argumentation. In line with means-end chain theory (Gutman, 1982), it was argued that food quality only indirectly influences consumer well-being through the benefits associated with its consumption, which are reflected in value-in-use (Woodruff, 1997).

The results of this research show support for this relation. Functional and hedonic value are found to both sig-

nificantly contribute to consumer well-being. This consistent with [Bublitz et al. \(2013\)](#) who contended that FWB stems among others from functional and hedonic consequences. Experiencing hedonic satisfaction in a consumption situation seems to be beneficial for consumers' welfare, extending towards their evaluation of their post-prandial state of being. Similarly, when food is considered to provide functional health benefits, cognitive inferences lead to higher ratings of subjective well-being after consumption. Both links were highly significant, indicating their influential effect in the model.

Besides, it was hypothesized that social value would also positively impact on well-being since social aspects are generally believed to be a highly influential factor of the construct (e.g. [Block et al., 2011](#); [Grant et al., 2007](#)). However, the path coefficient is found to be non-significant. The reason might be that in this research only status and prestige were considered as input factors of social value. Other aspects like belongingness, comfort, affection or friendship that might be highly influential for social value especially in the work place were not included. This could explain why no relation to well-being could be substantiated by the data.

Equally, the data of this research show that the link between altruistic value and well-being was not significant. While a food's quality evaluations in terms of environmental friendliness lead to higher ratings of altruistic value, this in turn does not impact on post-prandial well-being. Hypothesis 3.4 could hence not be supported. While contribution to society has been found to be an important constituent of the construct ([Marks and Shah, 2004](#)), it seems like the other value dimensions are just more influential for consumers' evaluation of subjective well-being.

Taken together, it can be concluded that the provision of healthy food that satisfies employees' functional needs and gives them hedonic pleasure, ultimately benefits their well-being. [Haugaard et al. \(2016\)](#) and [Price et al. \(2016\)](#) were among the first to propose that workplace lunches might influence employee well-being. The data of this research empirically supported this notion. The findings could therefore be of interest for practitioners and HR-managers intending to enhance employee well-being.

## 6. Practical Implications

Food well-being is an interesting topic for politicians and practitioners around the world. Promoting sustainable food is regarded as being important in the face of global challenges like the growing number of civilization diseases ([Larceneux et al., 2012](#)). As much of people's life is spent at work, the workplace is considered to be an influential factor in promoting healthy diets ([Price et al., 2016](#)). In line with the findings of [Price et al. \(2016\)](#), this research however shows that customers generally evaluate the food in a normal, average canteen as being of low quality in terms of healthiness, environmental friendliness, animal welfare and prestige. At the same time, consumers desire information on production related aspects, for example due to food safety reasons. They

want to eat healthy meals and experience hedonic pleasure from its consumption ([Zanoli and Naspetti, 2002](#)). Hence, the promotion of credence attributes of food products could play a major role in enhancing quality and value perceptions and eventually contribute to more sustainable consumption patterns ([Lee and Hwang, 2016](#)).

Besides offering fitness classes or flexible working hours ([Evans and Prilleltensky, 2007](#)), HR-managers should thus also consider investments into on-site food offerings to enhance the well-being of their workforce. One option might be to offer organic food in the canteen. [Apaolaza et al. \(2018\)](#) were the first to empirically attest a positive link between organic products and consumer well-being. They attributed this to the label's halo effect but asked for future contributions to analyse the mechanism behind it. This research shows that using eco-labels in a canteen leads to positive inferences about the quality of the food offered, a higher value-in-use and ultimately enhanced well-being. Other authors have postulated before that employee well-being is positively related to job performance, motivation and absenteeism (e.g. [Diener, 2006](#); [Tenney et al., 2016](#)). Accordingly, providing high-quality food in a canteen might prove beneficial not only for the employees but likewise for the company.

So far however, availability of organic food in canteens is rather limited (e.g. [Lockie et al., 2002](#); [Zanoli and Naspetti, 2002](#)). The latest *Ökobarometer* (2017) revealed that despite favourable attitudes among consumers towards organic meals in the workplace, they were only provided by a minority, especially in rural areas. In fact, only 3% of all canteens have been found to use only organic ingredients (*Ökobarometer, 2017*, p. 18). Besides, higher prices of those options have been identified as purchasing barriers (e.g. [Magnusson et al., 2001](#); [Zanoli and Naspetti, 2002](#)). Offering organic meals in canteens would hence require some investments from companies, probably including subsidies for those meals in order not to inflate prices for the employees. Nevertheless, this investment could be valuable due to positive effects on job performance and lower costs for healthcare and absent days.

In this study, prestige is found to be a less important construct. While it leads to higher ratings of social value, no link to well-being can be substantiated. Therefore, food providers should focus on highlighting quality aspects linked to health & safety and the environment. They could for instance highlight the naturalness of their offer thereby addressing emotional desires and food safety concerns simultaneously ([Lockie et al., 2004](#)). When employees think they can realise functional and hedonic benefits through the consumption of a product, they will not only benefit from enhanced post-prandial well-being but also be more likely to buy it in the first place ([Barrena and Sanchez, 2010](#)). Communicating the benefits of organic food in terms of quality and value may thus prove successful in justifying price premiums and making more people choose those options ([Padel and Foster, 2005](#)).

## 7. Conclusion

Having discussed the practical implications of this research, the paper ends with some concluding remarks. First up, a short summary will highlight the most important results of this project. Thereafter, the limitations of the survey will be discussed leading to recommendations for future research.

### 7.1. Summary of the Findings

This research contributes to the growing stream of literature on food well-being. The aim of this paper was to analyse how consumer perceptions of food quality impact on value-in-use evaluations and well-being. Specifically, it tested the organic label halo effect in an experimental canteen setting. For that purpose, a quantitative study was conducted with two groups, one being treated with the label.

The halo effect was verified using a two tailed t-test. It was shown that participants in the organic setting evaluated the food offer significantly higher in terms of health & safety, environmental quality & animal welfare as well as prestige. As both groups received exactly the same stimuli besides the organic logo, the differences in quality perceptions can be attributed to the label. Hence, it can be concluded that the label acts as a cue that positively biases consumers' quality evaluations of credence attributes. Thus, this research indicated that the organic label halo effect also applies in a canteen setting.

To examine the hypothesized relationships between quality, value and well-being, structural equation modelling (SEM) was used. The results of the SEM revealed that the quality aspects under study were significantly related to the value-in-use dimensions. Functional and hedonic value perceptions were both driven by health & safety as well as environmental friendliness & animal welfare. The latter construct further contributed significantly to altruistic value. Finally, prestige was found to enhance consumers' social value.

The hypothesized link between value-in-use and well-being could only be partially supported. While altruistic and social value did not impact on consumers evaluations of post-prandial well-being, functional and hedonic aspects were found to be highly significant.

Taken together, it can be concluded that higher quality perceptions of food products lead to higher evaluations of value-in-use and subjective post-prandial well-being. As organic products were considered superior in terms of all quality dimensions included in this study, offering those options in a canteen might prove beneficial for companies as it ultimately enhances the well-being of their workforce.

### 7.2. Limitations and Recommendations for Future Research

Like every study, this research has several limitations. First up, as self-selection and convenience sampling were deployed, the answers cannot be considered representative for the overall population. In fact, the topic of the study might

have attracted a specific group of respondents, thereby biasing the results. Hence, while the findings were insightful, the limited representativeness of the sample restricts the possibility to draw reliable conclusions and to generalise the findings.

Moreover, a different study design could have been applied. Instead of doing an online experiment, a real-life study would have been an alternative option to assess consumers' quality and value perceptions in a canteen setting. However, in real-life studies, contextual factors such as ambience or social context may influence consumer perception of a meal experience (Hauggaard et al., 2016). Therefore, an online survey was considered to be more adequate to test the impact of the organic label halo effect.

In former studies on food quality, further dimensions such as sensory appeal, convenience or political issues like fairness were included (e.g. Lindeman and Väänänen, 2000; Steptoe et al., 1995). However, given the constraints of this research, it was necessary to focus on a few specific constructs. Health & safety as well as environmental friendliness & animal welfare are among the two most frequently cited quality dimensions of food products (e.g. Magnusson et al., 2003; Makatouni, 2002; Wandel and Bugge, 1997). Hence, they were chosen for this analysis. Besides, prestige was included as an interesting dimension, that, so far, has not received much attention in the scientific food literature.

Well-being was analysed as an important end-goal consumers try to achieve through their consumption choices. However, measuring it in an experimental setting is difficult and may be skewed as it is a long-term concept (Apolaza et al., 2018). Therefore, to actually prove the impact of food consumption on perceived well-being, a long-term study would be necessary comparing one group of people following an organic diet with a respective control group. This would also allow to further assess the question of whether organic products are actually healthier or whether that link simply stems from a purely psychological effect of the label (Apolaza et al., 2018).

Given the time constraints of this project, no further examination of the barriers that are commonly associated with organic products could be made. It has been recognized before, that while customers overwhelmingly state favourable attitudes towards organic goods, they do not always make the corresponding purchasing decisions (e.g. Wandel and Bugge, 1997). This discrepancy due to conflicts between environmental benefits and convenience or price has been termed attitude-behaviour gap and is regularly recognized in the organic literature (e.g. Magnusson et al., 2001; Padel and Foster, 2005). Consequently, it is questionable whether in real life situations organic options offered in canteens will be equally perceived as in the experimental setting of this study.

Furthermore, mistrust in eco-labels is an important barrier of sustainable consumption (e.g. Drexler and Fiala, 2018; Padel and Foster, 2005). Cases of mislabelling and non-confirmation to standards reported by the media have contributed to some scepticism among consumers (Yiridoe

et al., 2005). In other words, the organic label halo effect might interact with customers' level of trust in compliance and monitoring of organic standards. Accordingly, future studies should look at how trust moderates the relationship between the label and consumers' quality perceptions.

Other factors that could be of interest for future research are health consciousness and environmental concern. Both are likely to moderate the relationships between the label, consumers' quality evaluations and their value-in-use. People scoring high on environmental concern for instance might rate organic food higher in terms of environmental quality and exhibit higher levels of hedonic and altruistic value when eating those products. Similarly, health conscious individuals might experience higher functional value when consuming organics if, due to the halo effect, they rate them as being high in nutrients or low in calories.

Further demographical data may prove helpful in order to better understand organic food consumption behaviour. Johnston et al. (2011) for example found that individuals with higher education and income were more engaged in ethical consumption. Besides, gender or age have been found to moderate those relations (Ökobarometer, 2017). These factors are likely to impact on the links between quality and value and should thus be considered in future research on that topic.

Last but not least, despite careful conduction of this research, the analysis and presentation of the data may have unintentionally been biased by the researcher, who is particularly interested in the topic of sustainable consumption. This was dealt with by closely examining the findings in comparison to existing literature and acting with due diligence at all stages of the research process.

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