

A short review of research on consumer perception of pork (meat) quality.

To launch a product successfully, it is important to analyse which parameters influence demand for products (Bryhni et al., 2002). Quality is an important factor in a highly competitive market (Du and Sun, 2005). Consumers subjectively evaluate quality, and, it has become increasingly important to optimally align quality of food with consumer demands, expectations, and desires (Bryhni et al., 2002). The link between quality perceptions of consumers and physical product and process attributes requires knowledge of the quality evaluation of the consumers.

TFQM

A comprehensive model for analyzing the process of food quality perception by the consumer is The Total Food Quality Model (TFQM) (Grunert, Baadsgaard et al. 1996). It serves as a frame of reference for analyzing the way in which consumers form expectations about the quality of meat, based on their own experience and cues available in the shopping situation, as well as the way in which quality is experienced in the home during and after meal preparation. The relationship between quality expectation and quality experience and its implications for consumer satisfaction and repeat purchase intent is addressed. TFQM builds on means-end theory, Fishbein's multiattribute approach and on previous research into consumers' quality perception, including the model of Steenkamp (1990), and takes into account specific issues in the area of foods.

Certain quality characteristics cannot be evaluated before the purchase of a product. In the economics-of-information literature, these are often referred to as experience characteristics. In the case of pork, these are primarily characteristics such as the taste, tenderness, and juiciness of the product, but also its convenience. Only after the purchase of the good, the consumer can experience the quality of the product with respect to these dimensions.

Before a purchase, the model shows how quality expectations are formed by consumers based on quality cues that are present in the shopping situation. It distinguishes two types of quality cues: intrinsic quality cues and extrinsic quality cues.

Intrinsic quality cues comprise the physical characteristics of a product. The products investigated will be fresh and processed pork, where intrinsic quality attributes include cut, colour, and visible fat content of the meat. Extrinsic quality cues refer to everything else. The extrinsic quality cues investigated will be different types of information about the agricultural production system from which the products originate, including intensive indoor production, extensive outdoor production, organic production, distribution, outlet, price, brand name, and label etc.

Only cues that consumers perceive can have an influence on the formation of quality expectations. Quality expectations, in turn, will only influence purchase decision to the degree that they are salient in the shopping situation, which may depend on time pressure, the presentation of the product in the store, information available on the product package, and individual differences in attitudes towards agricultural production systems and their salience.

Cue Usage

The perceived quality of food products has been found to comprise sensory, health, convenience and process dimensions (Brunsø, Fjord et al. 2002). Grunert (1997) used evaluation via pictures of beef and written information to study the consumers' usage of intrinsic and extrinsic quality cues in four European countries (Germany, France, Spain and the UK). Acebrón and Dópico (2000) have also studied intrinsic and extrinsic quality cues to derive quality expectations. Further, they investigated the relation of expected quality to perceived quality at the moment of cooking and to experienced quality during consumption.

Several cross-country surveys on cue usage have been conducted (Becker, 2000; Bredahl et al., 1998; Bredahl, 2003; Bredahl & Scholderer, 2004; Brunsø et al., 2005; Bryhni et al., 2002; Demey et al., 2003; Fearné et al., 2001; Glitsch, 2000; Grunert, 1997; Grunert et al., 2004; Henson & Northen, 2000; Issanchou, 1996; Margetts et al., 1997; Piedra et al., 1996; Scholderer et al., 2004a; Scholderer et al., 2004b). A review of research on cue usage is given in Krystallis et al. (2007); Colour (Acebrón & Dópico, 2000; Becker, 1999; Scholderer et al., 2004a, 2004b; Steenkamp & Van Trijp, 1996), fat content (Acebrón & Dópico, 2000; Peterson et al., 2001; Roosen, 2003; Steenkamp & Van Trijp, 1996), country of origin (Acebrón & Dópico, 2000; Henson & Northen, 2000; Scholderer et al., 2004a; Scholderer et al., 2004b; Walley et al., 1999), marbling (Audenaert & Steenkamp, 1997; Bredahl et al., 1998; Derney et al., 2003; Kubberod et al., 2002), freeness of additives (Audenaert & Steenkamp, 1997; Scholderer et al., 2004a; Scholderer et al., 2004b; Van Trijp et al., 1996), production method (Henson & Northen, 2000; Van Trijp et al., 1996; Walley et al., 1999), nutritional value (Bredahl et al., 1998; Grunert, 1997; Scholderer et al., 2004a; Scholderer et al., 2004b), price, brand name, various certifications and warranties (McCarthy & Henson, 2003; Roosen, 2003), and various perceived risks related to meat consumption (Halbrendt et al., 1997). Quality of pork is mostly linked with wholesomeness, freshness, leanness, juiciness, taste, and tenderness (Bredahl et al., 1998).

Consumers tend to systematically disappoint themselves in that they infer high eating quality from low amounts of fat. This effect is called "fat paradox" in the literature, and it is very prevalent in relation to beef (Bredahl, 2003; Brunsø et al., 2005; Grunert, 1997; Grunert et al., 2002, 2004; O'Mahony et al., 1992; Scholderer & Bredahl, 2005 in press). An explanation of this phenomenon is that fat as a cue is dysfunctional, because its objective relationship to relevant quality

dimensions such as tenderness and taste is the opposite of what consumers assume (Grunert, 2002).

Von Alvensleben (2001) has conducted an overview of consumers' perception of production methods. Consumers' perception of production methods related to healthiness and quality of pork can be found in many papers (e.g., Bech-Larsen & Grunert, 1998; Bredahl & Andersson, 1998; Bredahl & Scholderer, 2004; Bredahl & Poulsen, 2002; Bryhni et al., 2002; Krystallis et al., in press; Ngapo et al., 2003; Grunert et al., 2002; Russell & Cox, 2004; Scholderer et al., 2004; Scholderer & Bredahl, in press). Information about the production methods is usually not available to the consumer in practice.

Labels, brands etc.

Unbranded products such as fresh pork make it more difficult for the consumer to form quality expectations. Quality labels can give consumers another means of inferring experience and credence characteristics of food products (Grunert, 2002). Organic and free-range logos increase consumer expectation of quality and healthiness (e.g., Bech-Larsen & Grunert, 1998; Bredahl & Scholderer, 2004; Scholderer et al., 2004; Scholderer & Bredahl, in press). Consumers perceive the eating quality of pork as higher when it carries an organic or free-range label, provided that the eating quality does not depart too much from consumers' expectations (Bredahl & Scholderer, 2004; Grunert & Andersen, 2000; Oude Ophuis, 1994; Scholderer et al., 2004; Scholderer & Bredahl, in press).

Consumers infer mostly positive inferences from the label 'organic', and these refer not only to concern for the environment and health but also to animal welfare and better taste (Bech-Larsen & Grunert, 2001; Bredahl & Poulsen, 2002).

From a consumer perspective, brands are important quality cues and make it easier to infer quality (Grunert, 2001). Traceability systems, branding and labelling can help reduce consumer's dependence on credence factors. Yet, brand name has little relevance for most consumers (Bernués et al., 2003b).

Healthiness

A comprehensive Pan-European study of consumer perceptions of healthiness of different food groups has been conducted by Lappalainen et al. (1998; See also Kearney and McElhone, 1999). Overall, 14331 subjects completed a face-to-face interviews. Every second European defined a healthy diet as containing low amounts of fat. Approximately a fifth of all the EU-15 countries defined a healthy diet as containing less red meat. The negative health image of red meat was subject to a high degree of regional variation. Martínez-González (2000) identified three clusters in the data, more or less equivalent to northern, central and southern EU-15. Consumers from northern Europe were least critical about healthiness of red meat, and consumers from the south were most critical.

Similar culture-specific (and individual-specific) perceptions of the healthiness of red meat have been identified in qualitative research in Europe (Bredahl and Andersson 1998; Bredahl and Poulsen 2002; Ngapo et al., 2003) and in Australia Russell & Cox (2004).

Verbeke (2001) conducted a survey based on the same 500 Belgian consumers before and after the 1999 dioxin contamination scare in Belgium. An important result of the Verbeke (2001) study is that the ranking of poultry, pork and beef in terms of perceived healthiness did not change in response to the food scare. Judging the healthiness of meat consumers are to some degree able to distinguish between nutrition and food safety matters. An analysis carried out by Verbeke and Ward (2001) proposes that pork had profited from negative media coverage of beef and BSE. An analysis conducted by Gellynck et al. (2006) in Belgium suggests that consumers' perception of healthiness, quality, and safety has normalized again for all meats. Similar results can be found in focus group studies conducted by Ngapo et al. (2003) in Denmark, France, Sweden and the UK.

The healthiness of pork is a "credence attribute" (Grunert, Bredahl et al. 2004) that cannot be verified by the individual. Consumers make use of cues for subjective assessments of healthiness of pork products. In several studies, respondents have been asked directly about what cues they used in order to infer healthiness (Bech-Larsen and Grunert, 1998; Bredahl and Andersson, 1998; Bredahl & Scholderer 2004; Bredahl & Poulsen 2002; Bryhni et al. 2002; Krystallis et al. in press; Ngapo et al. 2003; Grunert et al., 2002; Russells & Cox, 2004; Scholderer et al., 2004; Scholderer et al., in press). In general, consumers have problems in putting these cues into words, and they can only state a few cues like the amount of visible fat, the colour of the meat, the degree of processing, cut, i.e. intrinsic cues that can be verified before the purchase.

Food quality is a very subjective and dynamic concept (Steenkamp, 1990), and the perception of meat quality is changing fast (Grunert & Valli, 2001; Issanchou, 1996). Consumers today pay more attention to credence quality attributes like safety, healthiness, convenience, locality, ethical factors, etc. (Bernués, 2003a; Issanchou, 1996). These attributes focus primarily on quality of the production process, and not on the product itself (Becker, 1999). A study conducted by Bernués (2003a) shows that "...there are great differences in the appreciation of extrinsic attributes of red meat between European countries.". Implying that cultural differences in studying quality perceptions in meat are important (Glitsch, 2000; Grunert, 1997; Henson & Northen, 2000).

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