Essays on emotional influences in consumer food choice

Understanding emotional intricacies in consumers’ price vs. ethicality trade-off decisions, and perceptions of genetically modified food products

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ACADEMIC DISSERTATION

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Abstract

This study investigates the manifestation of emotional influences in the context of two different instances of consumer food choice: price vs. ethicality trade-off decisions in everyday food purchase decision contexts, and the acceptance of genetically modified food products. This study has a particular emphasis on the intricacies that can be uncovered in the emotional influences, by putting focus on the unique compositions and motivational properties of different discrete emotions, and the anomalies and tensions that emerge when mixtures of emotions are experienced.

The theoretical background of this study draws from emotion literature, previous research on consumer emotions, and consumer food choice. As a result of a literature review on these topics, this study proposes four key conceptual dimensions that need to be identified and defined in order to gain a better understanding of the role of discrete emotions in particular contexts of consumer food choice.

The empirical investigation of this study was conducted with a quantitative approach. Two sets of consumer data (N = 855; 267) were acquired by means of survey questionnaires. The data were analysed with SPSS- and LISREL-softwares by using correlation analysis, analysis of variance, analysis of multiple mediation, moderation analysis, and structural equation modelling.

The findings indicate that the salience of an explicit price vs. ethicality trade-off in food purchase decisions induces mixed consumer emotions. This emotionally ambivalent experience has an attenuating effect on the favourability of consumer responses to ethical food purchases with a premium price, but also to unethical food purchases that appeal to consumers with a low price. The findings also indicate that the specific combinations of discrete positive and negative emotions that arise in response to the two types of price vs. ethicality trade-offs are qualitatively distinct. This notion allows for identifying discrete emotional drivers that motivate and inhibit ethical and unethical food purchase decision-making among consumers, particularly when ethical product characteristics are being evaluated against the product price.

The findings in the second empirical context of this study outline two distinguishable consumer response patterns to genetically modified (GM) food products, which are intertwined with consumers’ fearful and angry responses to the genetic modification of food (the GM of food). The findings indicate that the fear and anger that consumers experience towards the GM of food are rooted in different types of substantive concerns, and fearful and angry consumers have a preference for distinct modes of coping with the perceived threat of GM food products. The findings have implications for disentangling the nuances of the affectively toned consumer opposition that exists towards the GM of food and GM food products, and for interpreting their distinct impacts on the prospects of GM foods in the consumer market.
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This thesis is based on the following essays:


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1 Introduction

Food consumption is a form of consumption where emotions have a uniquely important role. On one hand, this is due to the fact that food consumption is inherently tied to basic human survival and well-being (Pollard et al., 2002; Rozin & Vollmecke, 1986), and the basic function of emotions is to serve evolutionarily meaningful purposes (Izard, 2007; Olsen et al., 2014). On the other hand, food consumption is surrounded by an exceptionally wide variety of personal, social, and cultural meanings, which are highly emotion-laden (Desmet & Schifferstein, 2008; Dubé et al., 2003; Macht et al., 2003). It seems to be particularly characteristic of today’s western society that consumers are interested in food and food consumption in more ways than ever. Choices about what food is consumed and is not consumed can be perceived as statements about personal preferences, identities, and values (Lindeman & Stark, 1999). Such high involvement and personal relevance attached to food is an evident indication that food and food consumption can be sources of strong emotions (Lazarus, 1991). Furthermore, food consumption is also associated with more subtle emotional experiences that are embedded in relatively mundane everyday consumption contexts (Richins, 1997). These subtle but frequently emerging emotions are a particularly important emotional phenomenon in terms of consumers’ day-to-day food consumption as a whole.

The understanding of emotional phenomena and influences is highly relevant in several domains of society regarding interest in food consumption and consumers’ food choices. From the perspective of food product marketing, the food industry, and the retail sector, emotional insight has important managerial implications, e.g. for the understanding of consumers’ purchase decision-making processes, the interpretation of consumers’ predispositions towards particular food products and brands, for food product development, the differentiation of food product concepts in the consumer market, the design of consumer-oriented marketing communications, and point-of-purchase activation in specific shopping contexts (Chitturi et al., 2007; Cohen & Areni, 1991; Jiang et al., 2014; Mukhopadhyay & Johar, 2007).

The understanding of emotional phenomena is equally important for societal entities with a non-managerial perspective to consumers’ food consumption and choices. For instance, the insights into what types of discrete emotions have a prominent role in inhibiting and fostering particular dietary behaviours have implications for dealing with problematic food consumption, and for encouraging consumers to adopt healthy and sustainable patterns of food consumption. Furthermore, the understanding of the nature of emotional influences in food consumption and choices is important for consumers themselves. For instance, the awareness of the way that rapid hedonic emotional responses can foster impulsive food consumption behaviours is highly relevant for making well informed food consumption decisions. Nonetheless, the anticipation of experiencing certain emotions as the result of food consumption can be an important personal motivator e.g. in following healthy dietary habits.
In previous literature, emotional influences in consumer food choice have been addressed from several perspectives, including marketing, consumer behaviour, and nutrition and food sciences (Cardello et al., 2012; Dubé et al., 2003; Kergoat et al., 2010; Laros & Steenkamp, 2004; Olsen et al., 2014). Altogether, this background literature forms a notable body of work on emotional phenomena in consumer food choice, however its diverse sources consist of various different foci in terms of the type of emotional phenomena, and the form of food consumption that is being investigated. For instance, several studies have a strict focus on hedonic emotional responses to the taste or the direct consumption of food (Cardello et al., 2012; Jager et al., 2014; Jiang et al., 2014; Kergoat et al., 2010; King & Meiselman, 2010; Robin et al., 2003; Rosenstein & Oster, 1988; Spinelli et al., 2014), while others investigate more deliberative emotional predispositions towards conceptual issues associated with food consumption (Dubé et al., 2003; Giner-Sorolla, 2001; Laros & Steenkamp, 2004; 2005). Thus, the body of literature on the role of emotions in food consumption is somewhat scattered, and there is need for gaining still more coherent and comprehensive insights on the role of emotions in consumer food choice. In this study, an effort is made to gain an integrative theoretical view of emotional influences in consumer food choice, which accommodates different emotional phenomena and is applicable in different contexts of food consumption.

Discrete emotions represent very complex and multifaceted phenomena, which go much beyond mere general positive and negative affective responses. Emotions convey a great amount of information about the way that individuals perceive surrounding and internal events, and the way that individuals tend to respond to them (Frijda, 1986; Lazarus, 1991; Smith & Ellsworth, 1985). Thus, the interpretation of consumers’ food-related emotional responses can uncover valuable insights, even into such causes and consequences of consumers’ food-related predispositions and behaviours that consumers themselves might not be able to explicitly articulate and account for. In order to tap into the rich informational and applicative value of emotions in a given food consumption context of interest, it is essential to appreciate the multifaceted nature of emotions, their nuances and interactions. This study puts a particular emphasis on the intricacies of discrete emotions in consumer food choice. In the context of this study, the intricacies of discrete emotions refer to the unique composition and motivational properties of discrete emotions, and the anomalies and tensions that can emerge when mixtures of emotions are experienced. This perspective on emotional phenomena is implemented in this study in the investigation of consumer food choice in two empirical settings: in the context of price vs. ethicality trade-off decisions, and consumer perceptions of genetically modified food products. The background of these empirical settings will be introduced below.

Emotional intricacies in consumers’ price vs. ethicality trade-off decisions

Consumers can take part in advancing particular ethical causes in the food system and society as a whole, through their food purchase decisions. Indeed, many consumers think about their food choices from the perspective of the implications that the production and consumption of particular food products has on, for example, the environment or the
welfare of the workers who are involved in the production of the product. However, augmented ethical quality of food products, such as the guarantee of fair producer shares or the following of high environmental standards in food production, can often translate into a higher retail price on a product and vice versa (Aertsens et al., 2011; Bray et al., 2010). Thus, in consumers’ ethical food purchase decision-making the trade-off between price and ethicality is a common dilemma, and it is an acknowledged barrier in ethical consumption (Andorfer & Liebe, 2012; Eckhardt et al., 2010).

The understanding of how consumers deal with explicit trade-offs between price and ethicality is highly important in terms of enhancing ethical food consumption and food purchase decision-making among consumers. This understanding has implications, for example, for the strategies taken to enhance consumers’ inclination to follow sustainable patterns of food consumption in general, for the design of value propositions of food products that are differentiated with specific ethical characteristics, and the pricing of ethical food products such that the trade-off between price and ethicality does not present an insurmountable barrier for ethical consumption.

This study investigates consumers’ coping with price vs. ethicality trade-offs, namely through consumers’ emotional responses. The importance of emotions in ethical consumption has been acknowledged in previous literature, but the existing research has focused predominantly on self-conscious moral emotions, such as guilt and, to some extent, pride (Antonietti & Maklan, 2014; Gregory-Smith et al., 2013; Peloza et al., 2013; Steenhaut & Van Kenhove, 2006). Furthermore, very little is known about how different emotional influences are involved in consumers’ ethical food purchase decision-making in trade-off purchase decision contexts. In trade-off decision-contexts, food purchase decisions that involve ethical characteristics are not evaluated merely based on moral evaluation of the ethical implications of the purchase. This implies that trade-off decisions of ethical food products are likely to induce mixtures of qualitatively distinct emotions, and that the decisions are also influenced by other emotions, besides self-conscious moral emotions.

This study provides insights into the qualitative differences in consumers’ emotional responses to the loss and gain of ethical product quality and personal price advantage in trade-off decisions. The motivational factors that differentiate relative emotional responses are explored. Furthermore, the study sheds light on what types of emotional influences stand out as influential in different trade-off decision contexts, and on the emotional consequences of having to make explicit trade-offs, as such, in food-purchase decision contexts. The trade-off between price and ethicality is investigated in the context of domestic food products, whose retail price has discrepant benefit implications for the consumer and the primary producer of the product. Thus, the investigation also sheds light on Finnish consumers’ responses to the price structure of domestic food products.
Emotional intricacies in consumers’ perceptions of genetically modified food products

The second food context that is addressed in this study from the perspective of emotions is consumers’ perceptions of genetically modified food products. Although the utilization of genetic modification (GM) in food production is not a new phenomenon, its acceptability is still a heavily debated issue. On one hand, the genetic modification of food can produce applications that have significant societal benefits and also commercial potential from the perspective of functional product features (Lassen et al., 2002; Magnusson & Hursti, 2002; Uzogara, 2000). Conversely, there are several open questions about the GM of food that raise doubts, such as what the long-term environmental and health-related implications of new applications are, how fairly the benefits and risks associated with the applications are distributed in the society, and how morally acceptable the GM of food is as a whole (Lassen et al., 2002; Magnusson & Hursti, 2002; Uzogara, 2000).

In terms of the prospects of GM food applications in the consumer market, the way that consumers respond to them are of primary importance. European consumer attitudes towards the genetic modification of food have remained predominantly negative for a long time (Eurobarometer, 2005; 2010; Frewer et al., 2013; Rollin et al., 2011). Consumers’ mental associations with the GM of food are strongly value-embedded (Grunert et al., 2003), which accentuates affective tones in consumer attitudes (Lazarus, 1991). Nonetheless, consumers’ negative affective predispositions towards the GM of food are commonly viewed as undifferentiated, intuitive, non-rational heuristics (Kniazeva, 2006; Poortinga & Pidgeon, 2005; Wansink & Kim, 2001). Empirical research on the role of discrete emotions in the acceptance of the GM of food is scarce, and it has focused predominantly on fear (Laros & Steenkamp, 2004; Townsend & Campbell, 2004); however, previous literature has suggested that along with fear, anger may be a particularly relevant emotion to the acceptance of the GM of food and GM food products (Townsend, 2006; Townsend & Campbell, 2004).

This study investigates the role of fear and anger in the acceptance of GM food products by putting a particular focus on the unique composition and motivational properties of these discrete emotions, instead of the mere negative valence that they share. The findings associate the fear and anger that consumers feel towards the GM of food to distinguishable substantive concerns, different types of risk perceptions, and distinct modes of coping with the potential threat posed by particular aspects of the genetic modification of food.

1.1 Research question and objectives of the study

The emotions that play an important role in food consumption and consumers’ food choices are highlighted in the previous section. This discussion brought forth the importance of appreciating the nuanced nature of discrete emotions in the interpretation of emotional influences on consumer food choice. In light of these notions, this study will investigate the two substantive phenomena in the domain of consumer food choice that were discussed
above: the making of food purchase decisions that involve trade-offs between the price and the ethical quality of the product, and consumers’ acceptance of genetically modified food products. The main research question of this study is the following:

- How are the intricacies of discrete emotions manifested in consumer food choice in the context of food purchase decisions that involve trade-offs between the price and the ethical quality of the product, and consumers’ acceptance of genetically modified food products?

The main research question of this study will be addressed through four research objectives. The first objective is theoretical in nature, the second and third objectives pertain to the investigation of emotional intricacies in the trade-off purchase decision contexts, and the fourth objective relates to the assessment of emotional intricacies in the context of consumers’ perceptions of GM foods. These objectives are presented in closer detail below.

- The first objective of this study is to develop a conceptual framework for the investigation of the role of emotions in consumer food choice.

The conceptual framework will be developed by drawing from the previous literature on emotions, and the literature on consumer food choice. The purpose of the development of the conceptual framework in this study is to distinguish key conceptual dimensions that need to be identified and defined in order to gain a better understanding of the role of discrete emotions in particular contexts of consumer food choice. The development of the framework is hoped to advance coherence in the investigation of the role of emotions in consumer food choice, which was identified as an area of development in the previous section. In light of the conceptual framework that is developed, the study will assess the manifestation of the intricacies of discrete emotions in the context of the two empirical food choice contexts that are at the focus of this study. The remaining three empirical objectives of this study are presented below.

- The second objective of this study is to assess the role of mixed discrete emotions in the context of trade-off food purchase decisions, which juxtapose the ethical quality of a product and consumers’ personal price advantage.

An explicit trade-off between price and ethicality in a food purchase decision context represents a conflict between the values and goals that consumers associate with these product characteristics (Chernev, 2004; Luce et al., 1999). Trade-off decisions are potential sources of mixed positive and negative emotional responses (Chitturi et al., 2007; Ruth et al., 2002), and the nature of the mixed emotional responses can be further differentiated depending on what types of values and goals are at stake in the elicitation of the emotions (Chitturi et al., 2007; Luce et al., 1999). Mixed discrete emotions can motivate directionally opposite behavioural tendencies (Frijda, 1986), whereby it is unclear which elicited emotions stand out as influential in particular types of trade-off decisions, if they are influential to begin with. This study investigates the role of mixed emotions in the context
of price vs. ethicality trade-off food purchase decisions from two perspectives. First, the study assesses the elicitation of discrete positive and negative emotions in the trade-off decision contexts. Second, the study assesses the degree that the different elicited emotions contribute to mediating the influence of consumers’ appreciation of ethical principles in consumption, to consumers’ post-purchase responses to the decision. This investigation is conducted in the first essay of the study (Essay I).

- The third objective of this study is to assess the role of emotional ambivalence in the context of trade-off food purchase decisions, which juxtapose the ethical quality of a product and consumers’ personal price advantage.

Emotional ambivalence refers to the feeling of being torn and conflicted between different positive and negative emotions that are experienced simultaneously (Jonas et al., 2000; van Harreveld et al., 2009). When emotional ambivalence arises in response to a trade-off decision context, it can be considered as a manifestation of the value conflict that is associated with the making of an explicit trade-off decision. The understanding of how consumers deal with emotional ambivalence in the context of price vs. ethicality trade-off decisions sheds light on how consumers resolve the value conflict that is materialized in the trade-off decision. Furthermore, given that the experience of emotional ambivalence can be a manifestation of experiencing a value conflict in a decision context, emotional ambivalence is likely to be a relevant phenomenon in interpreting the discrepancies that have been shown to often emerge between consumers’ values, attitudes, and motives, and their ethical consumption decisions (Carrigan & Attalla, 2001; Vermeir & Verbeke, 2006). That is, when a particular consumption decision presents a salient contradiction e.g. between the consumption-related values of economics and ethicality, neither of the values may have expected impacts on the decision. This study investigates the role of emotional ambivalence in the context of price vs. ethicality food purchase decision contexts from two perspectives. First, the study assesses the direct impact of emotional ambivalence on consumers’ post-purchase responses to the trade-off decision. Second, the study investigates the moderating influence of emotional ambivalence in the relationship between consumers’ normative motivation to favour domestic food products, and the post-purchase responses. This investigation is conducted in the second essay of this study (Essay II).

- The fourth objective of this study is to assess the distinctions in the influences, and the cognitive antecedents of discrete negative emotions in the context of consumers’ acceptance of genetically modified food products.

Consumers’ negative affective predispositions towards the genetic modification of food are commonly viewed in literature mainly through their general negative valence (Kniazeva, 2006; Poortinga & Pidgeon, 2005; Wansink & Kim, 2001). However, emotion theories maintain that discrete emotions of negative valence have distinct motivational properties (Frijda et al., 1986; Lazarus, 1991; Smith & Ellsworth, 1985). This implies that the experience of different negative emotions towards the genetic modification of food can
motivate distinct types of consumer responses, which stresses the importance of taking a more detailed view of consumers’ affective predispositions towards the genetic modification of food. Furthermore, emotion theories maintain that the elicitation of discrete emotions can be traced back to identifiable cognitive evaluations that are made about an object (Frijda et al., 1986; Lazarus, 1991; Smith & Ellsworth, 1985). This implies that consumers’ discrete emotional responses to the GM of food can be associated with identifiable substantive beliefs about the GM of food. In light of this background, this study will assess the mediating role of fear and anger between different cognitive beliefs associated with the genetic modification of food, and consumers’ anticipated avoiding and opposing responses to genetically modified food products. This investigation is conducted in the third essay of this study (Essay III).

1.2 The positioning and the scope of the study, and intended contributions

The positioning and the scope of the study

The background of this study is consumer behaviour and marketing. In the empirical investigation of this study, consumer food choice is viewed from the perspective of food products and food purchase decision-making. The measures that are used to assess consumer food choice are post-purchase responses, the readiness to use particular food products, and intentions to make complaints about particular food products. In this study, consumers’ values and goals are conceived as important elements in the elicitation of emotions. That is, a central assumption is that food-related phenomena induce emotional responses when they are evaluated with reference to values and goals that have personal relevance to consumers.

The use of the concept of emotion in this study is influenced by the literature of consumer behaviour (Cohen et al., 2008), whereby the concept is used to refer to a somewhat wider range of emotional phenomena than the basic definition of emotion in psychological literature implies (Cohen et al., 2008). By the basic definition, emotions refer to momentarily-felt intensive affective experiences that arise and dissipate rapidly, and that can be experienced also physiologically and physically on the spot (Bagozzi et al., 1999; Cohen & Areni, 1991). In this study, the concept of emotions also encompasses anticipated emotions that are not experienced directly on the spot, but instead are expected to be experienced in the future. Moreover, relatively stable emotional predispositions that have resemblance to attitudes, but which contain qualitative characteristics of discrete emotions, are also included under the concept of emotions in this study. However, it is common to all these definitions of emotional constructs that they are stimulus-specific, i.e. emotions arise in response to specific stimuli, and they are directed towards specific objects or events.

The focus on stimulus-specific emotional constructs implies that moods, which are non-stimulus-specific affective states, are beyond the scope of this study. Moods are connected
to stimulus-specific emotions such that an emotional response to a specific event or object, e.g. being scared or pleasantly surprised, can dissipate into a longer lasting mood state, such as general anxiousness or cheerfulness (Cohen & Areni, 1991). Thus, evidently, moods are also a relevant aspect in the investigation of affective phenomena in consumer food choice. However, in previous research, the predominant focus of the investigation of affective influences in consumption has been namely on incidental mood effects, in the literature of both consumer behaviour and food consumption (Adaval, 2001; Benton & Donohoe, 1999; Garg et al., 2007; Gorn et al., 1993; 2001; Lerner & Keltner, 2000; 2001; Macht, 1999; 2008; Mano, 1992; Mehrabian, 1980; Yi, 1990). Thus, there is a greater need for extending the knowledge of the role of the intricacies of stimulus-specific discrete emotions in consumer behaviour and food choice. Furthermore, mood effects constitute such a major and unique domain of affect, which represents a distinctive stream of research on its own, that it is meaningful to restrict the scope of this study to discrete emotions.

An integrated view to the role of emotions in consumer food choice

This study has the following intended contributions to the understanding of the role of emotions in consumer food choice. The theoretical discussion advances an integrative view to the investigation of the role of emotions in different contexts of food choice. Even though emotions and consumer food choice both encompass a wide range of manifestations and settings (Cardello et al., 2012; Dubé et al., 2003; Kergoat et al., 2010; Laros & Steenkamp, 2004; Olsen et al., 2014), the literature review of this study indicates that there are certain aspects that are common to the investigation of the role of emotions across different food choice contexts. The conceptual framework that will be developed proposes key conceptual dimensions that need to be identified and defined in order to gain a better understanding of the role of discrete emotions in particular contexts of consumer food choice.

Emotional influences in ethical food consumption

Furthermore, this study contributes to the understanding of emotional influences in ethical food consumption. Research on the role of emotions in ethical consumption has previously focused primarily on self-conscious moral emotions, such as guilt and to some extent pride (Antonietti & Maklan, 2014; Gregory-Smith et al., 2013; Peloza et al., 2013; Steenhaut & Van Kenhove, 2006). However, previous research has not accounted for the competing emotional influences that emerge in the often occurring trade-off purchase decision settings, where the ethical characteristics of a food product are assessed along with other desired attributes.

An important contribution of this study on ethical food consumption is the notion that in trade-off decision contexts, the overall gratification that is gained or lost in the trade-off may be an even more prominent emotional influence in ethical food purchase decision-making, than self-conscious moral emotions as such. Furthermore, the findings indicate that in different types of ethical trade-off decisions, the emotional gratification can be manifested in qualitatively distinct forms. The findings shed light on factors that
differentiate the nature of the emotional gratification, which has implications for designing communicational approaches to motivate ethical food purchase decision-making, and for the development of food product concepts that are differentiated with specific ethical characteristics.

Another contribution of this study in the domain of ethical food consumption is to the understanding of consumers’ price perceptions of food products that have ethically relevant implications. The role of product price in ethical consumption is commonly addressed through cognitive measures, such as the maximum amount that consumers are willing to pay for particular ethical products (Basu & Hicks, 2008; De Pelsmacker et al., 2005; Didier & Lucie, 2008; Loureiro & Lotade, 2005), but emotional responses to pricing are rarely accounted for. Furthermore, the issue of pricing is often discussed as a barrier of selecting ethical products (Carrigan et al., 2004; Eckhardt et al., 2010), but not quite so often as a pull factor of choosing unethical products instead. The findings of this study indicate that regardless of the direction of the trade-off between price and ethicality in food purchase decisions, the emotional ambivalence that is induced by the trade-off has an attenuating effect on the appeal of the products. This indicates that the attenuation and also the activation of emotional ambivalence can be a means to facilitate such price perceptions that are favourable to making ethical food choices. As the trade-off between price and ethicality is investigated in the context of domestic food products, the investigation also sheds light on Finnish consumers’ responses to the price structure of domestic food products in particular.

The investigation of emotional ambivalence in this study also contributes to the interpretation of the discrepancies that commonly emerge between consumers’ expressed values and attitudes, and their ethical food choices (Carrigan & Attalla, 2001; Vermeir & Verbeke, 2006). The findings show that the emotional ambivalence that is induced by an explicit trade-off in a food purchase decision context moderates the impact that a relevant attitudinal construct has on the responses to the purchase. This finding stresses the importance of the experiences that consumers have in specific food purchase decision contexts in terms of the extent to which their ethical values and attitudes translate into actual ethical consumption behaviour.

Value conflicts and trade-offs in consumer food choice

The findings of this study in the price vs. ethicality trade-off settings also contribute more generally to the understanding of the role of emotions in consumers’ coping with different types of food-related motivational and value conflicts, which have been identified in previous research (Conner & Sparks, 2002; Leipämä-Leskinen, 2007; Luomala et al., 2004; Warde, 1997). On one hand, it is suggested that the associations of specific discrete emotions with particular types of consumption goals and goal orientations, which are addressed in this study, provide a valuable aggregate view into the way that consumers perceive and experience abstract and concrete food-related contradictions. On the other hand, the findings of this study show that an important way that food-related contradictions
are manifested in specific choices is through emotional ambivalence. Thus, the investigation of consumers’ emotional responses to explicit trade-offs in food choice contexts is a promising perspective to gaining insights into consumers’ ways to cope with different food-related contradictions, such as those between healthy eating and indulgence, or the economic use of resources and lavish spending on food consumption.

The acceptance of genetically modified food products

In addition to ethical consumption and trade-off decision-making, this study has important contributions to the understanding of consumers’ acceptance of genetically modified food products. Previous literature has acknowledged that affect plays a role in the formation of consumers’ predispositions towards the genetic modification of food (Kniazeva, 2006; Laros & Steenkamp, 2004; Poortinga & Pidgeon, 2005; Wansink & Kim, 2001), but the distinctions in the antecedents and implications of discrete emotional responses to the genetic modification of food have not been empirically investigated. The findings of this study give support to the previous suggestions that along with fear, the emotion of anger plays a critical role in the acceptance of the genetic modification of food. Importantly, the findings of this study outline two distinguishable patterns of consumer response to the genetic modification of food, which are structured around the experiences of fear and anger. These patterns consist of distinct substantive concerns, risk perceptions, emotional responses, and preferred modes of conduct in coping with the potential threat of GM foods. These findings have implications for interpreting the underpinnings of consumers’ affective predispositions towards the GM of food, addressing fearful and angry consumers by appropriate means that respond to their concerns, and understanding the specific way in which consumers’ fear and anger can pose an obstacle to the introduction of GM food products, e.g. to the European consumer market.

Overall, the study provides valuable theoretical and managerial insights into the intricacies of discrete emotions in the context of ethical food purchase decision-making, trade-off food purchase decisions, and consumers’ acceptance of genetically modified foods. Moreover, the discovered mechanisms of the emotional influences are likely to be relevant also to many other food choice contexts, and the findings outline several directions for future research on the role of emotions in consumer food choice.

1.3 The structure and the logic of the dissertation

This dissertation consists of three essays, and an integrative part that brings together the key aspects of the essays. The essays are attached as independent manuscripts at the end of this dissertation. The integrative part discusses the theoretical background of this study, the methodological choices in the empirical investigation, the key findings of the essays, and it is concluded with a discussion of the key theoretical and managerial implications of the
study. The structure of the integrative part of this dissertation is presented in closer detail below.

The theoretical background of this study from the emotional perspective is discussed in the second chapter of this dissertation. Previous literature on the role of emotions in consumer behaviour has a strong emphasis in this dissertation, because a comprehensive understanding of the multifaceted nature of emotions is essential for understanding emotional influences in the more specific domain of consumer food choice. The second chapter presents four different theoretical views and concepts relevant to the investigation of consumer emotions: basic emotions theories and affect taxonomies; the perspective of regulatory focus theory to emotions; appraisal theory of emotions; and the perspective of mixed emotions and emotional ambivalence. After introducing these theoretical approaches to emotions, the chapter reviews previous empirical findings on the role of emotions in consumer behaviour. The literature review of the second chapter illustrates the nature of emotional influences in consumer behaviour, and provides a background for interpreting how the intricacies of discrete emotions are manifested in different contexts of consumer food choice.

The third chapter of this dissertation focuses on the literature on consumer food choice. The chapter discusses the scope of consumer food choice and key factors that are involved in the formation of consumers’ food choices. The chapter has a particular emphasis on aspects of food choice that are addressed in the empirical investigation of this study. Thus, the chapter discusses the role of values in consumer food choice, value conflicts and trade-offs, and consumers’ perceptions of the GM of food. The chapter is concluded with an integrative summary, which discusses the association between emotions and consumer food choice in the light of the literature reviews. In the concluding section of the third chapter, a conceptual framework will be developed for the investigation of emotions in consumer food choice. The key hypotheses of the empirical investigation of this study will be presented in light of the conceptual framework.

The fourth chapter of this dissertation discusses the methodology of the study. The study is based on two sets of quantitative data, and the fourth chapter describes the research approach, the design of the empirical investigation, and the data collection procedures. The chapter also describes the statistical methods of data analysis that are used in the empirical analyses, and assesses the validity and reliability of the study. The fifth chapter presents the key findings of the essays. The sixth and final chapter of this dissertation discusses the overall theoretical and managerial implications, assesses the limitations of the study, and provides suggestions for future research in the investigation of the role of emotions in consumer food choice.
2 The role of emotions in consumer behaviour

The theoretical background of emotions, and previous empirical findings on the role of emotions in consumer behaviour are discussed in this chapter, in order to lay the background for investigating emotional intricacies in consumer food choice. First, the concept of emotion is defined in closer detail, and its use in this study is specified. Emotions represent an instance of a broader conceptual category of affect. Affect is an umbrella term for various valenced feeling states and processes, where valence refers to the positive or negative quality of affect (Bagozzi et al., 1999; Cohen & Areni, 1991; Shuman et al., 2013). Affective psychological processes are rapid, intuitive, holistic and experiential in nature, and they occur and operate alongside with deliberative, conscious cognitive evaluations and processes (Loewenstein & O’Donoghue, 2004). By its basic definition, emotion is a relatively short-term affective state of high intensity that entails physiological responses and physical expressions (Bagozzi et al., 1999; Forgas, 1995; Johnson & Stewart, 2005). Emotion is a stimulus-specific affective state, i.e. it is induced by the perceived or imagined features of a particular object (Bagozzi et al., 1999; Cohen et al., 2008). Furthermore, emotions motivate adaptive goal-directed behavioural tendencies that facilitate meaningful coping with the emotion-eliciting event or object (Cohen et al., 2008; Frijda, 1986).

In this study, emotions are referred to as discrete emotions when it is meaningful to accentuate the qualitative differentiation of emotions between and within positive and negative valences. For instance, pride and cheerfulness are discrete positive emotions, and fear and anger are discrete negative emotions. Furthermore, in this study, the concept of emotion is also used to refer to anticipated emotions and emotional predispositions. While emotions, by their basic definition, are directly experienced on the spot, anticipated emotions are expected to be experienced in the future in association with specific events (Cohen et al., 2008). On the other hand, while emotions by their basic definition arise rapidly and automatically and they also dissipate relatively quickly, emotional predispositions are more stable in nature and have resemblance to attitudinal constructs (Scherer, 2005). For instance, consumers’ fear towards the genetic modification of food as a phenomenon is likely to be predispositional in nature, rather than an intensively experienced momentary emotional response. Nonetheless, momentarily experienced, anticipated, and dispositional discrete emotions are all stimulus-specific, they are underlain with qualitatively similar elements, and they carry similar motivational properties (Cohen et al., 2008; Scherer, 2005; Lerner & Keltner, 2000).

In the context of this study, it is important to make a distinction between emotions and moods. Mood is an affective state of lower intensity than emotion, it is longer lasting, and it lacks a specific referent (Lerner & Keltner, 2000; Cohen et al., 2008). Moods can arise without an explicit cause, or they can be derived from a physiological state of a person or from a more intense emotional experience that has been encountered earlier (Cohen & Areni, 1991). Moods can influence a person’s information processing, and perceptions of and behaviours towards objects that are unrelated to the affective state (Bagozzi et al., 1999; Erevelles, 1998). Although moods have been shown to play an important role in consumer
behaviour and in consumer food choice, these influences are beyond the scope of this study. Instead, this study focuses particularly on the role of stimulus-specific emotions in consumer food choice. The following section addresses the theoretical background of the investigation of consumer emotions.

2.1 Theoretical perspectives to emotions

Theoretical perspectives of emotions in the domain of consumer behaviour have been mostly adapted from the psychological literature (Richins, 1997). The perspectives range from broad dimensional characterizations of affective experiences to detailed accounts of the composition of discrete emotions. Theoretical perspectives that are originally derived from psychological literature have been applied as such to the investigation of consumer emotions, and also modified for a better compatibility with consumption contexts. The following section discusses four theoretical perspectives to emotions that have been applied to studying consumer emotions: theories of basic emotions and affect taxonomies; the perspective of regulatory focus theory to emotions; appraisal theories of emotions; and theoretical perspectives on mixed emotions and emotional ambivalence. These theoretical perspectives are of particular relevance to this study, and they shed light on the nature of emotions, emotional phenomena, and the intricacies of discrete emotions.

2.1.1 Basic emotions and affect taxonomies

Basic premises of basic emotions theories

Basic emotion theories maintain that emotions serve evolutionarily meaningful adaptive functions, and they arise rapidly, automatically, and non-consciously (Izard, 2007). Basic emotions entail characteristic bodily, expressive, and motivational components, such as increased physiological and psychological alertness and readiness to flee upon experiencing fear (Ellsworth & Scherer, 2003). According to basic emotion theories, there are a relatively small number of basic emotions that are innate to all human beings (Ellsworth & Scherer, 2003; Havlena & Holbrook, 1986; Ortony & Turner, 1990). Thus, the experience of basic emotions should not be bound to the cultural environment or the stage of development of a person (Ellsworth & Scherer, 2003). Many typologies of basic emotions include the emotions of joy/happiness, surprise, interest, anger, sadness, fear, and disgust (Ekman, 1992; Izard, 1977; 2007; Plutchik, 1980). Basic emotions theories conceive basic emotions as primary emotional units that cannot be reduced to more elementary components, and that more nuanced emotional responses arise from combinations of basic emotions (Richins, 1997; Storm & Storm, 1987).

The basic emotion approach provides a concise view of the spectrum of the spontaneous, rapidly arising emotional experiences that individuals feel in different contexts. However, in the field of consumer behaviour, some researchers have maintained that emotion
measures that are based on the basic emotion approach are not sufficient or appropriate as such for covering emotional responses that are particularly relevant to consumption (Laros & Steenkamp, 2005; Richins, 1997; Schifferstein & Desmet, 2010). Basic emotions do not include higher order cognition like thought or judgment (Izard, 2007), which is necessary to produce more deliberative affective responses that are relevant to consumption, such as pride or guilt which entail attributional inferences about the causality of the stimulus event (Moors et al., 2013). Another critique of the direct adaptation of the basic emotions approach to consumer research is that many measures based on basic emotions have a stronger emphasis on negative than positive emotions (Desmet & Schifferstein, 2008; Richins, 1997). In contrast, consumption-related emotional responses have been found to be more biased towards positive than negative affect (Desmet & Schifferstein, 2008; King & Meiselman, 2010). Furthermore, consumption rarely induces such extreme emotional responses as do for instance actual threats to a person’s survival or deeply meaningful interpersonal relationships (Laros & Steenkamp, 2004; Richins, 1997). Therefore many of the emotional responses that are relevant to human survival and emotional life in general, are not equally relevant in consumption contexts.

Affect taxonomies derived from the basic emotions approach

Broader emotion taxonomies have been modified from basic emotions categorizations to reflect particularly consumption-related emotions in response to the acknowledged differences in evolutionarily basic emotions and consumption-related emotions (Richins, 1997: Consumption Emotions Set; Laros & Steenkamp, 2005: Hierarchy of Consumer Emotions). These measures have been aimed to reflect the diversity of emotions that are typically experienced in consumption contexts, to be easily comprehensible to consumers, and to be sufficiently concise to be included in consumer surveys (Richins, 1997). The Hierarchy of Consumer Emotions by Laros and Steenkamp (2005) is presented below as an example of an affect taxonomy developed in the field of consumer behaviour (Figure 1).

![Hierarchy of Consumer Emotions](image)

**Figure 1**  *Hierarchy of Consumer Emotions (adapted from Laros & Steenkamp, 2005).*
The hierarchy follows a three-level categorization that is adapted from Shaver et al. (1987) and Storm and Storm (1987), and contains a superordinate and a subordinate level associated with the basic emotion level. At the superordinate level of the hierarchy, consumer emotions are categorized as positive or negative. At the intermediate level the hierarchy postulates eight basic consumer emotions: contentment, happiness, love, and pride, and anger, fear, sadness, and shame. Thus, the proposed basic consumer emotions also contain deliberative emotions such as pride and shame, and an equal amount of positive and negative emotions. The subordinate level consists of more specific instances of the basic emotion categories, such as hopeful, happy, and pleased under the category of happiness. The items at the subordinate level have been adapted from Richins’ (1997) Consumption Emotions Set, which contains emotions that are found to be commonly associated with consumption-related experiences.

Similar affect taxonomies have also been developed in the domain of food sciences to describe relationships between the sensory characteristics of food, perceptions of particular foods and food product categories, and the spectrum of affective responses (Cardello et al., 2012; King & Meiselman, 2010; Spinelli et al., 2014). Many of these taxonomies take a relatively flexible approach to the concept of emotions, and they include such adjectives as critical, adventurous, mild, and friendly (Cardello et al., 2012; King & Meiselman, 2010). The affect taxonomies are used, for example, for creating affect profiles associated with particular foods, food products, and product categories that differentiate food consumption experiences beyond measures of general liking (Jiang et al., 2014).

More generally, affect taxonomies label and categorize emotions, and they provide useful frameworks of potential discrete emotions to be investigated in particular consumption contexts. Also in this study, the emotion items that are used to investigate emotional influences in consumer food choice are adapted from such taxonomies (Laros & Steenkamp, 2005; Richins, 1997). Affect taxonomies fail to give an account of the origins of discrete emotions, however, which is highly relevant for understanding emotional influences in consumer behaviour and consumer food choice. The following section discusses the perspective of regulatory focus theory to the elicitation of emotions. Regulatory focus theory associates the specific nature of emotional responses to the characteristics of the motivational orientation that individuals have to goal pursuit (Brockner & Higgins, 2001; Higgins, 1998). In this study, the regulatory focus approach is an important theoretical background for the investigation of emotional responses to food purchase decisions that involve trade-offs and food-related contradictions.

2.1.2 Regulatory focus theory and emotions

Basic premises of regulatory focus theory

Regulatory focus theory (Higgins, 1997; 1998) is a social psychological theory of self-regulation (Brockner & Higgins, 2001). Self-regulation refers to the cognitive, affective,
and behavioural processes that allow for people to guide their goal-directed activities under different circumstances (Brockner & Higgins, 2001; Karoly, 1993). Regulatory focus theory distinguishes between two general strategies that people employ in goal attainment: promotion focus and prevention focus (Dholakia et al., 2006; Gino & Margolis, 2011; Higgins, 1997). These regulatory foci connect to emotion-elicitation in that the positive and negative emotional responses to attaining and falling short of attaining a goal should be qualitatively distinct, depending on whether the goal is conceived through a promotion- or prevention-focused strategy of goal attainment (Higgins, 1997; 2002).

Promotion focus relates to the orientation towards pursuing hopes, aspirations, and desires, and to attaining positive outcomes (Higgins, 2002; Pham & Avnet, 2004). Needs that relate to growth and development are salient in promotion-focused strategies of goal attainment (Brockner & Higgins, 2001; Higgins, 1997; 2002). On the other hand, prevention focus relates to the orientation of attending to obligations and responsibilities, and to maintaining desirable states of affairs by avoiding negative outcomes (Higgins, 1997; Pham & Avnet, 2004). In prevention-focused strategies of goal attainment, security-related needs are salient (Brockner & Higgins, 2001; Higgins, 1997; 2002).

Whether a person is attuned to promotion or prevention focus in goal attainment depends on dispositional and situational factors. On the one hand, for some individuals, promotion-focused strategies are chronically more accessible than prevention-focused strategies, and vice versa (Aaker & Lee, 2001; Pham & Avnet, 2004). This implies that individuals can have a general tendency to view particular tasks or forms of consumption as the means to prevent negative outcomes, or to advance positive outcomes. On the other hand, the framing of particular situations, and situational primes can enhance the activation of either promotion or prevention focus (Higgins, 1997; 2002; Pham & Avnet, 2004; 2009). For instance, a task-specific framing that directs attention either towards making progress or towards avoiding mistakes as a criterion of performance is likely to enhance the activation of promotion and prevention foci, respectively (Higgins et al., 1997; Pham & Avnet, 2004). Furthermore, either a promotion- or prevention-focused strategy of goal attainment can be adopted, depending on whether the pursued goal relates more to needs of growth and development, or of security and responsibilities (Chernev, 2004; Chitturi et al., 2007).

The nature of emotions elicited under promotion and prevention foci

Regulatory focus theory maintains that under promotion focus, the qualitative nature of emotions that are induced by the attainment and the failure to attain a positive outcome range between cheerful and dejection-related emotions (Brockner & Higgins, 2001; Higgins, 1997; Higgins et al., 1997). On the other hand, under prevention focus, the emotions induced by the success and the failure to prevent a negative outcome are expected to range between quiescent and agitated (Brockner & Higgins, 2001; Higgins, 1997; Higgins et al., 1997).
For instance, if a person is more heavily promotion- than prevention-focused in a gambling context, a gained win is expected to be perceived predominantly as the attainment of a positive outcome. Consequently, under promotion focus the win should induce cheerful emotional responses, such as excitement, elation, or delight (Chitturi et al., 2007; Higgins, 2002; Higgins et al., 1997). Conversely, under promotion focus a gambling loss is expected to be seen primarily as a failure to attain a positive outcome, and the loss should induce dejection-related emotions such as disappointment, discontent, or sadness (Chitturi et al., 2007; Higgins et al., 1997; Higgins, 2002).

If the person playing the game is more strongly prevention-focused than promotion-focused, a win is more likely to be perceived as the avoidance of a negative outcome. Consequently, under prevention focus the win should induce quiescence-related emotions such as relief, relaxation, or pride for preventing a negative outcome (Chitturi et al., 2007; Higgins et al., 2001; Mukhopadhyay & Johar, 2007). On the other hand, under prevention focus a gambling loss should be perceived as the failure to prevent a negative outcome, and the loss should induce agitated emotions such as anxiety, anger, fear, or guilt (Brockner & Higgins, 2001; Higgins, 2002; Higgins et al., 1997). Figure 2 presents an illustration of the affective dimensions that regulatory focus theory postulates, and how they relate to goal attainment under promotion and prevention foci.

**Figure 2**  An illustration of the affective dimensions postulated in regulatory focus theory and their association with goal attainment under promotion and prevention foci.
The perspective of regulatory focus theory to emotion-elicitation has elements of a dimensional approach to emotions (Brockner & Higgins, 2001; Mehrabian & Russell, 1974; Russell, 2003; Watson & Tellegen, 1985). The essence of dimensional theories of affect is that they postulate a limited number of qualitative dimensions that characterize the nature of felt affective states at a particular point in time (Johnson & Stewart, 2005; Watson & Spence, 2007). In regulatory focus theory, the nature of emotional responses is tied to goal pursuit, and defined as a combination of the dimensions of valence and arousal (Brockner & Higgins, 2001). On the dimension of valence, an emotional response to goal attainment and loss is expected to induce emotional responses of positive and negative valence, respectively (Brockner & Higgins, 2001; Johnson & Stewart, 2005; Richins, 1997; Russell, 2003). Furthermore, the emotional response to goal attainment or loss can range on the dimension of arousal between very calm and passive affective states, and highly activated and alert states (Brockner & Higgins, 2001; Johnson & Stewart, 2005; Richins, 1997; Russell, 2003). Thus, the non-loss of a prevention goal induces quiescent positive emotions of low arousal, and the gain of a promotion goal induces cheerful positive emotions of high arousal. In contrast, the loss of a prevention goal induces agitated negative emotions of high arousal, and the non-gain of a promotion goal induces dejection-related negative emotions of low arousal.

As regulatory focus theory and its premises about emotion-elicitation are closely associated with goal attainment, it is applicable for understanding the emotions that arise in consumption-contexts and in relation to products and attributes that serve different types of goals for consumers, for example (Chernev, 2004; Chitturi et al., 2007; Louro et al., 2005). While regulatory focus theory ties the nature of emotional responses to goal attainment, an even more detailed account of the factors that influence the specific nature of emotional responses is provided by appraisal theories of emotions. Furthermore, appraisal theories of emotions also provide insights into the behavioural implications of discrete emotions. In this study, the appraisal approach provides an essential background for interpreting the antecedents, and the motivational properties of discrete emotions in food choice contexts. The following section discusses appraisal theories of emotions and their propositions about the elicitation and the implications of discrete emotions.

2.1.3 Appraisal theories of emotions

Basic premises of appraisal theories of emotions

Appraisal theories of emotions define emotion as a componential process that contains cognitive evaluations of the environment, a subjective feeling experience, physiological responses, and expressive and instrumental behaviours or behavioural tendencies (Moors et al., 2013; Scherer, 2005). The central emphasis in appraisal theories of emotions is that emotions reflect people’s perceptions of their surrounding circumstances, and how the surroundings relate to one’s well-being (Ellsworth & Scherer, 2003). Emotions arise from a particular combination of cognitive appraisals that are made about the emotion-eliciting
stimulus, and discrete emotions are differentiated by their distinct appraisal patterns (Lazarus, 1991; Roseman, 1984; Scherer, 1982). Emotions facilitate adaptive responses to the situation by enhancing particular types of behavioural tendencies in different forms of approach or avoidance (Frijda, 1986; Smith & Ellsworth, 1985).

Appraisal theories of emotions differ from basic emotion theories in that they include higher order cognition in the emotion process (Izard, 2007). The cognitive appraisals that are associated with the emotion process can be immediate and unconscious, or result from more deliberative evaluation, and an initial emotional response can change over time as a result of reappraising the situation (Ellsworth & Scherer, 2003; Lazarus, 1991; Scherer, 2005). Another distinction to basic emotion theories is that emotions are expected to be composed of simpler underlying elements (Ellsworth, 2013; Izard, 2007). Thus the range of different emotional experiences is also potentially infinite from the perspective of the appraisal approach (Ellsworth & Scherer, 2003). Moreover, appraisal theories address the antecedents and also the consequences that are characteristic to discrete emotions, instead of merely categorizing feeling states (Watson & Spence, 2007).

Appraisal theorists (Frijda, 1986; Lazarus, 1991; Roseman, 1984; Scherer, 1982; Smith & Ellsworth, 1985) have proposed several cognitive dimensions defining the patterns of appraisal underlying emotions. There is variance in the amount and content of suggested dimensions, however many similarities appear among them. The proposed dimensions frequently relate to the relevance or importance associated with the emotion-eliciting situation, the desirability or pleasantness of an outcome, inferences of the causality, controllability and legitimacy of an event, and the perceived certainty of an outcome (Ellsworth & Scherer, 2003; Watson & Spence, 2007). Figure 3 presents a model adapted from Johnson and Stewart (2005), which illustrates the process of emotion elicitation from the appraisal perspective. The appraisals of goal relevance, goal congruence, attribution of agency, certainty, and coping potential are included in the framework in order to exemplify the role of cognitive appraisals in the emotion process. However, it should be noted that there are differences in the amount and the exact content of the appraisals that different appraisal theorists emphasize, and the primary purpose of the framework is to exemplify the emotion process (for reviews of different formulations of appraisal theories, see Ellsworth & Scherer, 2003; Johnson & Stewart, 2005; Scherer, 1999; Watson & Spence, 2007).
The elicitation and differentiation of discrete emotions through the appraisal process

Emotions are expected to arise from the evaluation of the surrounding events with reference to particular goals, whereby the nature of the emotion process is influenced by what goals are used as reference for evaluation (Lazarus, 1991). For instance, a consumer can evaluate a service encounter with reference to the attainment of instrumental or hedonic goals. The nature or content of the goal that is activated in a particular situation has influence on what information about the surrounding circumstances is perceived as relevant, and what specific features of a situation are evaluated (Johnson & Stewart, 2005). For instance, the primary focus of evaluation in a service encounter may be on the efficiency or the pleasantness of the service.

Goal relevance and goal congruence
A necessary requirement for an emotion to arise towards an event is that it is perceived to have relevance to one’s personal goals that are activated (Lazarus, 1991; Smith & Ellsworth, 1985). The appraisal dimension of goal relevance encompasses this evaluation. The stronger the perceived goal relevance is, the stronger the emotional response and the urgency for action can be expected to be (Lazarus, 1991; Roseman et al., 1990; Smith & Ellsworth, 1985). Provided that an emotion arises, its positive or negative valence is determined by the appraisal of goal congruence, i.e. whether the event is perceived to be beneficial or harmful with respect to the person’s particular goals (Smith & Ellsworth, 1985). Thus, for example, a person who has a strong appreciation of ethical consumption principles is likely to be attentive to product features that enhance and violate ethical principles (goal relevance), which can lead to strong positive and negative emotional responses in the person, respectively (goal congruence).

Attribution of agency
The positive or negative emotional response to an object can be nuanced into a more differentiated emotion with an attribution of agency associated with the event (Ellsworth & Smith, 1988; Johnson & Stewart, 2005; Weiner, 1985). The appraisal dimension of...
agency relates to the causality or responsibility associated with the event. The agency can be attributed to the self, to a particular external entity, or to the circumstances or indeterminable causes. Because the agency appraisal specifies the causation of or responsibility for an event, it can direct behavioural tendencies towards particular causal entities (Ellsworth & Scherer, 2003).

For instance, the general positive feeling induced by the purchase decision of an ethical food product can be differentiated into pride, when a consumer perceives that s/he has taken personal responsibility (causal attribution to the self) for supporting a particular important ethical cause. Self-conscious emotions such as pride and guilt direct a person’s attention towards one’s own behaviour, which can lead to changes or strengthening in particular behavioural patterns. Other-directed emotions such as gratitude and anger arise from attributing the causality of positive and negative events to external entities. Other-directed emotions direct attention and behavioural responses towards the entities that are perceived to be accountable for the event. In contrast, the attribution of event causality to the circumstances or indeterminable causes does not differentiate emotional responses to a great extent. Under such circumstances, emotional responses to an event predominantly reflect the evaluation of the favourability of the outcome of the event, and they fail to direct attention and behaviours to a clearly specified entity.

Certainty
The appraisal of certainty refers to the evaluation of the perceived likelihood of an event, or the certainty about its consequences (Roseman et al., 1990). Past events are certain, and they induce such emotions as joy, relief, anger, or sadness that are related to the attainment or the violation of a relevant goal (Ellsworth & Smith, 1988; Watson & Spence, 2007). In contrast, future events or otherwise unknown outcomes are uncertain, and they induce anticipatory emotions such as hope, anticipation, and fear that are related to the potential attainment or violation of a relevant goal (Ellsworth & Smith, 1988; Watson & Spence, 2007). Certain or uncertain events and outcomes call for different measures of coping, whereby the appraisal of certainty is important in terms of the behavioural tendencies associated with discrete emotions. For instance, hope motivates the pursuit of potentially beneficial outcomes, while joy and relief allow for enjoying the outcome that has already been attained.

Coping potential
Generally positive emotions encourage approaching behaviour, while negative emotions foster withdrawal or avoidance (Ellsworth & Scherer, 2003; Frijda et al., 1989). The behavioural tendencies associated with particular emotions are adaptive to the surrounding circumstances, and serve the purpose of bringing the situation in line with the desired state of the goal that is at stake (Johnson & Stewart, 2005). The approaching or avoiding behavioural tendencies associated with emotions can translate into particular behaviours to the extent to which the person has the opportunity and the resources to perform them (Ellsworth & Scherer, 2003; Johnson & Stewart, 2005). Generally, anger is associated with the sense of a high coping potential, or the sense of having control over events, and it can
induce determined antagonistic behavioural responses towards the entity that is perceived
to be responsible for an aversive event (Ellsworth & Smith, 1988; Roseman et al., 1990).
In contrast, the emotion of fear is associated with an appraisal of low potential to cope with
a threat, in which case an appropriate way to avoid the threat is to move away from it
(Ellsworth & Smith, 1988; Frijda et al., 1989).

If there are limitations to engaging in the approaching or avoiding behaviours that specific
emotions call for, the emotional experience can be altered (Johnson & Stewart, 2005). For
instance, anger can turn into frustration if the possibilities to overtly respond are restricted.
If a negative event cannot be resolved by changing the undesirable event, one can engage
in emotion-focused coping with the aim to alter the unpleasant emotional state, for instance
by reassessing the priority of goals and the situation or to diverting one’s attention
elsewhere (Lazarus, 1991). Thus, overall the emotion process is highly adaptive to
reappraisals of the situation which provide feedback to the person about the surrounding
circumstances, alter the emotional experience, and adjust the appropriate responses the
event (Scherer, 2005).

The appraisal approach to emotions has gained increasing attention in the literature on
consumer emotions and marketing since the late 1990s (Bagozzi et al., 1999; Johnson &
Stewart, 2005; Nyer, 1997; Peine et al., 2009; Ruth et al., 2002). Theoretically, the appraisal
approach allows for predicting people’s emotional responses from their appraisals of
situations and vice versa, and anticipating their behavioural tendencies from their emotional
responses (Ellsworth & Scherer, 2003). As such, several consumer researchers have
suggested the appraisal approach to be particularly useful in gaining understanding and
explanations of emotional influences in consumer behaviour (Bagozzi et al., 1999; Johnson
& Stewart, 2005; Watson & Spence, 2007). Nevertheless, while the appraisal perspective
on emotions gives valuable insights into the implications that the experience of discrete
pure emotions has for consumer behaviour, it fails to directly address the behavioural
implications of the simultaneous experience of multiple discrete emotions. In the context
of this study, the simultaneous experience of multiple discrete emotions is particularly
relevant to the food choice contexts that entail trade-offs, and to food-related contradictions
more generally. The following section discusses the simultaneous experience of multiple
emotions through the concepts of mixed emotions and emotional ambivalence, and
considers their implications for consumer behaviour.

2.1.4 Mixed emotions and emotional ambivalence

The co-occurrence of positive and negative emotions

The concept of mixed emotions refers to the simultaneous experience of positive and
negative emotions (Aaker et al., 2008; Berrios et al., 2015; Larsen & McGraw, 2014; Orth
et al., 2010; Scherer & Ceschi, 1997). Although the term mixed emotions is a frequently
used expression in common speech, emotion theorists are not in full agreement about
whether positive and negative emotions can co-occur or not (Berrios et al., 2015; Brehm & Miron, 2006; Larsen & McGraw, 2014; Russell & Carroll, 1999). If emotions are viewed from a dimensional perspective, positive and negative emotions represent opposite poles of the valence continuum (Mehrabian, 1996; Russell, 2003). This notion precludes the possibility that a person would be able to feel strong positive and negative emotions at the same time (Larsen & McGraw, 2014; Williams & Aaker, 2002). Instead, possible positive and negative affective elements should cancel each other out and be manifested as an aggregate affective experience that is somewhere between the opposing poles of the valence continuum (Barrett, 2006; Larsen & McGraw, 2011).

Nevertheless, even when viewed from a dimensional perspective, an affective experience can fluctuate from moment to moment, as responses to new encountered stimuli are incorporated in the overall affective state (Barrett, 2006; Russell, 2003). This raises the question of how the simultaneity of the experience of mixed emotions is defined. Empirical findings have indicated that positive and negative emotions can co-occur within a time frame of 3 seconds or less (Andrade & Cohen, 2007; Larsen et al., 2009). Thus, there is evidence that mixed emotions can be experienced at least in very rapid sequences. This is in accordance with appraisal theories of emotions, which define emotion as an adaptive process that is undergoing constant modification as new information or appraisals are integrated in the evaluation of the situation or object (Moors et al., 2013; Scherer, 2005). A specific object of evaluation and its different features can be appraised with reference to multiple goals in parallel, which can lead to experiencing complex and evolving blends of emotions, instead of a pure singular emotion (Johnson & Stewart, 2005; Scherer & Ceschi, 1997).

Emotional ambivalence

Regardless of whether mixed emotions are experienced at the same exact moment or sequentially within a short time interval, a mixed emotional experience can have implications for consumer behaviour that are distinct from the implications of experiencing singular positive or negative emotions (Bee & Madrigal, 2013; Ruth et al., 2002). The subjective experience of feeling torn and mixed between emotions of the opposite valence is referred to as emotional ambivalence (Conner & Armitage, 2008; Jonas et al., 2000; van Harreveld et al., 2009). Emotional ambivalence is thought to become stronger, when the intensities of the positive and negative emotions become stronger, and the positive and negative emotions are similar in strength (Conner & Armitage, 2008; Jonas et al., 2000; van Harreveld et al., 2009). Such inconsistency between feelings or thoughts creates uncomfortable tensions and mental discomfort among many consumers (Aaker, 2002; Festinger, 1957; Orth et al., 2010; van Harreveld et al., 2009; Williams & Aaker, 2002). In the attempt to avoid the mental discomfort associated with experiencing emotional ambivalence, consumers can resort to different coping mechanisms (Luce et al., 1999). The avoidance can be pursued by attempting to adjust the balance between the positive and negative emotions that one feels towards the source of ambivalence, or by avoiding interaction with the source of ambivalence altogether (Luce et al., 1999; van Harreveld et
al., 2009). The implications of these two forms of coping for consumer behaviour can be quite different. Therefore, an important aspect of the research on consumer emotions is to understand the process and the outcome of dealing with mixed emotional experiences.

### 2.1.5 Summary of the theoretical perspectives to emotions

The key propositions of the reviewed theoretical perspectives are summarized in Table 1. The basic emotions approach highlights the important fact that emotions represent psychological mechanisms that are hard-wired in human behaviour. Emotions arise rapidly and automatically, and they provide immediately available information about the surrounding circumstances and guide adaptive behaviours. Essentially, emotions guide goal-directed behaviours, whereby the goals that are important to a person are a key element in emotion-elicitation. The nature of the goals that are involved in the process of emotion-elicitation differentiates emotional responses, as suggested by the perspective of regulatory focus theory to emotions. That is, individuals can conceive different goals either as something to achieve or as something to protect, which differentiates the emotional responses that are associated with the pursuit of these goals. Furthermore, appraisal theories of emotions provide a still more detailed and a cognitively oriented account about the differentiation of discrete emotions, and also their implications. Appraisal theories maintain that discrete emotions are underlain with unique patterns of cognitive appraisals, which is reflected also in the behavioural tendencies that discrete emotions foster. Moreover, the theoretical perspective to mixed emotions and emotional ambivalence highlights the notion that discrete emotions are not always experienced in isolation. This poses the challenge to interpret how discrete emotions guide goal-directed behaviours when multiple emotions are experienced simultaneously.
Table 1. A summary of the key content of the literature review on theoretical perspectives to emotions.

<table>
<thead>
<tr>
<th>Theoretical perspective to emotions</th>
<th>The focus of the theoretical perspective</th>
<th>The key propositions of the theoretical perspective</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Basic emotions theories</strong> (Ekman, 1992; Izard, 1977; 2007; Plutchik, 1980)</td>
<td>Emotions as facilitators of survival</td>
<td>Emotions serve an evolutionarily meaningful purpose, and a limited number of basic emotions exists that are innate to all human beings; the elicitation of basic emotions is rapid and automatic, and it does not require higher order cognitive processing</td>
</tr>
<tr>
<td><strong>Regulatory focus theory and emotions</strong> (Brockner &amp; Higgins, 2001; Higgins, 1997; 1998; 2002)</td>
<td>The qualitative nature of emotional responses that arise in goal pursuit</td>
<td>The attainment and the failure to attain goals give rise to positive and negative emotional responses; the qualitative nature of the emotional responses is differentiated depending on whether the potential outcomes of the goal pursuit are perceived as the attainment of and the failure to attain a positive outcome, or as the avoidance of and the failure to avoid a negative outcome</td>
</tr>
<tr>
<td><strong>Appraisal theories of emotions</strong> (Frijda, 1986; Lazarus, 1991; Roseman, 1984; Scherer, 1982; Smith &amp; Ellsworth, 1985)</td>
<td>The cognitive structure of discrete emotions, and the characteristic behavioural tendencies associated with them</td>
<td>Emotions towards a particular stimulus are composed of simpler elements, cognitive appraisals that are made about the stimulus when it is evaluated with reference to personally relevant goals; discrete emotions differ in their appraisal patterns; discrete emotions foster different behavioural tendencies towards the emotion-eliciting stimulus</td>
</tr>
<tr>
<td><strong>Mixed emotions and emotional ambivalence</strong> (Andrade &amp; Cohen, 2007; Larsen et al., 2009; Larsen &amp; McGraw, 2014; Williams &amp; Aaker, 2002)</td>
<td>The simultaneous experience of positive and negative emotions, and its implications for judgment and behaviour</td>
<td>Emotions of opposing valence can co-occur; mixed emotional responses towards a particular stimulus can call for discrepant behavioural responses towards it; mixed emotional experiences can give rise to emotional ambivalence, which exerts affective influences to judgment and behaviour that are distinct from the influences of the mixed emotions that underlie the emotional ambivalence</td>
</tr>
</tbody>
</table>

In the following section, the focus of discussion is turned to empirical research of emotions in the field of consumer behaviour. The review of the empirical findings illustrates how the different theoretical approaches to emotions have contributed to the current understanding of consumer emotions. The previous empirical findings on the role of emotions in consumer behaviour in general provide a background for reflecting on the role of emotions in consumer food choice in particular.
2.2 Empirical findings on the role of emotions in consumer behaviour

Research into the role of emotions in consumer behaviour originated in the 1980s, when consumer researchers began to emphasize the hedonic, affective, and experiential aspects of consumption (Batra & Ray, 1986; Hirschman & Holbrook, 1982; Holbrook & Hirschman, 1982; Holbrook et al., 1984; Park & Young, 1986). Previously, the affective aspect of consumption had been mostly conceptualized in preference evaluations, or attitudinal liking or disliking of products or brands, but more specific affective responses and influences had been mainly neglected (Holbrook & Hirschman, 1982).

Research into affect in consumer behaviour has followed two major streams of research: the role of incidental mood effects, and discrete stimulus-specific emotions in consumer behaviour. The nature of consumers’ prevailing mood can have considerable carry-over effects that can bias evaluations of products, advertisements, and risk perceptions towards a mood-congruent direction (Adaval, 2001; Gorn et al., 1993; 2001; Lerner & Keltner, 2000; 2001; Mano, 1992; Yi, 1990). Mood regulation has been found to motivate eating behaviours, such that affective states of different valence and level of arousal influence the type of food that is preferred, the quantity of food intake, and appetite (Garg et al., 2007; Lyman, 1982; Macht, 1999; 2008; Mehrabian, 1980; Patel & Schlundt, 2001). Conversely, the consumption of food can also induce changes in the prevailing mood (Benton & Donohoe, 1999; Gibson, 2006; Macht et al., 2003). The examples above represent incidental affective influences, i.e. the prevailing mood has impact on thought processes, evaluations, and behaviours that are unrelated to the source of the affective state.

As the particular focus of this study is on the second major domain of affect, stimulus-specific emotions, empirical findings on mood effects in consumer behaviour will not be reviewed in this chapter more thoroughly. Instead, this chapter discusses previous research on the role of discrete emotions in consumer behaviour. Consumers’ stimulus-specific emotional responses are of interest to researchers of consumer behaviour particularly because emotions reflect consumers’ perceptions of specific stimuli, and they motivate adaptive behavioural responses with respect to the emotion-eliciting stimulus (Cohen et al., 2008; Frijda, 1986). Thus, the investigation of discrete consumer emotions provides insights into the way that consumers perceive specific consumption-related objects, such as particular food products or conceptual food-related phenomena, and how consumers are likely to respond to these specific objects as a result of their emotional responses.

2.2.1 The nature of emotional influences in consumer behaviour

Directly felt and automatically arising basic emotions

In their most basic form, emotions are highly automatic and rapid affective responses that convey information to a person about the surrounding circumstances that is relevant to the person’s wellbeing and survival (Bagovazzi et al., 1999; Ekman, 1992; Izard, 2007). Although
most consumption contexts lack an immediate association with actual human survival, an exception to this can be found in food consumption (Pollard et al., 2002; Rozin & Vollmecke, 1986). Insufficient and inappropriate nutrition, as well as the consumption of inappropriate food is directly related to human survival, whereby certain aspects of food consumption tap into consumers’ basic emotional responses in a unique manner. For instance, researchers have found that a sweet taste induces pleasant emotional responses already in newborns, which motivates the consumption of sweet foods that provide energy and nutrition (Robin et al., 2003; Rosenstein & Oster, 1988). On the other hand, disgust is a basic emotional response to the thought or act of ingesting contaminated foods that may have adverse health implications, and it motivates the avoidance of potentially dangerous food objects (Rozin & Fallon, 1987; Woody & Tolin, 2002).

Consumption typically serves other than basic needs that are essential for survival, however. The intuitive and reactive nature of emotions is, nonetheless, reflected across various different consumption contexts. Emotional responses to consumption situations and objects can be reached more rapidly than deliberative cognitive judgments (Bagozzi et al., 1999; Pham, 2004). Thereby emotions are an important input in decision-making under contexts that require fast decisions, and when there are other contextual or motivational limitations to more thorough information processing (Petty et al., 1993; Pham et al., 2001; Shiv & Fedorikhin, 1999). Under such contexts, the emotions that a particular object of evaluation induces have a considerable informational value to the person with regard to deciding how s/he should respond to the object. In the domain of food consumption, this implies that emotions have a prominent role in consumers’ explicit food choices when deliberative information processing is restricted, e.g. in low involvement daily shopping contexts, or when a person is stressed, distracted, or tired.

Furthermore, research has indicated that the reliance on affect in consumption decision-making is likely to result in preference of options that are rewarding in the short run rather than in the long run (Cohen et al., 2008; Loewenstein, 1996). This is namely because the basic function of affect is to facilitate meaningful coping at the present (Bagozzi et al., 1999). In the context of food consumption this implies that particularly under conditions where cognitive deliberation is restricted and the role of affect is accentuated in decision-making, the decisions are likely to favour alternatives that provide immediate hedonic gratification. Thus, for example, in low involvement daily food purchase decisions, the emotional gratification that food products are perceived to offer is an important factor that enhances the appeal of particular food products.

Emotions play an important role, particularly in consumption decisions and judgments that are inherently affective in nature, such as experiential and hedonic consumption and satisfaction judgments (Adaval, 2001; Clore et al., 1994; Cohen et al., 2008; Pham, 1998). Food consumption is a means to attain novel experiences and hedonic gratification, which accentuates the importance of emotions in food choices. Furthermore, emotions are likely to play a particularly important role in food choices within food categories that are
perceived to deliver value, e.g. through novel and exciting taste experiences and hedonic gratification, as opposed to more functional benefits.

**Deliberative emotions and emotional predispositions**

Although the basic function of emotions is to convey rapidly and easily accessible information to the decision-making of the present (Pham, 2004), the role of emotions in consumption is not limited to intuitive basic emotional responses. Instead, consumption is also influenced by emotions that are more deliberative in nature and arise less automatically (Ramanathan & Williams, 2007). Pride, guilt, and gratitude are instances of deliberative emotions, whose elicitation entails inferences about the causality of events and higher order cognitive processing (Izard, 2007; Moors et al., 2013). For instance, even though the consumption of pleasurable foods or visually attractive products would primarily induce intuitive hedonic affective responses, a more thorough deliberation of the implications of the consumption can induce emotions such as guilt for succumbing to temptations, or pride for consuming exclusive products (Dubé et al., 2005; Goss & Allan, 2009; Macht & Dettmer, 2006; Patrick et al., 2009; Steenhuis, 2009). Deliberative emotions are an important element in consumers’ personal control of impulsive food consumption, the following of patterns of food consumption that are beneficial in the long term, and the conceptualization of different societal meanings and causalities associated with food consumption.

Consumption is also influenced by anticipated emotions, which refer to deliberative beliefs about how a particular course of action makes one feel (Cohen et al., 2008; Perugini & Bagozzi, 2001). For instance, the anticipated regret for a consumption decision can encourage more thorough choice processing, or to refrain from making the decision (Bagozzi et al., 2003). On the other hand, anticipated pride for resisting temptations can enhance self-control in consumption, and anticipated joy and excitement can be important motivators of hedonic consumption (Patrick et al., 2009; Phillips & Baumgartner, 2002). Relatively stable emotional predispositions towards specific consumption-related objects and phenomena are also an important manifestation of emotional influences in consumption. Emotional predispositions that possess characteristic features of discrete emotions differentiate the affective component in consumers’ attitudes (Erevelles, 1998; Johnson & Stewart, 2005; Laros & Steenkamp, 2005). For instance, consumers’ emotional responses to food products have been found to differentiate products of the same acceptability and sensory liking (Jiang et al., 2014; King & Meiselman, 2010). This implies that consumers’ discrete emotional responses and emotional predispositions towards consumption objects provide more detailed information on consumer perceptions than overall measures of general level attitudes, acceptance or positive and negative affect.
2.2.2 The elicitation and differentiation of consumption emotions

A key factor in the elicitation of emotions across different consumption contexts are the goals that consumers pursue through consumption: emotions arise when personally relevant goals are at stake (Bagozzi et al., 1999; Ellsworth & Scherer, 2003). The goals that consumers associate with consumption can range from the fulfilment of basic needs to attaining hedonic pleasure and functional utility, and to living up to integrally held personal values (Bagozzi et al., 1998; Chernev, 2004; Luce et al., 1999). The personal relevance of the goal that is at stake in a particular consumption context is an important factor in determining the intensity of the emotions that arise in the situation (Johnson & Stewart, 2005; Nyer, 1997). The wider the range of goals that a particular form of consumption serves, the more multifaceted consumers’ emotional responses to the form of consumption is likely to be (Luce et al., 1999).

Previous research on consumer emotions has sought to disentangle the reasons why certain consumption contexts give rise to particular types of emotional responses. Chitturi et al. (2007) found that the gain of a hedonic product attribute in choice induced cheerfulness and excitement, while the gain of a functional product attribute in choice induced feelings of security and confidence. On the other hand, the loss of a hedonic attribute in choice was found to induce sadness and disappointment, while the loss of a functional product attribute induced anxiety and guilt (Chitturi et al., 2007). These differences were interpreted in light of regulatory focus theory (Higgins, 1998; 1999), and attributed to the different characteristics of the goals that hedonic and functional product attributes serve: hedonic attributes help to attain wishes and desires, while functional attributes help to avoid and remove inconvenience and problems (Brockner & Higgins, 2001; Chernev, 2004; Chitturi et al., 2007). The attainment and the failure to attain these different types of goals through consumption tap into different motivational systems, which is expected to account for the differences (Brockner & Higgins, 2001; Chitturi et al., 2007). More generally, these findings imply that the nature of the motivation that consumers have to engage in particular consumption can differentiate the emotional responses that they attach to the consumption.

Appraisal theories of emotions contribute another approach to explaining and predicting differences in consumers’ emotional experiences, and also the implications of discrete emotions (Roseman et al., 1990; Smith & Ellsworth, 1985). The association of appraisals of agency with the elicitation of consumer emotions has provided valuable insights into understanding consumers’ post-consumption behaviours (Nyer, 1997; Soscia, 2007; Yi & Baumgartner, 2003). The experiences of the other-directed emotions of gratitude and anger have been found to be enhanced when a positive or a negative consumption outcome is attributed to external entities, such as a salesperson or a retailer (Gelbrich, 2011; Nyer, 1997; Soscia, 2007; Yi & Baumgartner, 2003). Furthermore, gratitude and anger foster outward-directed post-consumption responses, such as word of mouth communications and complaint behaviour (Nyer, 1997; Soscia, 2007; Yi & Baumgartner, 2003). Thus, gratitude, anger, and the other-oriented appraisals of causal attribution that underlie these emotions can be highly relevant, e.g. in the manifestation of consumer satisfaction, or in terms of relationship marketing (Palmatier et al., 2009; Soscia, 2007; Weiner, 2000; Yi &
Baumgartner, 2003). The appraisals of agency are inherent also in the experiences of pride and guilt, which have been shown to be enhanced through increased sense of self-accountability about a positive or a negative consumption outcome (Gelbrich, 2011; Ruth et al., 2002; Soscia, 2007). Self-conscious emotions are integral to consumer self-control, to commitment to responsibilities and long-term goals, and to the moral and ethical aspects of consumption (Giner-Sorolla, 2001; Patrick et al., 2009; Peloza et al., 2013; Steenhaut & Van Kenhove, 2006).

The appraisal dimension of certainty is an important factor that characterizes anticipatory consumer emotions (Ellsworth & Scherer, 2003; Watson & Spence, 2007). Anticipatory emotions, such as fear and hope, are future-oriented emotions that are responses to events whose outcome is still uncertain (Cohen et al., 2008; MacInnis & de Mello, 2005). Anticipatory emotions differ from anticipated emotions in that the former are experienced at the present, while the latter are expected to be experienced in the future (Cohen et al., 2008). The anticipatory emotion of hope is an important motivator for consumers to engage in consumption that is expected to have beneficial implications in the long-term, such as exercising, following of a healthier diet, or using cosmetic products (Desmet & Schifferstein, 2008). Hope can be an important component in consumers’ expectations about products and services, which also serve as references in the forming of post-consumption satisfaction (MacInnis & de Mello, 2005). In contrast, fear is an affective response to uncertain negative future events (Bee & Madrigal, 2013). Fear motivates protective actions, and it has been shown to be associated with reluctance to adopt products or forms of consumption that are unfamiliar or perceived to be unsafe, such as genetically modified foods, nanotechnology, or for instance e-commerce (Laros & Steenkamp, 2004; Lee et al., 2005; Patton & Jøsang, 2004; Townsend & Campbell, 2004). Conversely, fear can enhance the consumption of products or services that help to avoid or mitigate the consequences of anticipated threats, such as insurances or security services (Goold et al., 2010; LaTour & Zahra, 1989).

Overall, previous research on consumer emotions has shown that stimulus-specific discrete emotions can provide relatively detailed information of consumers’ perceptions of and motivational tendencies towards specific consumption objects.

2.2.3 The simultaneous experience of positive and negative emotions

While much of the previous research on consumer emotions has focused on individual discrete emotions (Berrios et al., 2015), the interest towards consumers’ mixed emotional experiences has also gained increasing attention (Aaker et al., 2008; Bee & Madrigal, 2013; Chitturi et al., 2007). Mixed emotional experiences, i.e. simultaneous experiences of positive and negative emotions, have been shown to arise for instance in the context of watching bitter sweet or horror movies (Andrade & Cohen, 2007; Larsen et al., 2001), getting disappointing wins or relieving losses in a wager (Larsen et al., 2004), listening to music with incompatible tempo and mode (Hunter et al., 2008), and in significant life
transitions (Larsen et al., 2001). Furthermore, important sources of consumption-related mixed emotional experiences are explicit consumption decisions. Mukhopadhyay and Johar (2007) showed that the making of an unintended purchase induced happiness tempered with guilt, while refraining from making the purchase induced pride. In a similar vein, Chitturi et al. (2007) showed that trading off a utilitarian product attribute in exchange for a hedonic product attribute induced cheerfulness and excitement accompanied by feelings of guilt and anxiety. On the other hand, a converse attribute trade-off was found to induce feelings of security and confidence along with sadness and disappointment (Chitturi et al., 2007). Findings by Ramanathan and Williams (2007) indicated that consumers feel mixed positive and negative emotions in response to indulgence, and the combinations of the specific emotions vary depending on the individual impulsivity of a person.

An important aspect of consumers’ mixed emotional experiences is the emotional ambivalence that they induce (Bee & Madrigal., 2013; van Harreveld et al., 2009). Aaker et al. (2008) showed that the discomfort associated with the experience of emotional ambivalence is reflected in consumers’ recall of the experience, such that over time the intensity of past mixed emotional experiences is underestimated upon recall. On the other hand, Williams and Aaker (2002) found that persuasion appeals that contained mixed emotional content induced mental discomfort, and higher levels of discomfort were associated with less favourable attitudes towards the persuasion appeal. In a similar vein, Olsen et al. (2005) found that ambivalence about a consumption-related satisfaction judgment was negatively associated with the overall satisfaction judgment about the consumption event, and also with repurchase loyalty. Furthermore, Roster and Richins (2009) showed that ambivalence about a product replacement decision was negatively associated with the intention to purchase a replacement, and positively associated with the intention to retain the currently owned possession and to delay making the replacement decision. More generally, previous findings on the association of emotional ambivalence with consumer judgment and decision-making imply that ambivalence has an attenuating influence on the favourability or extremity, and determination of consumers’ evaluative judgments and behavioural intentions (Conner & Sparks, 2002; Nowlis et al., 2002; Thompson et al., 1995).

2.2.4 Discussion and conclusions regarding the role of emotions in consumer behaviour

This literature review of the empirical research on consumer emotions demonstrates that emotions are an important factor in consumer behaviour. Previous research has indicated that emotions play a central role in experiential and hedonic consumption (Adaval, 2001; Andrade & Cohen, 2007; Holbrook & Hirschman, 1982; Larsen et al., 2001). Rapidly arising reactive emotions are an important input also in consumer decision-making, particularly when cognitive processing is restricted due to contextual or motivational limitations (Petty et al., 1993; Pham et al., 2001; Shiv & Fedorikhin, 1999). Thus, emotions are likely to be an important factor in consumers’ everyday food purchase decisions, which
are often made rapidly, and without very thorough cognitive deliberation (Loewenstein & O’Donoghue, 2004; Scheibehenne et al., 2007). Consumers’ food purchase decisions also commonly involve evaluation of different alternatives and product characteristics, and explicit choices can require making compromises and trade-offs between them (Chitturi et al., 2009; Luce et al., 1999). Therefore, explicit food purchase decisions are likely to often be characterized with complex blends of emotions and emotional ambivalence rather than single pure emotions (Ruth et al., 2002).

Research has indicated that consumption emotions are not merely intuitive affective elements that motivate impulsive drives. Instead, consumption emotions closely interact with deliberative cognitive elements (Bagozzi et al., 1999; Malhotra, 2005). Discrete emotions are underlain with and differentiated by nuanced patterns of cognitive appraisals, and the origins and the implications of consumer emotions in specific consumption contexts can be interpreted in light of their respective appraisal patterns (Johnson & Stewart, 2005; Watson & Spence, 2007). The cognitive aspect of emotions is also reflected in that emotional influences in consumer behaviour include consumers’ expectations about how certain decisions and behaviours would make them feel in the future (Cohen et al., 2008; Perugini & Bagozzi, 2001). Furthermore, consumers form emotional responses to abstract conceptual issues such as new technologies, and emotions are integrated in their more global attitudinal evaluations of different concepts (Erevelles, 1998; Johnson & Stewart, 2005; Laros & Steenkamp, 2005). The intensity of consumers’ emotional responses, e.g. to decisions in the present or to abstract conceptual issues in influenced integrally by the personal importance of the goals that are used as points of reference in the evaluation of the emotion-eliciting stimuli (Johnson & Stewart, 2005; Lazarus, 1991). Therefore, decisions and concepts that are personally involving, and tap into consumers’ deeply held values, are particularly likely sources of consumer emotions.

This chapter provided a comprehensive review of the key theoretical perspectives to discrete emotions, and the previous literature on the role of emotions in consumer behaviour. This review constitutes the body of literature that forms the background for the interpretation of the role of discrete emotions and their intricacies in the context of consumer food choice in this study. The following chapter discusses the substance area of this study, consumer food choice. The literature review is followed by a summary that integrates the key insights on emotional phenomena in consumer behaviour with the investigation of different phenomena in the area of consumer food choice.
3 Consumer food choice, trade-offs in food purchase decisions, and the acceptance of GM food products

This chapter is begun with a discussion on consumer food choice, and the factors that have been suggested to be important components in defining consumers’ food choices. This discussion outlines key features that are particularly characteristic to the consumption of food. Among the various factors that guide consumers’ food choices, this chapter has a particular focus on the aspects that are central to the empirical investigation of this study. Specifically, the chapter discusses the role of values and value conflicts in consumer food choice, trade-off decision-making in food choices, ethical food consumption and price vs ethicality trade-offs, and the genetic modification of food and consumers’ acceptance of genetically modified food products. The chapter is concluded with an integrative summary that reflects on the role of emotions in consumer food choice. In the last section of this chapter, the conceptual framework of this study will be presented along with the main research hypotheses in the empirical investigation.

3.1 Consumer food choice

Previous literature on consumer food choice encompasses two major research foci in the domain of consumer food choice, namely attitudinal and behavioural phenomena that relate to food consumption (Cardello et al., 2000). Attitudinal phenomena cover, for example, consumers’ sensory liking and disliking of particular foods, the desire and intention to consume certain foods, and the acceptance of novel food products (Cardello et al., 2000; Rozin, 2007). In contrast, behavioural phenomena encompass decisions on the quantity and quality of food consumption, dietary habits, and explicit food purchase decisions (Cardello et al., 2000; Rozin, 2007). Both attitudinal and behavioural phenomena in consumer food choice are influenced by a vast amount of factors at different levels of abstraction (Connors et al., 2001; Köster et al., 2007).

Several models have been proposed that aim to summarize the key factors that are involved in the development of consumers’ food preferences and choices (Furst et al., 1996; Khan, 1981; Pilgrim, 1957; Randall & Sanjur, 1981; Shepherd, 1985). A common feature in many food choice models is the division of the influencing and interacting factors into those related to food, the individual, and the environment (Conner, 1993; Khan, 1981; Pilgrim, 1957; Randall & Sanjur, 1981; Rozin, 2007; Shepherd, 1985). Food is the object of choice, which is subjectively perceived by the individual under the influence of the surrounding environment (Rozin, 2007).

Evidently, the sensory properties of food, such as its taste, smell and texture, and the nutritional properties of food have a key role in consumer food choice (Clark, 1998; Connors et al., 2001; Eertmans et al., 2001; Grunert, 2002; Scheibe henne et al., 2007; Sobal et al., 1998). The role of these intrinsic properties that are unique to food as a commodity
is accentuated in consumer food choice when food is evaluated as a source of sensory experiences, and nutrition that is essential for human well-being. However, food and food products also possess several extrinsic properties that are evaluated in the formation of attitudinal and behavioural responses to food. These include the price of food products, the origin and production methods of food, and the convenience of acquiring, preparing, and consuming the food (Furst et al., 1996; Rozin, 2007; Steptoe et al., 1995). The extrinsic properties of food are just as important as the intrinsic properties of food, or even more important, in certain consumer food choice contexts.

The multiple properties of food are perceived subjectively by each individual consumer. Subjective food-related perceptions and choices are shaped by the sensory preferences, and the biological needs of a person (Rozin, 2007; Sobal et al., 2006). Furthermore, the personality traits and the personal value priorities of an individual, and the attitudes and beliefs that s/he associates with particular food-related objects have considerable influence on consumers’ attitudinal and behavioural responses in food consumption (Macht, 1999; Rozin, 2007; Shepherd & Sparks, 1994). Moreover, subjectively-felt momentary affective states such as moods and emotions are a key factor in many food choice contexts (Canetti et al., 2002; Desmet & Schifferstein, 2008; King & Meiselman, 2010; Macht, 1999).

Nevertheless, consumers’ food preferences and choices are not formed purely subjectively in isolation, but instead they are shaped and directed by different environmental factors. For instance, explicit food choices can be made only among alternatives that are accessible to a consumer (Sobal et al., 1998). On the other hand, cultural traditions and meanings, and social contexts have considerable influence on what types of food choices are acceptable and desirable to a consumer in a particular context (Bessière, 1998; Connors et al., 2001; Kessous & Roux, 2008; Vartanian et al., 2007). Moreover, the immediate decision environment of food choices can contain abstract and concrete meanings, stimuli, and restrictions that guide consumers’ food choices (Furst et al., 1996; Pilgrim, 1957; Rozin, 2007).

Although consumer food choice clearly is a multifaceted and dynamic process, many of the models that depict consumer food choice have primarily focused on summarizing the food-related, individual, and environmental factors that are involved in consumer food choice (Shepherd & Dennison, 1996; Shepherd, 1999; Scheibehenne et al., 2007). However, the model developed by Furst and colleagues (Connors et al., 2001; Furst et al., 1996; Sobal et al., 2006) stands out in that it depicts consumer food choice as a process. The model encompasses abstract indirect influences in food choice that consumers adapt throughout their life course, as well as specific decision strategies that consumers use to arrive at explicit food choices. Figure 4 presents the model as adapted from Furst et al. (1996).
Figure 4  A conceptual model of the components in the food choice process (adapted from Furst et al., 1996).

The Furst et al. (1996) model integrates different components that are involved in the process of consumer food choice by organising them in relation to life course, influences, and personal system. The model illustrates the way that consumer food choice is essentially rooted in past and current experiences, environments, and expectations about the future that are embedded in the life course of consumers. More specific influences that shape food choices include culturally-learned ideals about food and eating, psychological, physiological, and relational personal factors, restricting or enabling tangible and intangible resources, supporting or obligating social factors, and food contexts that are created by physical surroundings, institutions and policies, and seasonal and temporal climate (Furst et al., 1996; Sobal et al., 2006).

The various external and internal influences are operationalised in specific food choice contexts in the personal system (Furst et al., 1996). The personal system serves for constructing food choice values and classifying foods and situations according to these, negotiating and balancing these values in choice settings, and developing selection
strategies (Furst et al., 1996; Sobal et al., 2006). Salient food-related values include sensory appeal, convenience, monetary considerations, immediate and long-term effects of food on well-being, and relational aspects of food and eating. The salience and use of these and other values in choice varies depending on the subject and situation (Furst et al., 1996; Sobal et al., 2006).

In the Furst et al. (1996) model, emotions are incorporated in consumer food choice at the level of influences as psychological personal factors, and in the mental processes in the personal system where people translate more abstract influences into their specific food choices (Sobal et al., 2006). However, because the model is aimed to give a comprehensive general insight into the various factors that are involved in the process of consumer food choice, it fails to focus on emotional influences in any more detail. By drawing from emotion theories (Lazarus, 1991; Smith & Ellsworth, 1985), it is argued that emotions are integrated in consumer food choice importantly through the goals that consumers strive to attain through food consumption. The goals can represent, for example, abstract culturally learned ideals, social and personal norms, and more concrete hedonic and utilitarian consumption needs and desires. Although the range of the goals that consumers pursue through food consumption is wide and multifaceted, the diverse goals share the aspect that they are derived from consumers’ beliefs about what is worth striving for. In light of this notion, it is argued that consumers’ cognitive belief hierarchies that encompass values, motives, and beliefs at different levels of abstraction are inherently tied to emotional influences in consumer food choice. The following section discusses values and related cognitive beliefs as psychological constructs that motivate goal-directed responses in the context of consumer food choice.

3.2 Values in consumer food choice

Values represent abstract goals that are enduring beliefs about ideal end-states and preferable modes of conduct (Rokeach, 1973; Schwartz, 1992; 1994; Vinson et al., 1977). In their most abstract form, values are not tied to any particular object, idea, context, or time (Rokeach, 1973; Schwartz, 1992; 1994; Vinson et al., 1977). Instead, abstract values such as the value types of achievement, hedonism, benevolence, and security (Schwartz, 1992; 1994) provide standards for more specific goal setting, for choosing desirable modes of conduct, and for making evaluative judgments in different contexts (Bardi & Schwarz, 2003; Honkanen et al., 2006; Vinson et al., 1977). Particular cultures, societies, and individuals have their own value systems where distinct values are prioritized with different degree of importance (Bardi & Schwartz, 2003; Schwartz, 1999).

In light of their abstract value priorities, individuals form domain-specific value systems that are connected to particular areas of life, such as social activities, religion, or consumption (Honkanen et al., 2006; Lusk & Briggeman, 2009; Vinson et al., 1977). Domain-specific values are more specific than the basic personal values that were discussed.
above, yet more abstract than attitudes, which are evaluative judgments about particular objects (Honkanen et al., 2006).

In the literature of consumer food choice, domain-specific value constructs have been addressed, for example, through the concepts of food-related values, food-related lifestyles, and food choice motives (Brunso et al., 2004; Connors et al., 2001; Furst et al., 1996; Honkanen et al., 2006; Steptoe et al., 1995). Many of the propositions identify the food-related aspects of taste, safety, price, convenience, naturalness, and ethics as important substantive issues in consumers’ food-related value systems (Furst et al., 1996; Honkanen et al., 2006; Lindeman & Väänänen, 2000; Lusk & Briggeman, 2009; Steptoe et al., 1995). Thus, these aspects represent domain-specific values, desirable outcomes and goals that consumers commonly strive to attain through food consumption (Honkanen et al., 2006; Lusk & Briggeman, 2009).

The influence of consumers’ values is reflected in consumers’ beliefs and evaluative judgments concerning specific food-related objects or phenomena (Honkanen et al., 2006; Lusk & Briggeman, 2009; Vinson et al., 1977). For instance, a person for whom the naturalness of food is an important food-related value may be doubtful about the use of novel technologies in food production. Furthermore, centrally held and accessible values can influence consumers’ evaluative judgments of food-related objects and events such that they direct attention towards such characteristics of the object that are particularly relevant to the domain of the value (Honkanen et al., 2006; Vinson et al., 1977). Thus, the overall evaluation e.g. of a food product with multiple salient attributes can be based primarily on its sensory characteristics for a consumer who prioritizes taste in her/his food-related value hierarchy.

Moreover, the influence of consumers’ values extends also to behavioural consumption responses (Honkanen et al., 2006; Vinson et al., 1977). The desire to live up to personally important consumption-related values creates a motivation to engage in consumption decisions that are in congruence with important values (Vinson et al., 1977). For instance, if a consumer strongly believes that it is the right thing to do to favour domestic food products to support the economic welfare of the home country, s/he is likely to have a strong motivation to act this out in her/his consumption decisions. On the other hand, if a person gives a high priority to ethical principles in consumption, s/he can be expected to respond favourably to food products with ethical characteristics, and unfavourably to unethical food products.

In consumers’ food-related value systems, distinct values are prioritized with a different degree of importance (van Raaij & Verhallen, 1994; Vinson et al., 1977). For instance, the appreciation of ethical principles in food consumption can be high in the value priority of a particular consumer, while values concerning the cost and convenience of acquiring and consuming food have a lower priority. In contrast, for some consumers, food-related sensory experiences and convenience are prominent values in the value system, and the ethical considerations in food consumption represent a subordinate value to these food-
related aspects. Nevertheless, because consumers’ value systems contain several personally relevant values that are not necessarily mutually congruent, food consumption often entails value conflicts (Furst et al., 1996; Sobal et al., 2006). This is an important aspect of consumer food choice, and it will be addressed in the following section.

### 3.3 Value conflicts and trade-offs in explicit food choices

In particular food choice situations, such as explicit food purchase decisions, objects of choice are considered as bundles of different attributes that are bound together in the object (Sobal et al., 2006). Quite rarely, one particular food product satisfies all the food-related values that a consumer holds important (Furst et al., 1996; Sobal et al., 2006). This implies that in the process of food choice, consumers need to prioritize their food-related values and evaluate how particular choice alternatives satisfy them. Furthermore, to arrive at a specific decision, consumers often need to make trade-offs between the fulfilment of different values and goals that are important for them.

Previous literature has distinguished several food-related contradictions that commonly emerge in consumers’ value negotiations in food choice in the contemporary Western society (Leipämäa-Leskinen, 2007; Mäkelä, 2002; Warde, 1997). These include the contradictions between health and indulgence, care and convenience, and economy and extravagance. The characteristics of these contradictions will be discussed below to illustrate the types of value conflicts that consumers face on conceptual and also concrete level in food consumption. This section discusses also the specific contradiction between price and ethicality in food purchase decision-making, which is addressed in the empirical investigation of this study.

#### Common value contradictions in consumer food choice

A typical value contradiction in food choice arises from the juxtaposition of health and indulgence. Healthy eating has several meanings to consumers, such as the maintenance of an overall balanced diet, the avoidance of excessive fat and sugar, or the consumption of clean and natural food ingredients (Falk et al., 2001; Luomala et al., 2004). The objectives of healthy eating are also multifaceted, such as weight control and the attainment of a slim body, controlling specific health threats such as high blood pressure, or more generally maximising physiological and psychological well-being through healthy food choices (Leipämäa-Leskinen, 2007). Such health considerations are integrally tied to self-discipline, and abstract long-term implications of food consumption. Thus, the fulfilment of health-related values in food consumption is evidently challenged by temptations of indulgences, lapses of self-control, and short-term rewards. Foods that are perceived as healthy may not have the same sensory appeal as unhealthy foods that are, for example, high in sugar and fat content, whereby healthy food choices can require compromises on
Another food-related contradiction that has been identified in previous literature pertains to the juxtaposition of care and convenience (Warde, 1997; 1999). Care refers to the commitment of time and labour to food preparation and consumption, which is contrasted with convenience that saves time and efforts in food consumption (Leipämaa-Leskinen, 2007; Luomala et al., 2004; Mäkelä, 2002). The investment of time and effort in careful meal planning, food preparation and consumption is appreciated by many consumers (Mäkelä, 2002). Care in food consumption can signify caring and taking responsibility for one’s family, and it can also give a sense of personal accomplishment (Leipämaa-Leskinen, 2007). Nevertheless, there are various restrictions in daily life that direct consumers towards trading off the aspect of care for convenient food choices that are more compatible with daily schedules, such as ready-made meals and snacks (Luomala et al., 2004; Mäkelä, 2002).

A third very common contradiction in food choice is derived from the juxtaposition of economy and extravagance (Luomala et al., 2004; Warde, 1997). Basically this contradiction pertains to saving and spending money in food consumption, and to sparing and lavish consumption of food. Consumers’ need or desire to consume food economically can be derived directly from limited monetary resources. However, even consumers for whom limitations in monetary resources are not an issue can be very sensitive to whether food prices are properly justified, and strict about using food resources economically (Luomala et al., 2004; Sobal et al., 2006). Moreover, the making of food purchases with “bargain prices” can be rewarding even if one could also afford more expensive prices. Extravagance, the opposite of economy in this juxtaposition, can refer to short-sighted and lavish spending of resources in food consumption, but also to investing in special and luxurious foods or eating out in restaurants, for example (Leipämaa-Leskinen, 2007). Traditional examples of “extravagant” luxurious foods are expensive food items such as caviar or lobster. Furthermore, it is argued that today ethical food products also belong to the same category, particularly when they are more expensive than their conventional counterparts. However, ethical food consumption as a luxury differs from pure hedonic extravagant consumption in that it combines extravagance with responsibility. This, in turn, also influences how the aspect of economy is framed in the juxtaposition between economy and extravagance. In the context of ethical food consumption, the contradiction between prudent and imprudent spending easily transforms into a juxtaposition of consumers’ pursuit of self-interest, and altruistic behaviour towards other entities.

Trade-offs between price and ethicality

The empirical investigation of this study has a particular focus in the trade-off between price and ethicality in food purchase decisions. Ethicality represents a food-related value that has relevance in the food choices of many consumers (Crane, 2001; Schröder & McEachern, 2004; Zander & Hamm, 2010). This can be manifested as the favouring of
organic food products, the boycotting of food products from a particular country for political reasons, recycling and the avoidance of food waste, or the favouring of fair trade products (Crane, 2001; De Pelsmacker et al., 2005; Freestone & McGoldrick, 2008; Shaw & Shiu, 2002). The various manifestations of ethical consumption reflect that the exact meaning of ethical food consumption in concrete food choices is essentially defined subjectively by individuals. However, also from this subjective perspective, an overarching aspect in ethical food consumption is that it has implications for a cause that has moral significance to the consumer, and this significance is often rooted in cultural and social value structures (Barrett et al., 2005; Carrigan et al., 2004; Crane & Matten, 2003).

Certain characteristics of food products that resonate with consumers’ ethical values, also increase the price of food products (Aertsens et al., 2011; Andorfer & Liebe, 2012). For instance, the production of organic meat or dairy products is often more expensive than conventional food production, which is reflected as a higher retail price to consumers. As another example, the concept of fair trade products entails the principle that the retail price of the products should be sufficiently high to accommodate a fair compensation to the farmers and societies that actually produce the product (De Pelsmacker et al., 2005). Thus, in instances such as these, ethical food purchase decision-making presents consumers with a trade-off between price and ethicality.

In the empirical investigation of this study, the trade-off between price and ethicality is investigated in the context of the purchase decisions of domestic food products. The domestic origin of food has several meanings to consumers, and consumers have different motivations to favour domestic food products. For some consumers, the domestic origin of food is primarily a signal of high intrinsic product quality, e.g. good taste and product safety (Ekelund et al., 2007; Nygård & Storstad, 1998; Verlegh & Steenkamp, 1999). On the other hand, the domestic origin of food products can carry emotional and symbolic meanings for consumers, which relate to personal identity, belongingness, and national pride (Luomala, 2007; Verlegh & Steenkamp, 1999; Verlegh, 2007).

The ethical significance of domestic food products is derived particularly through normative inferences associated with the favouring of domestic food products. On the one hand, the favouring of domestic food products can be perceived as the right thing to do due to that on a global scale, domestic food is local. Thereby the consumption of domestic food reduces food mileage, which has implications for environmental welfare (Ekelund et al., 2007; Nygård & Storstad, 1998). On the other hand, the favouring of domestic food products can represent ethical food consumption to consumers such that it is believed to support the economic welfare and employment in the home country, and the viability of domestic food production (Lobb & Mazzocchi, 2007; Luomala, 2007; Pouta et al., 2010; Verlegh, 2007).

In the consumption of domestic food products, product price is not necessarily a relevant factor for the attainment of these ethical goals, and price vs. ethicality trade-offs are not inevitable. That is, the choice of a domestic food product over an imported product can be
perceived as an ethical choice regardless of whether the price is low or high. However, the price structure of the low or high retail price of domestic food products can in itself present a trade-off between price and ethicality, similarly as in fair trade products. That is, on the one hand a premium price on a domestic food product can accommodate a fair compensation to the primary producer(s) of the product. On the other hand, a low retail price that is attractive from a consumer’s perspective may be facilitated by pushing the compensations of the primary producer(s) to a minimum level. Thus, these trade-offs explicitly juxtapose consumers’ pursuit of personal monetary advantage, and the acknowledgement of the welfare of another entity in the society, which boils down to a trade-off between price and ethicality.

Shared characteristics of different trade-offs, and the management of value conflicts and trade-offs

Overall, consumers’ food choices entail contradictions between various different values and motives that consumers wish to fulfil through food consumption. The four substantive contradictions that were reviewed above have certain common features at a more abstract level. All of them entail trade-offs between consumption goals that relate to responsibilities and benefits in the long run, and personal desires that are salient in the present. These types of juxtapositions in the trade-offs can be associated with different goal orientations, as outlined in regulatory focus theory (see chapter 2.1.2). Goals that relate to attending to responsibilities are often seen as something to be protected, which can be achieved by focusing on the prevention of negative outcomes (Higgins, 1997; 1998). In contrast, goals that relate to the fulfilment of desires are commonly perceived as something to be achieved, which can be attained by focusing on the obtaining of positive outcomes (Higgins, 1997; 1998). Thus, the trade-offs between health and indulgence, care and convenience, or the welfare of others and personal interests do not merely represent trade-offs between two substantively distinct goals, but they also juxtapose conceptually and directionally different orientations of goal attainment. This can be expected to be manifested in consumers’ emotional responses to food-related value conflicts, for example (Brockner & Higgins, 2001).

Literature on consumers’ food-related value conflicts maintains that consumers employ different strategies to cope with making value trade-offs in food choices. The strategies to manage value conflicts include coming up with justifications why it was necessary to neglect a particular value in choice on a particular occasion, convincing oneself that also the neglected value is being acknowledged through other food-related behaviours, overlooking the value neglect, and downplaying the importance of the neglected value (Luomala et al., 2004; Ottes et al., 1997; Schröder & McEachern, 2004). All these strategies represent attempts to reach a univalent, non-contradictory view about a potential or a past food choice. Nevertheless, the strategies do not necessarily always result in the desired outcome, and consumers are left feeling ambivalent about the food choice. By drawing from previous literature on consumer ambivalence, possible implications of experiencing ambivalence about value trade-offs in food choice include decision delay or
avoidance (Bee & Madrigal, 2013; Roster & Richins, 2009; van Harreveld et al., 2009), and attenuation of satisfaction with food choices that have been already made (Olsen et al., 2005).

Contradictions between different values, goals, and desired attributes associated with food consumption are likely to be particularly salient when explicit decisions are under consideration on a short time frame (van Harreveld et al., 2009). However, when food choices and food-related phenomena are considered at a more abstract level and on a distant time frame, individuals often tend to make more polarized evaluations that are guided by abstract principles, and are able to make and predict clearer choices (Gupta & Sen, 2013; Liberman & Trope, 2008; Liberman et al., 2007). Examples of food-related considerations that have a distant temporal frame are plans about dietary changes in the future, and anticipated responses to new types of food products that might be introduced to the market. A topical example of the latter instance is consumers’ acceptance of genetically modified (GM) food products. GM food products are not currently widely available in the European consumer market for actual consumption, but consumers form attitudinal predispositions towards them at a conceptual level. The following section discusses previous literature on consumers’ acceptance of the GM of food, which is the substantive domain of the second empirical food choice setting that is addressed in this study.

3.4 Consumers’ perceptions of genetically modified food products

To lay the background for discussing consumers’ perceptions of genetically modified food products (GM food products), this section first discusses the genetic modification of food (the GM of food), and its potential benefits and disadvantages in general terms.

The genetic modification of food

Genetically modified food products refer to products that contain/consist of, or are produced from, genetically modified organisms (European Commission, 2015). Genetically modified organisms are created by deliberately introducing modifications to an organism’s genetic code to achieve particular favourable phenotypic characteristics (Lusk et al., 2004; Uzogara, 2000). Thus, the definition of GM foods covers unprocessed foods such as maize that is harvested from genetically modified crops, and also processed foods that contain genetically modified materials along with other ingredients. The feeding of production animals with GM feed does not make the meat of the animals genetically modified as such, but this is a widely used application of gene technology in food production.

As a societal phenomenon, the genetic modification of food is very multifaceted and complex. On the one hand, the genetic modification of food can produce applications that
have significant societal benefits and also commercial potential from the perspective of functional product features (Lassen et al., 2002; Magnusson & Hursti, 2002; Uzogara, 2000). Potential benefits of using gene technology in food production include the development of crops more resistant against diseases, pests, and herbicides, and the production of more nutritious, tastier and longer-lasting food products (Chen & Li, 2007; Miles et al., 2005; Uzogara, 2000). Crops that endure in challenging growing environments, and which potentially have an enhanced nutritional content, are suggested to be more profitable to farmers and they are expected to provide solutions even to global nutritional problems (Uzogara, 2000; Verdurme & Viaene, 2003).

There are several open questions about the GM of food that raise doubts towards it, however. Concerns have been voiced regarding unexpected alterations in the nutritional qualities of GM crops, unknown allergenic properties of GM foods, the generation of toxins in plants, and unintentional gene transfer to natural plant species which disturbs the balance of ecosystems (Frewer et al., 2004; Uzogara, 2000). Furthermore, the GM of food is embedded with considerable commercial interests which impact agribusiness operation. There are concerns about the control that major agri-food companies have over the patents of GM seeds, and the way that farmers become dependent on the offerings of the companies (Frewer et al., 2004; Lassen et al., 2002; Uzogara, 2000). In addition to these health-related, environmental, and market concerns, questioning the moral justification of tampering with the heredity of living organisms is a major issue in terms of the acceptability of the GM of food (Frewer et al., 2004).

The acceptance of the GM of food and GM food products among consumers

Currently, GM food products are not widely available in the European consumer market (Bredahl, 2001; Frewer et al., 2013). Due to this, consumers do not face explicit purchase decisions where they would evaluate GM food products as bundles of attributes and weigh the relative importance of different attributes such as price, taste, and convenience to form their opinion about GM food products. Instead, consumers form their perceptions about GM food products at a conceptual rather than practical level.

Previous research has shown that consumers’ attitudes towards the GM of food and GM food products are strongly embedded in consumers’ values and general level attitudes (Bredahl, 2001; Dreezens et al., 2005; Grunert et al., 2003; Honkanen & Verplanken, 2004). For instance, attitudes towards technological progress, the environment, and nature have been shown to be important predictors of consumers’ attitudes towards the GM of food and related phenomena (Frewer et al., 2004; Grunert et al., 2003). On the other hand, objective and perceived knowledge about the GM of food and its applications are also important determinants of consumers’ attitudes (Christoph et al., 2008; House et al., 2004; Klerck & Sweeney, 2007). Because the application of gene technology in food production is a complicated technological process that is not easily comprehended let alone controlled by laypeople, the trust in scientists, governments, and other influential authorities is a
crucial factor in the acceptance of the GM of food (Chen, 2008; Cook et al., 2002; Hossain & Onyango, 2004; Siegrist, 2000)

Several studies have shown that abstract values and perceptions such as those discussed above influence consumers’ risk and benefit perceptions associated with the GM of food (Bredahl, 2001; Chen & Li, 2007; Costa-Font & Gil, 2009; Grunert et al., 2001). The balance between the perceived risks and benefits is a critical issue in terms of whether or not consumers even have the incentive to consume GM food products. A considerable amount of the benefits of the GM of food are associated with the primary production of food. In contrast, the nature and value of the benefits that the GM of food and GM food products could offer directly to consumers are not so clear. Thus, in the absence of clear and concrete benefits that consumers could obtain from using GM food products, the perceived risks easily outweigh the benefits in the forming of consumers’ attitudes towards the GM of food and related phenomena (Gaskell et al., 2004; Miles et al., 2005).

Particularly in Europe, consumers’ attitudes towards the GM of food tend to be negative (Frewer et al., 2013; Miles et al., 2005). Furthermore, according to Eurobarometer surveys conducted in the 2000s, a majority of the European consumers were worried about the applications of gene technology in the food domain (European Commission, 2005; 2010). Literature suggests that consumers’ concerns about the GM of food are underlain with two general dimensions of qualitatively distinct risk perceptions: unknown risk and dread risk (Finucane & Holup, 2005; Gaskell et al., 2004; Slovic, 1987). The unknown risk dimension is accentuated with hazards that are perceived to be unobservable, unfamiliar, and that have delayed consequences (Slovic, 1987). In the context of the GM of food, concerns about the uncertain long-term effects of the GM of food to human health, and to the natural balance of the environment fall within the dimension of unknown risk (Finucane & Holup, 2005). In contrast, the dimension of dread risk is associated with hazards that are perceived to be uncontrollable, involuntary, and potentially catastrophic, and whose effects are distributed inequitably (Slovic, 1987). In the context of the GM of food, concerns about the dominant control of food growers and producers over the use of GM-materials in food production, unequitable distribution of risks and benefits between food producers and consumers, and also moral and religious concerns can be considered to fall within the domain of dread risk (Finucane & Holup, 2005).

Abstract concepts, such as consumers’ concerns about the GM of food, and their risk perceptions associated with it, can be expected to be important determinants of how receptive consumers are to GM food products in the European market. At this point, consumers’ receptiveness to GM food products cannot be evaluated through behavioural measures of food consumption, because GM food products are not broadly available for consumption. Instead, consumers’ receptiveness to GM food products can be assessed through attitudinal measures of acceptance or rejection, such as consumers’ readiness to taste and regularly use GM food products, or consumer’s intentions to make complaints about GM food products if they would enter the consumer market.
3.5 Integrative summary of the role of emotions in consumer food choice

The literature review of this chapter highlights that the investigation of consumer food choice encompasses various different types of attitudinal and behavioural phenomena. The phenomena include the hedonic liking of the sensory properties of food, the acceptance of particular foods based on conceptual beliefs, explicit food purchase decisions and satisfaction judgements of the decisions, and the development of dietary habits (Cardello et al., 2000). Furthermore, the review indicates that the process of consumer food choice is influenced by various different factors that relate to food, the individual, and the environment (Rozin, 2007). In the context of different instances of consumer food choice, the influence of different types of factors is accentuated. These are important notions in terms of understanding the role of emotions in consumer food choice. By drawing from the literature review on consumer food choice in this chapter, and the literature review on the role of emotions in consumer behaviour in the previous chapter, four aspects are distinguished that can be expected to have a key role in the investigation of the role of emotions in consumer food choice. These consist of the following aspects: A) the specific type of consumer food choice that is being investigated; B) the sources of food-related emotions in specific food choice contexts; C) factors that influence the intensity of qualitatively different food-related emotions in a specific food choice context; and D) the specific type of the emotional influences that are likely to be relevant to the food choice context. These four aspects lay the ground for the development of the conceptual framework for this study. The four main aspects are summarized in Figure 5, and their content is discussed in closer detail below.
The type of food choice

In order to understand the role of emotions in consumer food choice, it is important to first specify what dimension of consumer food choice is the focus of investigation. This has implications for inferring the general type of emotional responses that are of particular relevance. The general type of emotional influences can range from reactive and rapidly arising emotions that are experienced on the spot, to anticipated emotions that are expected to be experienced in the future, and more stable emotional predispositions towards particular food-related aspects. For instance, consumers’ preference judgments of the sensory properties of food in consumption contexts are likely to be influenced importantly by directly experienced hedonic emotional responses. Directly experienced hedonic emotional responses have strong drive properties, but they also dissipate relatively rapidly (Bagozzi et al., 1999; Frijda et al., 1989). On the other hand, intentions concerning future food choices can be expected to be influenced by past emotional experiences, anticipated emotions, and emotional predispositions. These general types of emotional responses are more cognitive in nature and less directly accessible than hedonic emotional responses that are experienced on the spot. However, they are also more stable in nature and their

Figure 5  Key aspects in the investigation of the role of emotions in consumer food choice.
influence on food-related attitudinal predispositions, for example, may be relatively enduring.

The sources of food-related emotions

Food-related emotions may arise in response to the sensory properties of food, possible decision conflicts in a choice context, the observation of the behaviour of oneself and others, or in response to mental associations with certain credence characteristics or cultural meanings of particular foods (Desmet & Schifferstein, 2008). The characteristics of the food choice context that is under investigation provide insights into the potential sources of emotions, and the variety of the sources in that specific context. For instance, if consumers’ emotional responses to the consumption of a particular food are evaluated in a controlled laboratory setting, hedonic responses to the sensory properties of the food may take precedence in the forming of preference evaluations. In contrast, if the same food is consumed in a natural context, such as among friends or family, the spectrum of the potential sources of emotions that influence the preference evaluation is likely to be wider (Piqueras-Fiszman & Jaeger, 2014). On the other hand, explicit decision contexts may have the potential to give rise to more complex emotional responses than the attitudinal evaluation of food-related phenomena at a conceptual level, because decision contexts often call for multifaceted evaluation of the different aspects of the decision (Liberman et al., 2007; van Harreveld et al., 2009). This is because an explicit decision is likely to call for more detailed evaluation of a food-related phenomenon than an attitudinal evaluation, which does not entail the commitment to a choice. Thus, it is maintained that the characteristics of a food choice context have implications for the multitude and complexity of elicited food-related emotions.

Factors that influence the intensity of qualitatively different emotions

The intensity of the positive and negative emotions that are involved in particular food choice contexts is influenced importantly by the personal relevance that is attached to its different aspects. The personal relevance can be derived, for example, from a person’s commitment to particular values, principles, and norms in the domain of food consumption. On the other hand, the intensity of specific discrete positive and negative emotions can be accentuated through various other factors that have relevance to the fulfilment of the values, principles, and personal goals that are at stake in the particular food choice context. Such factors include potential uncertainty associated with the food choice, inferences of causality associated with it, perceptions of fairness and risks, the degree of personal control in a food choice context, and the nature of the goal orientation that is dominant in the food choice context. Thus, in terms of anticipating the nature of the discrete emotions whose experience is accentuated in particular food choice contexts, it is important to understand what types of goals consumers associate with that food choice context, what aspects of the food choice context draw consumers’ attention, and how consumers interpret the food choice context in relation to the goals that are activated in the context.
Once consumers experience different types of emotional responses in food choice contexts, the emotions can influence consumers’ food choice in different ways. Sometimes food choice contexts induce relatively univalent and undifferentiated emotional responses, e.g. a pleasant sensory experience of food consumption may induce predominantly positive emotional responses. Such responses can be expected to enhance the overall liking of the food consumption and encourage repeating similar behaviours. On the other hand, under some food choice contexts the experience of a single but a more differentiated emotional experience can be accentuated, such as the experience of guilt when indulgent food consumption is evaluated in retrospect. This can turn an individual’s thoughts towards reflecting one’s own behaviour and possibly adjusting it. Furthermore, sometimes consumers’ univalent emotional experiences towards particular food choice contexts consist of experiencing qualitatively different emotions of the same valence, which have different impacts on different types of consumption-related responses in that particular context. However, quite often food choice contexts induce both positive and negative, i.e. mixed, emotions among consumers. This creates ambiguity in the understanding of what the role of discrete emotions is in consumer food choice under mixed emotional contexts. Furthermore, mixed emotional experiences can lead to experiencing emotional ambivalence, whose influence on food choices is distinct from the influences that univalent positive and negative emotional responses would have on their own. The specific type of emotional influences that are relevant and accentuated in particular food choice contexts is strongly influenced by the three other aspects that were discussed above: the general type and the multitude of the emotional responses that arise in the context, and the specific nature of discrete emotions that are elicited.

3.6 The conceptual framework of this study

The four aspects in the investigation of the role of emotions in consumer food choice that were discussed above provide the background for seeking answer to the main research question of this study: *How are the intricacies of discrete emotions manifested in consumer food choice in the context of food purchase decisions that involve trade-offs between the price and the ethical quality of the product, and consumers’ acceptance of genetically modified food products?* The conceptual framework of this study is structured around the four key aspects, presented in Figure 6.

This investigation focuses on the role of emotions in two different instances of consumer food choice: in the context of everyday food purchase decisions, and the acceptance of genetically modified foods. The key aspects of the investigation in the context of the everyday food purchase decisions are presented on the left side of the conceptual framework (Empirical context 1), and these aspects are addressed in Essays I and II of this dissertation. In this context, Essay I of the study focuses on the second objective of this study, which is *to assess the role of mixed discrete emotions in the context of trade-off*...
food purchase decisions, which juxtapose the ethical quality of a product and consumers’ personal price advantage. On the other hand, Essay II of this study focuses on the third objective of the study, which is to assess the role of emotional ambivalence in the context of trade-off food purchase decisions, which juxtapose the ethical quality of a product and consumers’ personal price advantage.

In contrast, the right side of the conceptual framework in Figure 6 (Empirical context 2) presents the key aspects of the empirical investigation in the context of the acceptance of genetically modified foods. Essay III of this study focuses on this empirical context and on the fourth research objective of the study, which is to assess the distinctions in the influences, and the cognitive antecedents of discrete negative emotions in the context of consumers’ acceptance of genetically modified food products. The conceptual framework of this study, and the research hypotheses associated with the two empirical contexts are discussed in closer detail below.
In the first empirical context of this study, the type of food choice that is being addressed is consumers’ post-purchase responses to an everyday food purchase decision (refer to Figure 6, level A on the left). The post-purchase responses consist of consumers’ likelihood of renewing the food purchase, and making recommendations about similar purchases and about the seller. In the domain of consumer food choice, post-purchase responses such as
these represent attitudinal phenomena, which reflect satisfaction judgements. As was maintained in the discussion of chapter 3.5, the specification of the type of food choice allows for approximating which types of emotional responses are likely to be influential in this specific instance of food choice.

Provided that consumers evaluate their post-purchase responses immediately after the purchase, the evaluation can be expected to be influenced by rapidly and intuitively-arising, and directly-felt emotional responses. In general, everyday food purchase decisions are not highly involving, which implies the elicited emotional responses are not necessarily strong. However, namely due to the low involvement, even subtle emotions can guide consumers’ decision-making and evaluative judgments considerably in such contexts of food choice. Furthermore, if the evaluation of the post-purchase responses is made on a more distant time frame from the actual purchase, the judgments can be influenced by remembered emotions as they are recalled to have been experienced. Remembered emotions may be biased to some extent, e.g. more polarized or univalent, as compared to the actual experience in the past.

Moreover, if consumers evaluate how they might feel towards such purchase decisions, e.g. when they consider the making of a purchase decision, the emotional responses to the hypothetical purchase decision are anticipated emotions by nature. These emotions are not directly felt, but they represent a consumer’s beliefs about how s/he would feel about making a particular food purchase decision. The anticipation of emotional responses can be influenced by past experiences and emotional predispositions towards the characteristics of the hypothetical situation. The stimulus that is used in the empirical investigation of this study is a hypothetical purchase decision situation, whereby the emotional responses represent predominantly anticipated emotional responses. However, a vivid mental imagery associated with the hypothetical situation can also induce directly-felt emotions.

The main source of the emotional responses that are expected to influence the post-purchase responses, is the purchase decision of a food product, and the salient trade-off that is presented between the price advantage that is gained from the purchase, and the ethical quality of the product (refer to Figure 6, level B on the left). The salient trade-off is conceived as a likely source of mixed positive and negative emotions in the decision context.

The hypotheses concerning the price vs. ethicality trade-off decision context

The key hypotheses of the investigation in the first empirical context of this study are presented below. The empirical context contains different features that are expected to have impact on the intensities of qualitatively different emotions that are elicited in the decision context (refer to Figure 6, level C on the left). The first expectation is that the intensity of qualitatively different positive and negative emotions is accentuated depending on whether the ethical quality of the product is traded off in exchange for personal price advantage, or vice versa. The discrete emotions whose elicitation is investigated in the study are
cheerfulness, pride, discontent, and guilt. The expectation is based on the theoretical background that different food product attributes represent to a different degree the opportunity to attain promotion or prevention goals (Chernev, 2004), and the attainment and the loss of promotion and prevention goals induces qualitatively different emotions (Brockner & Higgins, 2001). This expectation is investigated in the first essay of this study (Essay I; see hypotheses H1a, H1b, H2a, and H2b) and it is summarized here with the following general hypothesis:

H1: The qualitative nature of consumers’ positive and negative emotional responses to food purchase decisions that involve an attribute trade-off is differentiated depending on the combination of attributes that are at stake in the trade-off.

The second expectation in the trade-off decision context is that the intensity of the self-conscious emotions of pride and guilt is enhanced when consumers’ sense of self-accountability associated with the trade-off decisions is accentuated. This expectation is based on the theoretical background that attributional inferences differentiate the quality of emotions (Watson & Spence, 2007), and consumers’ observations of their own behaviour is a source of food-related emotions (Desmet & Schifferstein, 2008). This expectation is investigated in the first essay of this study (Essay I; see hypotheses H3a and H3b) and it is summarized here with the following general hypothesis:

H2: Consumers’ experience of pride and guilt about making a trade-off food purchase decision is enhanced by the accentuation of consumers’ sense of self-accountability for the purchase decision.

The third expectation is that the mixed emotions that are elicited in the trade-off decision contexts mediate the influence of consumers’ appreciation of ethical principles in consumption on consumers’ post-purchase responses to the decision (refer to Figure 6, level D on the left). This expectation is based on the theoretical background that values provide standards for evaluative judgements (Bardi & Schwartz, 2003), values represent abstract goals (Schwartz, 1992), and goal-congruent and goal-incongruent events enhance the experience of positive and negative emotions, respectively (Smith & Ellsworth, 1985). Furthermore, positive emotions enhance and negative emotions attenuate favourable behavioural tendencies (Frijda, 1986). Moreover, it is expected that the mediating role of the self-conscious emotions of pride and guilt is accentuated over and above the other elicited emotions. This is based on previous indications that pride and guilt may be particularly relevant discrete emotions in guiding behaviours that have relevance to ethical and moral standards (Antonetti & Maklan, 2014; Elgaaied, 2012; Peloza et al., 2013). This expectation is investigated in the first essay of this study (Essay I; see hypotheses H4, H5a, and H5b) and it is summarized here with the following general hypothesis:
The mediating role of guilt and pride is accentuated over and above other elicited emotions in the relationship between consumers’ appreciation of ethical principles in consumption, and their post-purchase responses to unethical and ethical trade-off food purchase decisions, respectively.

The fourth expectation is that under the trade-off food purchase decision contexts that induce mixed emotional responses, consumers experience emotional ambivalence, whose direct influence on relevant consumption-related responses is distinct from the separate influences of the experienced positive and negative emotions (refer to Figure 6, level D on the left). This expectation is based on the theoretical background that the simultaneous experience of positive and negative emotions creates unpleasant psychological tension that individuals are inclined to avoid (Williams & Aaker, 2002). This represents a negative emotional experience of its own (Cohen et al., 2008), and its influence on consumption-related responses is manifested through different coping responses that individuals use to cope with the unpleasant state (Luce et al., 1999). This expectation is investigated in the second essay of this study (Essay II; see hypothesis H1), and it is summarized with the following hypothesis:

H4: Increased emotional ambivalence that is felt towards trade-off food purchase decisions is associated with increasingly neutral post-purchase responses to the purchase decisions.

The fifth expectation is that under the trade-off food purchase decision contexts, the experience of emotional ambivalence moderates the influence of a relevant domain-specific value on the post-purchase responses (refer to Figure 6, level D on the left). This expectation is based on the theoretical background that emotional ambivalence towards a food choice context signals that the context presents an evaluative conflict to a person (Bee & Madrigal, 2013), which can juxtapose the fulfillment of different food-related values (Schröder & McEachern, 2004). Thus, it is possible that even though a particular food choice is perceived to have value congruent or incongruent features in terms of one personally important value, responses to the food choice are not guided by this value if the choice is perceived to have discrepant implications to the fulfillment of another personally important value. This expectation is investigated in the second essay of this study (Essay II; see hypothesis H2), and it is summarized with the following hypothesis:

H5: The relationship between consumers’ normative motivation to favour domestic food products, and their post-purchase responses to purchase decisions that involve a price-related benefit trade-off between the consumer and the domestic producer of the product, is moderated by the emotional ambivalence that is felt towards the purchase decision.
The second empirical context of this study focuses on consumers’ anticipated consumption-related responses to genetically modified (GM) food products if such products would enter the Finnish consumer market (refer to the theoretical framework of this study in Figure 6, level A on the right). The anticipated responses consist of consumers’ readiness to use GM food products, and consumers’ intentions to make complaints about GM food products. In the domain of consumer food choice, anticipated consumption-related responses such as these fall within the category of attitudinal phenomena, and in this case they represent consumers’ acceptance of GM food products (refer to the theoretical framework of this study in Figure 6, level A on the right).

As it was maintained in the discussion of chapter 3.5, the specification of the type of food choice allows for approximating which types of emotional responses are likely to be influential in this specific instance of food choice. Currently, Finnish consumers lack direct experience with GM food products, whereby they cannot evaluate their anticipated consumption-related responses based on their past experiences. Instead, consumers are likely to refer to abstract mental imagery of the general characteristics that define their impression of the products. Therefore, the source of the emotional influences that are investigated in this study is the genetic modification of food as a phenomenon (refer to Figure 6, level B on the right).

As a source of emotional responses, the GM of food is an abstract and multifaceted concept. This implies that the emotional responses that it induces are distinct by nature from those that are induced, for example, by a momentarily occurring event or a newly encountered specific object. Thus, the emotional responses that are investigated in this study in relation to the GM of food represent relatively stable emotional predispositions towards the GM of food. These types of emotional responses are not necessarily felt intensively, such that they would induce immediate physiological and behavioural responses, but they have an important impact on the formation of enduring attitudinal judgments, and also potentially on general behavioural patterns.

The hypotheses concerning consumers’ perceptions of GM food products

The key hypotheses of the investigation in the second empirical context of this study are presented below. The order of the hypotheses follows the order in which they are introduced in Essay III. This implies that the hypotheses that relate to level D in the theoretical framework of this study in Figure 6 are presented first (the specific type of emotional influences). This is followed by presenting the hypotheses that relate to level C in the theoretical framework (Figure 6; factors that influence the intensity of qualitatively different emotions).

The first expectation in this empirical context is that the fear and anger that are induced by the genetic modification of food have impact on the two different anticipated responses to
a different degree (refer to Figure 6, level D on the right). This expectation is based on the theoretical background that the behavioural tendencies that fear calls for are primarily avoiding in nature (Frijda et al., 1989), such as the reluctance to consume GM food products. On the other hand, anger is more likely than fear to call for behavioural tendencies that are antagonistic in nature (Frijda et al., 1989), such as making complaints to external entities about GM food products. This expectation is investigated in the third essay of this study (Essay III; see hypotheses H1 and H2), and it is summarized here with the following hypotheses:

H6a: The readiness to use GM food products is decreased by fear more than by anger.
H6b: The intention to make complaints about GM food products is increased by anger more than by fear.

The second expectation is that the intensities of the fear and anger that arise in response to the genetic modification of food are increased by different types of beliefs concerning the source of the emotions, i.e. the GM of food (refer to Figure 6, level C on the right). This expectation is based on the theoretical background that the nature of the beliefs that consumers associate with a particular food choice context differentiates their emotional responses to the context (Lazarus, 1991; Watson & Spence, 2007). This expectation is investigated in the third essay of this study (Essay III; see hypotheses H3 and H4), and it is summarized here with the following hypotheses:

H7a: Fear of the GM of food is increased by consumers’ health-related and environmental concerns about the GM of food.
H7b: Anger towards the GM of food is increased by consumers’ moral and market-related concerns about the GM of food.

Thus, by investigating the hypotheses that were presented above, this study aims to reach the research objectives that were set for this study, and to gain insights on the main research question about the intricacies of emotional influences in the two instances of consumer food choice. In the next chapter, the focus of discussion is turned to the methodological aspects of the study. The chapter will first introduce the research approach of the study. Then, the two data sets of the study will be described along with the analytical approaches that are used in the data analyses. The chapter will be concluded with the assessment of the validity and reliability of the empirical investigation.
4 Methodology

The goal of this study is to achieve the established empirical research objectives with a positivist, hypothetico-deductive research approach. An underlying assumption of the positivist research paradigm is that it is possible to uncover certain objective truths about a research phenomenon through empirical research. This hypothetico-deductive research study draws from previous empirical and theoretical literature to formulate research propositions about phenomena that can be expected to be manifested in the domain of consumer food choice, as was done in the previous chapter. Through empirical research, the study seeks to test whether or not the propositions hold true in empirical data. Essentially, emotions represent psychological processes that have an evolutionary foundation: thus, it is warranted to expect that some consistency can be found in the patterns and mechanisms by which emotional influences operate in the human mind.

The experience of emotions is subjective, whereby there are no truly objective methods to measure the exact emotional experience of a person in its whole complexity (Scherer, 2005). Instead, researchers must rely on indirect measures. The experience of particular emotional states can be inferred from a range of sources, including: facial and vocal expressions (Ekman, 1993; Scherer et al., 2001), bodily movement and other expressive physical behaviour (Wallbot, 1998), by observing physiological reactions and the functioning of brain mechanisms (Gross, 1998; Lindquist et al., 2012), or by directly asking people to describe their emotional responses and states in different ways (Nummenmaa et al., 2014; Robinson & Clore, 2002). For the purposes of this study, and within the limits of available research resources, a self-report measure of emotions was considered to be the most appropriate method to assess consumers’ emotional responses. Self-report measures of emotion have the advantage that they are not limited to assessing currently experienced emotions, but instead they can also be used to measure anticipated and recalled emotions, and emotional predispositions that have resemblance to attitudes (Robinson & Clore, 2002).

The empirical studies of this dissertation were conducted with a quantitative approach. A quantitative approach allows for detecting patterns of emotional influences in the empirical data that may also be generalizable to larger populations. The analytical methods that were planned to be used in the data analyses require relatively large sample sizes, which was taken into account in the data collection. The data were collected with survey questionnaires that were made available to respondents over the Internet to ensure that a sufficient amount of data could be obtained in an efficient manner. The data set that was used for the analyses of Essays I and II of this study (Data set 1; N = 855) was collected through an Internet panel of the market research agency TNS Global, consisting of Finnish consumers. The data set that was employed in the analyses of Essay III (Data set 2; N = 267) was collected from students of the University of Helsinki with an Internet-based Webropol questionnaire form. The following section first describes the procedure of data collection and the development of the questionnaires for the two data sets. Then, the statistical methods that were used to conduct the data analyses will be described.
4.1 Data set 1

Sample and procedure

The data for the first and second essays was collected from a consumer panel of the research agency TNS Global. The panel consisted of Finnish consumers of over 15 years-of-age who are recruited to respond weekly to Web surveys administered by the research company. The invitations to the questionnaires are delivered to the panelists on Fridays over the Internet, and the respondents are asked to respond to the surveys over the weekend. The collection of Data set 1 was conducted among the panelists in October 2012. A sample of at least 500 respondents was requested, and eventually 855 respondents participated in the survey. Descriptives of the sample are presented in Table 2.

Table 2. Descriptives of the respondents.

<table>
<thead>
<tr>
<th></th>
<th>Data</th>
<th>Population</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Gender</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>50.6</td>
<td>50.9</td>
</tr>
<tr>
<td>Male</td>
<td>49.4</td>
<td>49.1</td>
</tr>
<tr>
<td><strong>Age ranges</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15 – 29</td>
<td>11.1</td>
<td>22.1</td>
</tr>
<tr>
<td>30 – 39</td>
<td>11.1</td>
<td>14.9</td>
</tr>
<tr>
<td>40 – 49</td>
<td>18.4</td>
<td>15.5</td>
</tr>
<tr>
<td>50 – 59</td>
<td>19.2</td>
<td>16.5</td>
</tr>
<tr>
<td>60 – 69</td>
<td>25.8</td>
<td>15.9</td>
</tr>
<tr>
<td>70 ≤</td>
<td>14.4</td>
<td>15.2</td>
</tr>
<tr>
<td><strong>Education</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Basic education (9 years of education)</td>
<td>12.1</td>
<td>31.5</td>
</tr>
<tr>
<td>Intermediate education (10–12 years of education)</td>
<td>49.4</td>
<td>39.9</td>
</tr>
<tr>
<td>Higher education (over 12 years of education)</td>
<td>38.3</td>
<td>28.6</td>
</tr>
<tr>
<td><strong>Household gross income per annum, €</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10 000 – 35 000</td>
<td>35.1</td>
<td>n.a.</td>
</tr>
<tr>
<td>35 001 – 50 000</td>
<td>23.8</td>
<td>n.a.</td>
</tr>
<tr>
<td>50 001 – 75 000</td>
<td>26.1</td>
<td>n.a.</td>
</tr>
<tr>
<td>75 000 &lt;</td>
<td>15.0</td>
<td>n.a.</td>
</tr>
</tbody>
</table>

Note: Statistics of the population: *Official Statistics of Finland, 2012
Note: n.a. = not available

In terms of gender distribution, the data had close correspondence to the Finnish population. However, respondents of age between 15 and 29 years were notably under-represented in the data in comparison to their proportion in the Finnish population (Table 2). On the other hand, respondents between 60 and 69 years-of-age formed the largest age group in the data, and they were also over-presented in the data in comparison to the Finnish population (Table 2). The sample also deviated from the characteristics of the Finnish population in
terms of the level of education. The proportion of the respondents with basic education as the highest degree was lower in the sample than in the population. Correspondingly, intermediate and higher education was more common in the sample than in the Finnish population. One possible explanation for the biases is the composition of the demographic characteristics of the panel participants. However, exact information about the original panel population is not available to confirm this assumption. On the other hand, the survey topic and survey participation in general may have induced interest to a different degree among panelist with different characteristics.

A vignette survey method was utilized in the collecting of the data. In a vignette survey the respondents are provided with a short description of a person, a situation, or an event, which entails manipulations of such aspects of the description that are assumed to affect the respondent’s assessment of the hypothetical situation (Alexander & Becker, 1978; Scherer, 1999; Wason et al., 2002). A vignette- or scenario-based survey approach has often been used for emotion research (Robinson & Clore, 2001; Roseman et al., 1990; Scherer, 1999), and it was considered to also be a suitable method for the present study. The data were collected over the Internet from a consumer panel instead of a controlled laboratory environment with recruited respondents, because a representative sample of over 500 respondents who are divided in six subgroups was needed for the study. The respondents were provided with detailed instructions in writing on how to familiarise themselves with the vignettes.

The advantages of a vignette approach as compared to a question-based-study include the potential to enhance the respondents’ involvement and to feature greater realism (Alexander & Becker, 1978; Wason et al., 2002). The increased involvement and more vivid mental imagery that is expected to be induced upon reflecting on the scenario facilitates the experience, anticipation, and expression of emotional responses in a survey setting. Furthermore, scenarios that are described in writing provide standardized stimuli to all respondents, which can be complemented with systematic variations in the scenarios that are presented to different groups of respondents (Alexander & Becker, 1978; Wason et al., 2002). This was an important aspect in the collecting of Data set 1. The use of different variations of core scenarios allowed for approximating experimental conditions in a survey setting to test for differences in the elicitation of discrete emotions between the variations. The ability of the variations of the core scenarios to induce differences in emotional responses was pre-tested with a group of students (N = 30) who attended a research methodology course at the University of Helsinki. The content of the scenarios is described in closer detail below.

Two main vignette outlines were designed for the purposes of the data collection. Studies by Gelbrich (2011) and Campbell (2007) were used as a reference in designing the study setting. Both vignettes described a situation in which the respondent had purchased domestic chicken to prepare a meal (Table 3). The main outlines were varied in terms of the description of the price level of the purchase. The first vignette indicated that the purchase had been very inexpensive, but it also underlined that the proportion of the price
that the domestic primary producer of the meat receives is very modest. The second vignette featured a high purchase price, but suggested that a fair share of the price was received by the domestic producer. Thus, both conditions referred to the gain and loss of price advantage from the perspective of the respondent and the food producer, but in opposite directions. The different benefit implications of the purchase price level of the food product were aimed to be a potential source of simultaneously induced mixed emotions.

Furthermore, three variations were created of the two main outlines of the vignette. These sub conditions were varied in terms of the causal attribution that was associated with the price level of the purchase in the vignettes. The reason for the low or high price level was implied to be the market situation, the pricing policy of the seller, or the actions of the respondent. The purpose of the sub conditions was to examine if the emotions that were induced by the main outlines of the vignettes were differentiated by inferences of causal attributions. Thus, altogether six different vignettes were created, and each respondent was assigned to respond to one of them. The main outlines of the vignettes and their variations are presented in Table 3.

Table 3. The stimulus vignettes included in the survey questionnaire in the collecting of Data set 1.

<table>
<thead>
<tr>
<th>Low-priced condition (low price, disadvantage to producer)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>You have decided that you definitely want to use domestic chicken in preparing today’s meal. The chicken that you end up buying is very inexpensive, because (manipulation of causal attribution). For you the purchase is very good value, but you know that with that price the portion that goes to the producer is very small.</td>
<td></td>
</tr>
<tr>
<td><strong>Manipulation of causal attribution</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Circumstance-agency</strong></td>
<td>…the market price for chicken is very low at the moment.</td>
</tr>
<tr>
<td><strong>Other-agency</strong></td>
<td>…the store chain can offer its regular customers very low prices due to its strong market position.</td>
</tr>
<tr>
<td><strong>Self-agency</strong></td>
<td>…you have carefully followed advertisements to find the best offers, and you always choose the most advantageous purchases.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>High-priced condition (high price, advantage to producer)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>You have decided that you definitely want to use domestic chicken in preparing today’s meal. The chicken that you end up buying is very expensive, because (manipulation of causal attribution). In your opinion you had to pay far too much for the chicken, but you know that the producer gets a fair share of the high price.</td>
<td></td>
</tr>
<tr>
<td><strong>Manipulation of causal attribution</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Circumstance-agency</strong></td>
<td>…the market price for chicken is very high at the moment.</td>
</tr>
<tr>
<td><strong>Other-agency</strong></td>
<td>…the store chain where you shop pays better prices to producers than its competitors.</td>
</tr>
<tr>
<td><strong>Self-agency</strong></td>
<td>…you did not feel up to finding a more affordable store.</td>
</tr>
</tbody>
</table>
Measures

Discrete emotions
The items that the study participants were asked to respond to are presented in detail in the Appendices of essays I and II. After introducing the vignette, the respondents were asked to evaluate to what extent they anticipated to experience different positive and negative emotions in response to such a decision outcome on a scale from one to seven (not at all – very strongly). The option do not know was also available and it was assigned as a missing value. The set of emotion items included 8 positive and 12 negative emotions representing the basic emotion categories of joy, pride, gratitude, anger, sadness, and guilt/shame. The emotion items were adapted from Laros and Steenkamp (2005) and Richins (1997).

For the purposes of the investigation in Essay I, selected items were used to create sum variables that reflect particularly the qualitative nature of the four emotion dimensions that are postulated in regulatory focus theory: cheerfulness, quiescence, dejection, and agitation (see section 2.1.2 of this dissertation). The sum variable of cheerfulness was created from the upbeat positive emotion items of happy and delighted. The sum variable to represent the quiescence-related emotion dimension was created from the items of pride and self-appreciation, and it was labelled as pride. The sum variable to represent the dimension of dejection was created from the items of feeling annoyed and irritated, and it was labelled as discontent. Furthermore, the sum variable to represent the dimension of agitation was created from the items of guilt and having a bad conscience, and it was labelled as guilt.

Emotional ambivalence
For the purposes of the investigation in Essay II, all the measured positive and negative emotion items were used to calculate sum variables for positive and negative affect, and these variables were used to create a measure of objective emotional ambivalence. The ambivalence index was created with the Griffin formula, which is a commonly used approach for assessing the level of ambivalence (Thompson et al., 1995). The formula conceptualizes ambivalence as the function of the intensity of the conflicting components and the similarity of the magnitudes of the components with the formula

$$A = \frac{(P + N)}{2} - \left| P - N \right|$$

where A refers to ambivalence, and P and N refer to the magnitudes of the positive and negative evaluations, respectively (Priester & Petty, 1996).

Post-purchase responses
After assessing emotional responses, the participants were asked to read the vignette once more, and to indicate on a scale from one to seven (definitely not – definitely) their intentions to renew the purchase, to recommend the purchase to others, and to recommend the seller to others. These items were used to form a measure of the respondents’ post-purchase responses which was used in the first and second essays of this dissertation.

Appreciation of ethical principles in consumption
The respondents’ appreciation of ethical principles in consumption (AEPC; Essay I) and their normative motivation to favour domestic food products (normative motivation; Essay
II) were assessed at the end of the questionnaire. The participants responded to the items on a scale from one to seven (completely disagree – completely agree). AEPC was measured with a scale developed for the context of the study. Scales used by Creyer and Ross (1997) and d’Astous and Legendre (2009) were referred to in the formulation of some of the items. The scale aimed at reflecting the perceived importance of the ethical quality of products in purchase decisions in general, and in comparison to the importance of price. The scale was supplemented by measures related to ethical self-identity and control belief, which are assumed to be influential factors in predicting consumers’ ethical behavioural intentions (Shaw, 2006; Shaw & Shiu, 2002).

Normative motivation to favour domestic food products
The measure of normative motivation emphasized the motivation to favour domestic food products for societal reasons, such as supporting the domestic economy and employment. This definition was made for two reasons. First, consumers can have diverse motivations to favour domestic products, which can influence their purchase behaviour in distinct ways. Second, this societal aspect is particularly relevant to the issue of the price level of domestic food products, which is a central characteristic of the emotion-eliciting stimulus featured in the study. The attitude was assessed with four items, which were developed based on the CETSCALE (consumers’ ethnocentric tendencies) by Shimp and Sharma (1987).

4.2 Data set 2

Sample and procedure

Data set 2 was collected from a student sample obtained from students of the University of Helsinki. The Student Register of the university was contacted to request the contact information for a sample of 900 students. The size of the sample was determined with the objective to gain approximately 300 responses, which was a desirable sample size to conduct the empirical analyses by structural equation modeling. Literature suggests that the estimation of structural equation models should be conducted with a sample size of 100–150 at minimum, and a sample size over 200 is recommended (Diamantopoulos & Siguaw, 2009).

The sampling was conducted with a stratified systematic sampling technique, such that different university faculties were presented in the data. The survey addressed the genetic modification of food, and literature suggests that students of natural sciences tend to be more accepting of the issue than those from other disciplines (Safer et al., 2006). Therefore it was assured that the student sample consisted of students from faculties that represent both sciences and arts. The faculties were the Faculty of Science, the Faculty of Pharmacy, the Faculty of Medicine, the Faculty of Arts, and the Faculty of Theology. The sampling was conducted among Finnish speaking students of lower and higher university degree with a sampling interval of 13. The sampling was conducted separately for each faculty, and for
men and women. Table 4 presents the composition of the sample of the 900 students by discipline, faculty, and gender.

Table 4. The composition of the contacted sample (N = 900) by study discipline, faculty, and gender.

<table>
<thead>
<tr>
<th>Faculty</th>
<th>Male</th>
<th>Female</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Disciplines of Sciences</td>
<td>224</td>
<td>206</td>
<td>430</td>
</tr>
<tr>
<td>Faculty of Science</td>
<td>180</td>
<td>116</td>
<td>296</td>
</tr>
<tr>
<td>Faculty of Medicine</td>
<td>30</td>
<td>46</td>
<td>76</td>
</tr>
<tr>
<td>Faculty of Pharmacy</td>
<td>14</td>
<td>44</td>
<td>58</td>
</tr>
<tr>
<td>Disciplines of Arts</td>
<td>135</td>
<td>335</td>
<td>470</td>
</tr>
<tr>
<td>Faculty of Arts</td>
<td>91</td>
<td>262</td>
<td>353</td>
</tr>
<tr>
<td>Faculty of Theology</td>
<td>44</td>
<td>73</td>
<td>117</td>
</tr>
<tr>
<td>TOTAL</td>
<td>359</td>
<td>541</td>
<td>900</td>
</tr>
</tbody>
</table>

An invite to answer to the Internet-questionnaire was sent to the sampled students via e-mail in October 2011. The genetic modification of food was not mentioned in the letter of invitation in order to avoid response bias due to the controversial topic (Townsend et al., 2004). Instead, the letter implied that the questionnaire addresses consumers’ views about current issues and phenomena related to food and eating. To motivate the students to participate in the survey, the respondents were offered the possibility to take part in a prize draw of movie tickets. The questionnaire was open for participation for two weeks, and during this period the sampled students were contacted with one follow-up e-mail to remind them about responding to the survey in the case they had not completed it yet. The questionnaire was rather long, as altogether 142 items were included in it and the completion took between 20 and 30 minutes based on pre-testing. To mitigate the adverse effects of the survey length on the response rate, it was possible for the respondents to save their responses and continue responding later. A total of 267 students completed the questionnaire and 17 students in the sample were not reached, and thus the resulting response rate was 30.2 per cent. The descriptives of the acquired sample are presented in Table 5. The response rate can be considered to be satisfactory, also considering that the response rates of Web-based surveys are usually lower than in studies conducted with other survey methods (Cook et al., 2000; Fan & Yan, 2010). Factors that are suggested to affect survey response rates include pre-notifications and follow-up contacts, issue salience, incentives, and survey length (Cook et al., 2000; Sheehan, 2001). In this case, the survey length is a recognizable issue which is likely to have lowered the response rate.

The response rates within gender and the faculties provide insights into differences in the participation of different groups in the survey (Table 5). Among male respondents, and students of the Faculties of Sciences, Theology, and Medicine, the response rate ranged between 24.5 and 26.4 per cent, whereas among female respondents and students of the Faculties of Arts and Pharmacy it ranged between 32.0 and 37.9 per cent. It is difficult to speculate reasons for the differences only based on gender and faculty, but overall it is likely that female students and students of the Faculties of Arts and Pharmacy were more interested on the topic and in participating in a survey.
Table 5. *Descriptives of the acquired sample (N = 267).*

<table>
<thead>
<tr>
<th>Measure</th>
<th>Data</th>
<th>Sample</th>
<th>RR</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Gender</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>66.3</td>
<td>60.1</td>
<td>32.0</td>
</tr>
<tr>
<td>Male</td>
<td>33.7</td>
<td>39.9</td>
<td>24.5</td>
</tr>
<tr>
<td><strong>Age</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>25</td>
<td>52.4</td>
<td>n.a.</td>
<td></td>
</tr>
<tr>
<td>26 – 30</td>
<td>26.6</td>
<td>n.a.</td>
<td></td>
</tr>
<tr>
<td>31 – 35</td>
<td>8.2</td>
<td>n.a.</td>
<td></td>
</tr>
<tr>
<td>≥ 35</td>
<td>12.7</td>
<td>n.a.</td>
<td></td>
</tr>
<tr>
<td><strong>Discipline</strong></td>
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Note: RR = response rate; n.a. = not available

Measures

The constructs measured for the purposes of the third essay related to consumers’ concerns about the genetic modification (GM) of food, their readiness to use GM-food products, their intention to make complaints about GM foods if they enter the Finnish consumer market, and their experiences of fear and anger towards the GM of food. The operationalization of the constructs is described below (see the Appendix of Essay III for the items).

Concerns about the GM of food

The items that assessed consumers’ concerns about the GM of food were adapted from studies by Bredahl (2001) and Laros (2006). The items were originally published in a study by Bredahl (2001), and they were based on a qualitative laddering study conducted in Denmark, Germany, the United Kingdom, and Italy (N = 400) (Bredahl, 1999). The beliefs about risks associated with the GM of food were elicited with a semi-structured interview by using examples of genetically modified yoghurt and beer as starting points for the laddering. The scale was considered to be suitable for the study, as it was expected to reflect concerns that are relevant to consumers, and it addressed concerns that relate to different aspects of the GM of food. The items were belief statements, and they were introduced to
the respondents in this study as follows: “Below you will find statements about the possible disadvantages of using gene technology. What is your opinion on them?” The respondents were asked to answer the items on a scale from 1 to 7 that ranged between the alternatives strongly disagree and strongly agree.

The readiness to use GM food products
The readiness to use GM foods was assessed by three items. Consumers’ readiness to use GM-foods can be reflected in their decisions and behaviours in several ways. Findings by Lähteenmäki et al. (2002) suggest that sensory taste preference for a GM food product improves the willingness to purchase GM food products, and thus one of the items measured consumers’ readiness to taste a GM food product. However, Townsend and Campbell (2004) suggest that even opponents of the GM of food may be quite willing to taste a GM food product, but they still might find the regular consumption of GM food unappealing. Thus, another item measured the readiness to regularly use GM food products if they meet the consumer’s other standards for choosing food products. Moreover, the more ready consumers are to adopt GM foods, the less likely they are to hesitate to purchase them when they are available. Thus, a third item, adapted from Laros (2006), measured the likelihood of delaying the purchase of GM food products if they became available (reversed item). The respondents were asked to express what they think of the statements on a scale from 1 to 7 (strongly disagree – strongly agree).

Intention to make complaints
The likelihood that consumers will make complaints about GM foods if they enter the Finnish consumer market was assessed with three items adapted from Laros (2006). Consumers can respond to their dissatisfaction with particular consumption-related issues by taking private or public action concerning the issue (Day & Landon, 1977; Singh & Wilkes, 1996). Private action refers to word-of-mouth communication to friends and family, or personal boycotts, whereas public action includes complaints to other external parties, such as retailers or public organizations (Bearden & Oliver, 1985; Zeelenberg & Pieters, 2004). Complaining to external entities takes more effort than engaging in negative word-of-mouth or boycotting products (Bolfing, 1989), and thereby complaining represents quite a distinct consumer response to GM foods than the readiness to use them. Consumers can direct their complaints to different external entities depending on the nature of their concern or dissatisfaction with GM food products. In this study the items for complaining intentions referred to complaining to a chain store that sells GM food products, to a company that produces GM food products, and to a third party such as a consumer organization. The respondents were asked to express how likely it would be that they would complain to these entities on a scale from 1 to 7 (highly unlikely – highly likely).

Fear and anger
The indicator items for the constructs of fear and anger in this study were adapted from the Consumption Emotions Set by Richins (1997) and from the study by Laros and Steenkamp (2005). The construct of fear was measured with the items afraid, worried, suspicious, and helpless. The items reflecting the construct of anger were angry, cross, and hostile. The
measurement of the emotions was introduced in the questionnaire as follows. “The application of gene technology in food production is a phenomenon that may elicit strong opinions and emotions in many people. How well do the following words describe the thoughts and feelings that the genetic modification of food raises in you?” The formulation was intended to prime the respondents to reflect upon their affective responses, and also to set the evaluation of the affective responses in question into context with other thoughts and feelings that they may experience. The experience of the emotions was measured on a scale from 1 to 7 (extremely poorly/not at all – extremely well).

4.3 Data analyses

Essay I

The statistical analyses for the first essay of the study (Essay I) were conducted with SPSS 21 software. The differences in the levels of the emotions between the two price conditions and their sub conditions were examined by one-way ANOVA. The expected direct and indirect relationships between the appreciation of ethical principles in consumption (AEPC), the emotions, and the favourable intentions were examined by using an SPSS macro for multiple mediation (Preacher & Hayes, 2008). The method was chosen to conduct the data analyses because the use of a multiple mediation model allows for examining the hypothesized direct effects, the mediating influence of the distinct emotions as a set (total indirect effect), and to what extent each discrete emotion mediates the relationship conditional on the presence of the other emotions in the model (specific indirect effect) (Preacher & Hayes, 2008). Thus, in contrast to using several simple mediation models to test the mediating role of discrete emotions, the use of a multiple mediation model allowed for assessing the potential unique contributions of discrete emotions to the effect under different conditions.

Essay II

For Essay II, the statistical analyses were conducted with SPSS 21 software. The direct effect of emotional ambivalence on the favourable intentions was tested with bivariate correlational analysis. The moderating influence of emotional ambivalence was tested by following a procedure suggested by Aiken and West (1991) for testing interactions between continuous variables (Baron & Kenny, 1986; Frazier et al., 2004; Jaccard & Turrisi, 2003; Tabachnick & Fidell, 2013). In this procedure, the dependent variable (DV) is regressed onto the independent variable (IV), the expected moderator variable (M), and the product term of these variables (IV × M). In order to avoid problems of multicollinearity, the predictor variables are mean-centered by subtracting the mean score of a variable from each of its data-points. The variables are entered into the regression model hierarchically, such that the first step includes IV and M, and the second step adds the product term of these variables. M is a pure moderator of the IV-DV relationship if the coefficients of IV and the
product term IV × M remain significant but the coefficient of M does not. If all three coefficients remain significant after the final step, M is a quasi-moderator, i.e. it moderates the IV-DV -relationship, but it also has a direct effect on DV (Sharma et al., 1981). A moderated effect was a central theoretical expectation in Essay II and the Aiken and West (1991) procedure is an efficient approach to test for moderated effects.

Essay III

The data analyses of Essay III were conducted with structural equation modeling (SEM) on covariance matrices with LISREL 8.80 software. SEM is a multivariate technique that can be described as a combination of factor analysis and multiple linear regression (Schreiber et al., 2006). SEM allows for the simultaneous examination of the relationships between several independent (exogenous) and dependent (endogenous) latent variables (Diamantopoulos & Siguaw, 2009; Ullman, 2013). SEM encompasses two main components: the measurement model and the structural model. The measurement model is created with confirmatory factor analysis (CFA), where the associations of observed variables with latent constructs are defined. On the other hand, the structural model defines the hypothesized relationships between the latent constructs (Diamantopoulos & Siguaw, 2009; Schreiber et al., 2006). Several fit indices are used to assess the model fit, i.e. the consistency of a hypothesized measurement model or a structural model with the empirical data. SEM was a suitable methodology to conduct the data analyses of Essay III, because it allows for incorporating several dependent (endogenous) variables in a single model, which enabled the comparison of the antecedents and consequences of two discrete emotions of the same valence.

4.4 The validity and the reliability of the study

The assessment of the validity of quantitative research can be broadly classified into the evaluation of external and internal validity (Hammersley, 2008). External validity of a research refers to whether or not the findings of the study can be generalized to other contexts (Lee & Lings, 2008). On the other hand, the assessment of internal validity incorporates the validity of measurement and causal inference (Hammersley, 2008). The external validity of this study will be discussed first.

External validity of the study

In this study, the characteristics of the study samples pose limitations to the generalizability of the findings to other populations. Data set 1, which was used in Essays I and II was acquired from a consumer panel that consisted of Finnish consumers over 15 years-of-age. However, the final data showed demographic discrepancies to the Finnish population in the distribution of age and educational background (see section 4.1). Thus, the findings of Essays I and II are not directly generalizable to the Finnish population. On the other hand,
Data set 2 which was used to investigate emotional influences in the context of the GM of food, was acquired from students of the University of Helsinki, and from selected faculties within the university. Thus, the sample has an evident bias towards a particular educational background, a particular geographical area in Finland, and a relatively young age. It is possible that this is reflected in the strengths of the emotional responses, the extent to which different concerns are emphasized, and the anticipated behavioural responses. Therefore the findings of Essay III do not represent the way that Finnish consumers more generally thought and felt about the GM of food at the time, and they are not directly generalizable to general Finnish population. However, the sample is considered to be appropriate for testing for theoretically grounded expectations about the relationships between discrete emotions, their antecedents, and implications. These expectations are primarily based on the basic characteristics of discrete emotions rather than the characteristics of individuals, whereby the student sample is not considered to be a severe threat to the validity of the study.

Internal validity of the study

Content validity is a form of internal validity, which refers to the extent to which a measure covers the breadth of the domain of interest (Zikmund et al., 2013). In the context of this study, an important issue of content validity relates to the key concept of this study, emotions. The assessment of emotional experiences through questionnaires cannot accurately capture the subjective momentary experience of emotions, but instead it assesses how consumers verbally express what they are feeling, or expect to feel in particular contexts. Thus, the present findings should be interpreted as providing one of many possible perspectives to emotional influences in consumer food choice. However, the validity of the measurement of emotions with the chosen approach is considered to be good as the measures that were used are derived from previous research, and they are expected to be appropriate measures to assess consumers’ emotional responses in survey research (Laros, 2006; Richins, 1997). Another note on the measurement of emotions is that in the third essay of the study, the investigation was restricted to negative emotional responses. Thus, it should be noted that the measurement does not capture the full range of consumers’ emotional responses to the GM of food.

The assessment of the internal validity of a research investigation also covers the appropriateness of the study design to measure the phenomena of interest (Lee & Lings, 2008). The appropriateness of the second empirical setting of the study is considered to be good for the assessment of consumers’ views about the GM of food and GM food products. The phenomenon of interest in the second empirical setting of the study is conceptual in nature, whereby consumers’ predispositions towards it are not strictly tied to contextual factors. The purpose of the study is not to measure consumers’ momentary and reactive emotional responses to a contextual stimulus, but instead consumers’ affective predispositions towards the GM of food. On the other hand, GM food products are not currently available in the consumer market in Finland, whereby it is meaningful to measure
consumers’ anticipated behavioural responses to GM food products if they would be introduced into the consumer market.

In contrast, the first empirical setting of this study which was used to collect Data set 1 contains several features that need to be discussed in closer detail in terms of the appropriateness of the study design. The questionnaire (see section 4.1) first presented a stimulus vignette, which described a hypothetical food purchase decision. Thus, the measurement of the variables of the study is based on the respondents’ mental images about the hypothetical context rather than an actual decision context. Furthermore, the vignette directed the respondents’ attention to particular features in the decision context. This emphasizes the impact of these features on the respondents’ responses, while actual food purchase decision contexts contain a wide variety of randomly emerging features that can influence consumers’ perceptions of and responses to the decision and the context. Thus, the inferences of the findings are approximations about how particular contextual characteristics are likely to contribute to consumers’ responses in food purchase decision contexts that have resemblance to the study setting. The respondents were asked to express how they believed they would feel in the decision context that was described, i.e. the setting measured anticipated emotional responses. After this, the respondents were asked to indicate their anticipated post-purchase responses to the kind of purchase decision that was described. Thus, the post-purchase responses also represent anticipated responses rather than actual post-purchase responses.

Furthermore, the respondents’ appreciation of ethical principles in consumption (AEPC), and their normative motivation to favour domestic food products (normative motivation), were measured after the constructs of emotions and the post-purchase responses. The order of measurement raises the possibility that the expressions of AEPC and normative motivation were influenced by the preceding responses. This is a relevant issue for the validity of the results, because the research propositions of this study assume a reverse causal relationship: it is expected that AEPC is an antecedent of emotions and the post-purchase responses, and normative motivation is an antecedent of the post-purchase responses.

By comparing the means of the AEPC (MAEPC) and normative motivation (MN) between the low-priced condition (MAEPC = 4.31±1.13; MN = 5.03±1.39), and the high-priced condition (MAEPC = 4.40±1.13; MN = 5.10±1.39), it can be concluded that the two main conditions failed to lead to significantly different reported levels on these variables (MAEPC: F(df) = 1.231 (1, 735); p = 0.268; MN: F(df) = 0.544 (1, 739); p = 0.561). In other words, the initial responses of the respondents in the two study settings did not bias the favourability of their responses on the AEPC and normative motivation -measures in different ways. This is expected to be due to that both study settings included elements that may have primed both favourable and unfavourable responses on the AEPC and normative motivation -measures, which inhibited significant bias towards favourable or unfavourable responses. More generally, it is expected that the respondents were able to form their expressions on the AEPC and normative motivation -measures without considerable
polarizing bias due to the study design. In contrast, it is plausible that the study design uncovered the potential ambivalence that underlay the predispositions of the respondents on the AEPC and normative motivation -domains, which can be considered to be beneficial for the validity of the measurement. Thus, overall it is expected that the measurement order places no considerable threat on the validity of the study.

Another issue of internal validity relevant to the study design is the lack of manipulation checks in the study setting that was used to collect Data set 1. The study design employed written scenarios that were varied in terms of particular details of the scenarios. These included the presentation of the price vs. ethicality trade-off in two reverse directions, and the differentiation of the two main settings through three different causal attributions. The differences in the variations were treated as sources of differentiation in emotional responses. However, the study design failed to include control variables that would help to verify that the differences in the emotion levels occurred particularly due to the expected reasons. In other words, the respondents were not directly asked if they interpreted the gain of personal price advantage in a purchase decision as the attainment of a promotion-oriented consumption goal, or if they conceived that an implied causal attribution actually activated their sense of self-accountability. Thus, the discovered differences in the levels of discrete emotions between the presented scenarios can be interpreted such that they are associated with the differences in the characteristics of the scenarios, and the underlying theoretical expectations that are based on regulatory focus theory (Brockner & Higgins, 2001; Higgins, 1998; 2002) and appraisal theory of emotions (Ellsworth & Scherer, 2003; Frijda, 1986; Lazarus, 1991) give an account of a likely reason for the differences.

Furthermore, a notion needs to be made about the consistency in the content of the operationalizations of the causal attributions within the high-priced condition that was used as stimuli in the collecting of Data set 1. The two main conditions, i.e. the low-priced and high-priced condition, each consisted of three sub conditions. The sub conditions attributed the price level of the food purchase to the market circumstances (circumstance-agency), to the seller’s pricing policy (other-agency) and the respondent’s own behaviour (self-agency).

Each agency pair of the sub conditions (e.g. low-priced self-agency vs. high-priced self-agency) was operationalized in a consistent way between the low-priced and high-priced conditions. However, there was inconsistency in the nature of the operationalizations within the high-priced condition. That is, in the high-priced other-agency sub condition, the price level was attributed to the fact that the seller pays better prices to producers than its competitors. On the other hand, in the self-agency sub condition, the high price was attributed to the fact that the respondent did not feel up to finding a more affordable store. Thus, the other-agency condition contained an implicit reference to the share of the producers, while the self-agency condition did not.

A potential alternative formulation of the high-priced self-agency condition would have attributed the high purchase price to the fact that the respondent wants to make sure that
the producer gets a fair producer share. This would have been more consistent with the formulation of the high-priced other-agency condition, although less consistent with the formulation of the low-priced self-agency condition. An important factor in the decision on the specific formulations was that each individual scenario could be meaningfully interpreted by the respondents, and that all formulations were compatible with the core vignette that was a fixed element across the variations.

Criterion validity

Because the focus of this study is on emotional influences in consumer food choice, it is appropriate to also address the criterion validity of the study. Criterion validity reflects the extent to which a particular variable, such as positive emotions, perform as expected in relation to another selected variable, such as post-purchase responses (Malhotra & Birks, 2003). Criterion validity can be further classified into concurrent validity and predictive validity (Malhotra & Birks, 2003). Concurrent validity refers to the association of a variable with another variable when they are measured at the same point of time, while predictive validity refers to the association of the measured variable with another variable that is measured in the future (Malhotra & Birks, 2003). In this study, the emotions and the criterion variables are measured at the same point of time, whereby concurrent validity is the form of criterion validity that is relevant to this study. Overall, the concurrent validity of the study is considered to be good, as in all the analyses the emotion variables have significant associations with the criterion variables.

Reliability of the measurement

A prerequisite for conducting valid quantitative research is that the measurement of the variables is reliable. One way to assess the reliability of measurement is through test-retest reliability, i.e. by assessing whether a measure can produce consistent results at different points in time (Zikmund et al., 2013). On the other hand, the reliability of measurement can be assessed through alternative-forms reliability assessment (Malhotra & Birks, 2003). In the alternative-forms assessment, two different forms of measurement that are designed to measure the same latent construct, are administered to the same respondents at different points in time. Then, the scores on the alternative measures are correlated to assess the reliability of the measurement (Malhotra & Birks, 2003). Furthermore, the reliability of measurement can be also assessed by the internal consistency of a measurement instrument that contains multiple items (Zikmund et al., 2013). This refers to the investigation of the extent to which the different indicators of a scale reflect some common meaning. In this study, the latter approach was used to assess the reliability of the measurement. This was done by evaluating the Cronbach’s alpha coefficients calculated for the measurement scales in Essays I and II, and the composite reliabilities (CR) and the amount of average variance extracted (AVE) by the scales in Essay III. The evaluation indicated that overall the reliability of the measurement in the study was good (see Essays I, II, and III for more detailed description). In the following chapter, the key empirical findings of Essays I, II, and III are presented.
5 Results

This chapter presents the empirical results that were obtained in the three essays of this study. The chapter highlights the key findings of the empirical studies, thus no detailed results of the statistical analyses will be presented. The results of the statistical analyses are presented in the essays that are attached at the end of this doctoral dissertation.

5.1 Essay I: the role of discrete positive and negative emotions in food purchase decisions that involve a trade-off between price and ethical product quality

The first essay of the study addressed the role of discrete positive and negative emotions in the context of food purchase decisions that involve a trade-off between consumers’ personal monetary advantage to be gained from the purchase, and the ethical quality of the product. The investigation included two study settings that featured two different trade-offs. The first study setting featured a low-priced food purchase decision that was monetarily advantageous to the consumer (gain of personal price advantage), but it was also underlined that the proportion that the domestic primary producer of the product receives from the retail price is very modest (loss of ethical product quality). This condition is referred to as the low-priced condition. The second study setting featured a high-priced food purchase decision that was monetarily disadvantageous to the consumer (loss of personal price advantage), but it was also underlined that the domestic producer of the product received a fair share of the higher retail price (gain of ethical product quality). This condition is referred to as the high-priced condition.

First, the study assessed the extent to which the two different food purchase decision contexts (low-priced condition, high-priced condition) induced four different emotions: cheerfulness, pride, discontent, and guilt. According to expectations, the findings indicated that the dominant positive and negative emotional responses to the trade-off decisions were qualitatively distinct under the two conditions. Trading off ethical product quality to gain personal price advantage (low-priced condition) was characterized more strongly by cheerfulness and guilt in comparison to the converse trade-off condition. In contrast, trading off personal price advantage for ethical quality (high-priced condition) was characterized more strongly by pride and discontent than the low-priced condition.

By drawing from regulatory focus theory (see section 2.3; Higgins, 1997; 1998), the differences in the levels of the discrete emotions under the two trade-off conditions are expected to relate to differences in the nature of the goals that the personal price advantage and the ethical product quality represent. Regulatory focus theory maintains that characteristic emotional responses to the attainment and the loss of promotion-oriented goals are cheerful and dejection-related in nature, while the attainment and the loss of prevention-oriented goals characteristically induce quiescent and agitated emotions.
(Brockner & Higgins, 2001; Higgins, 1997; Higgins et al., 1997). It is expected that under the low-priced condition, the gain of personal price advantage and the loss of ethical product quality represented the gain of a promotion-oriented goal and the loss of a prevention-oriented goal, whereby the experiences of cheerfulness and guilt were emphasized. In contrast, it is expected that under the high-priced condition the gain of ethical product quality and the loss of personal price advantage represented the gain of a prevention-oriented goal and the loss of a promotion-oriented goal, whereby the experiences of pride and discontent were emphasized.

Next, the study investigated if the experiences of the self-conscious emotions of guilt and pride in the low-priced and high-priced conditions were further accentuated when the respondents’ sense of self-accountability was activated with a contextual cue. In line with the expectations, the findings in the low-priced condition indicated that the experience of guilt, in addition to discontent, was accentuated by a contextual cue that was expected to activate the respondents’ sense of self-accountability. The cue implied that the purchase price of the food product is low because the store chain offers its regular customers very low retail prices facilitated by its strong market position. Thus, the findings indicate that the cue enhanced the respondents’ feeling of responsibility for negative aspects of the decision outcome, and also more generally, relatively undifferentiated dissatisfaction with a certain outcome that was inferred from the cue. This outcome can relate to the notion that a strong market position is used to facilitate low retail prices, or to the respondent’s dissatisfaction with one’s own behaviour in accepting the low-priced offering that was provided by the retailer.

In the high-priced condition, the accentuation of the respondents’ sense of self-accountability with contextual cues failed to result in differences in the magnitudes of any of the experienced emotions. Nonetheless, the findings in the low-priced condition highlight that the same exact food purchase decision can induce distinct emotional responses in consumers depending on the subtle causal inferences that they associate with the characteristics of the food product.

The third main focus of the study was to investigate the mediating role of the elicited four emotions (cheerfulness, pride, discontent, guilt) in the relationship between consumers’ appreciation of ethical principles in consumption (AEPC), and the post-purchase responses to the two food purchase decisions. The results of multiple mediation analysis indicated that as a set, the four emotions significantly mediated the relationship under both conditions, as expected. Furthermore, it was expected that the mediating role of the emotions of guilt and pride would be accentuated in the relationship under the low-priced and high-priced conditions, respectively. Under the low-priced condition, the mediation analysis indicated that the mediating role of guilt was accentuated over and above the other emotions only in the sub condition where the feeling of guilt was enhanced with an external cue. This implies that without a prominent activation of consumers’ sense of self-accountability, the role of guilt is not necessarily spontaneously accentuated as an inhibitor of unethical purchase decision-making.
The results under the low-priced condition indicated that the mediating role of cheerfulness was accentuated over and above the other emotions in the relationship between AEPC, and the post-purchase responses consistently across different sub conditions. On the other hand, the investigation under the high-priced condition indicated that the mediating role of pride was consistently accentuated over and above the other emotions in the relationship between AEPC and the post-purchase responses, as expected. Furthermore, the findings showed that also under the high-priced condition, the emotion of cheerfulness had a unique contribution to the mediated relationship.

The study brings four new key insights into the literature on ethical food consumption. First, while the findings support previous notions that self-conscious moral emotions play an important role in ethical consumption (Antonietti & Maklan, 2014; Gregory-Smith et al., 2013; Peloza et al., 2013; Steenhaut & Van Kenhove, 2006), they also shed light on competing emotional influences that arise particularly in trade-off decision contexts. The findings indicate that in trade-off contexts, the emotional gratification that is gained or lost in the trade-off may be an even more prominent emotional influence in ethical food purchase decision-making, than self-conscious moral emotions as such. Second, the findings show that in different types of ethical trade-off decisions, the emotional gratification, and also the negative emotional responses to the decision can be manifested in qualitatively distinct forms. Third, the findings shed light on motivational factors that differentiate the nature of the emotional responses to the trade-off decisions, as the accentuation of the qualitatively distinct emotions can be theoretically connected to distinct motivational orientations (Brockner & Higgins, 2001). Fourth, the findings on the differences in the nature of the elicited emotions outline a perspective to trade-off decision-making that is also more generally useful in the interpretation of how consumers respond to different types of food-related motivational and value conflicts, which have been identified in previous research (Conner & Sparks, 2002; Leipämaa-Leskinen, 2007; Luomala et al., 2004; Warde, 1997).

5.2 Essay II: the role of emotional ambivalence in food purchase decisions that involve a trade-off between price and ethical product quality

The second essay of the study addressed the role of emotional ambivalence in the context of food purchase decisions that involve a trade-off between consumers’ personal monetary advantage to be gained from the purchase, and the ethical quality of the product. The investigation was conducted in the same empirical setting as the investigation of the first essay of the study. Thus, the study included a low-priced purchase decision condition where the ethical quality of the product was traded off in exchange for consumers’ personal price advantage, and a high-priced condition where consumers’ personal price advantage was traded off in exchange for ethical product quality.
The emotional ambivalence that was in the focus of the study was derived from the positive and negative emotions that were elicited by the food purchase decisions. Low levels of emotional ambivalence towards the food purchase decisions reflect a relatively univalent emotional response that is predominantly either positive or negative. On the other hand, higher levels of emotional ambivalence reflect a mixed emotional response where both positive and negative emotions are experienced to a relatively similar degree. The level of ambivalence increases, as the intensities of the positive and negative emotions increase in parallel.

First, the study investigated the direct impact of the emotional ambivalence on consumers’ post-purchase responses to the food purchase decisions. In line with expectations, the findings indicated that emotional ambivalence had a curvilinear relationship with the post-purchase responses under both low- and high-priced conditions. That is, lower levels of ambivalence were associated with more polarized unfavourable or favourable post-purchase responses. In contrast, higher levels of ambivalence were associated with less polarized, i.e. more neutral post-purchase responses. The finding implies that the emotional ambivalence that is induced by explicit trade-offs in food purchase decision contexts can lead to ambiguity and hesitance about repurchase intentions, and attenuation of satisfaction judgments. This reflects an avoiding strategy to cope with emotional ambivalence.

Next, it was investigated if the emotional ambivalence that was induced by the food purchase decisions moderated the the relationship between a relevant value-related motivational construct, and the post-purchase responses. The motivational construct was consumers’ normative motivation to favour domestic food products (also referred to as normative motivation). This construct was expected to be a potential predictor of post-purchase responses, because the retail price of the low- and high-priced food purchases were implied to have unbeneificial and beneficial implications, respectively, for the domestic primary producer of the product. Under the low-priced condition, the expected moderating effect was not found. This may be due to that the low-priced food purchase decision divided the respondents’ views about whether or not it is the right thing to do to favour domestic food products whose retail price contains only a very modest margin for the domestic food producers. On the one hand, higher margins would evidently be more advantageous to the producers, but on the other hand, it is also unbeneificial for the producers if their products are not chosen at all.

In contrast, under the high-priced condition, the expected moderating effect of emotional ambivalence was found. The findings indicate that the influence of consumers’ normative motivation to favour domestic food product on consumers’ post-purchase responses was stronger, when the purchase decision induced lower levels of emotional ambivalence. Conversely, when the purchase decision induced higher levels of emotional ambivalence, the respondents’ post-purchase responses were influenced only modestly by the normative motivation to favour domestic food products. The finding implies that the experience of an evaluative conflict in a food purchase decision context, which can be manifested as
emotional ambivalence, interferes in the influence of domain-specific values and consumption-related motivations on responses to the purchase decision.

The study brings three key new insights into the understanding of consumers’ price perceptions of ethical food products, attitude-behaviour and value-behaviour relationships in ethical consumption, and consumers’ coping with explicit trade-off decisions more generally. First, the findings indicate that regardless of the direction of the trade-off between price and ethicality in food purchase decisions, the emotional ambivalence that is induced by the trade-off has an attenuating effect on the appeal of the products. Second, the findings show that the emotional ambivalence that consumers experience in specific trade-off decision contexts of ethical food products is one factor that accounts for the discrepancies that commonly emerge between consumers’ expressed values and attitudes, and their ethical food choices (Carrigan & Attalla, 2001; Vermeir & Verbeke, 2006). Third, the findings show that an important way that food-related contradictions and value conflicts are manifested in specific choices is through emotional ambivalence. Thus, the investigation of consumers’ emotional responses to explicit trade-offs in food choice contexts is a promising perspective to gaining insights into consumers’ ways to cope with different food-related contradictions.

5.3 Essay III: the role of discrete negative emotions in the acceptance of genetically modified food products

The third essay of the study addressed the role of discrete negative emotions in the context of the acceptance of genetically modified foods. The study assessed the interrelations between consumers’ concerns about the genetic modification (GM) of food (environmental concern, health concern, moral concern, market concern), emotions elicited by the genetic modification of food (fear, anger) and anticipated consumption-related responses to GM food products (readiness to use GM food products, intention to make complaints about GM food products). The investigation was conducted by structural equation modelling, which allows for investigating linear associations between multiple latent constructs simultaneously. Figure 7 presents the structural model that summarizes the key findings of the study.
First, the results give insights on the differences in the antecedents of fear and anger in the context of the GM of food. According to expectations, fear of the genetic modification of food as a phenomenon was increased by concerns that relate to the possible adverse health effects triggered by the consumption of GM foods. However, fear was not increased by environmental concerns as was expected. Instead, fear was accentuated by moral concern, i.e. the perception that the GM of food is unnatural and morally unacceptable. According to expectations, anger was also increased by moral concern, and by market-related concern. Market-related concerns pertain to the commercial incentives that relate to the GM of food in the agri-food sector, and the equality of the distribution of benefits of the GM of food between food producers, sellers, and consumers. Thus, the findings indicate that the fear and anger towards the genetic modification of food, as a phenomenon, are accentuated by different types of concerns associated with the GM of food.

Furthermore, the findings indicate that the fear and anger associated with the GM of food had different influences on two distinct anticipated consumer responses to GM food products: the readiness to use GM food products, and the intention to make complaints about GM food products if they enter the Finnish consumer market. It was expected that fear would have a stronger negative association with the readiness to use GM food products than anger. According to expectations, fear had a negative association with the readiness to use GM food products. Furthermore, findings indicated that when the influence of fear was accounted for, anger had no significant influence on the readiness to use GM food products. This indicates that fear is a more dominant negative emotional influence in consumers’ reluctance to use GM food products than anger.

Figure 7  The path diagram of the structural model (RMSEA = 0.0617; NNFI = 0.988; CFI = 0.990; SRMR = 0.0358; AGFI = 0.846).
It was expected, however, that anger would have a stronger positive association with complaint intentions than fear. The findings were in line with the expectations, but the results gave indications of even more distinctive effects of fear and anger than expected. That is, the direct influences of fear and anger on the complaint intentions were found to be opposite, such that anger increased the intentions as expected, whereas fear decreased them. The causal paths of the structural model imply that the increasing effect that the negative valence of fear might have on the complaint intentions was captured through the mediation by anger. Furthermore, the direct decreasing influence of fear on the complaint intentions is likely to reflect the unique appraisal pattern of fear that distinguishes it from anger. Fear is characterized by a sense of uncertainty and low ability to control the emotion-eliciting event (Lerner & Keltner, 2000; 2001). In contrast, anger is characterized by a stronger certainty that a negative event has taken place, and a stronger experience of power over influencing the situation. Thus, the directionally-opposite direct influences of fear and anger on the complaint intentions reflect the distinct appraisal patterns of the emotions, and the distinct behavioural tendencies they foster. The finding implies that consumers who have negative affective predispositions towards the genetic modification of food can be expected to respond to genetically modified food products in distinct ways, depending on the specific nature of their negative affective predisposition.

Overall, the inspection of the structural model as a whole indicates that fear and anger are important mediators between consumers’ concerns about the GM of food, and consumers’ anticipated responses to GM food products in the consumer market. However, the findings also highlight that certain consumer concerns associated with the GM of food are more emotionally toned than others. For instance, the influence of market-related concerns on the complaint intentions was fully mediated through anger, and the influence of moral concerns on the readiness to use GM food products was fully mediated through fear. In contrast, the influence of environmental concern on the readiness to use GM food products was direct, i.e. it was not mediated through emotional responses. This implies that the role of negative emotions in consumer responses to GM foods depends on the substantive perspective that consumers use as the grounds for evaluating them.

The study brings three new key insights into the understanding of consumers’ acceptance of genetically modified food products. First, while previous research has acknowledged the importance of fear in the forming of consumers’ predispositions towards the genetic modification of food (Laros & Steenkamp, 2004; Townsend & Campbell, 2004), the findings of this study indicate that anger also plays a critical role in consumers’ responses to the GM of food. Second, the findings show that the fear and anger towards the GM of food reflect different types of response patterns to the phenomenon, whose characteristics extend also to distinctions in the perceived threats of the GM of food and the modes of coping with the potential threat of the GM of food. Third, the study brings forth that the importance of negative affective influences in consumers’ predispositions towards genetically modified food products varies depending on what beliefs and values are used as a points of reference for forming the predispositions.
The next chapter is the concluding section of this dissertation. The chapter takes a broader focus to this study as a whole, and discusses the key theoretical and managerial implications of the findings of this study in the domain of consumer food choice. The chapter also discusses the limitations of the study, and provides suggestions for future research.
6 Discussion and conclusions

The importance of emotional influences in consumer food choice has been generally acknowledged in previous research that originates from the domains of consumer behaviour, marketing, and food and nutrition sciences (Cardello et al., 2012; Dubé et al., 2003; Kergoat et al., 2010; Laros & Steenkamp, 2004; Olsen et al., 2014). However, it is maintained that an important area of development in the understanding of emotional influences in consumer food choice is in interpreting the complex nuances of and interactions between discrete emotions in consumer food choice. Quite often, food-related emotions are treated in research at the level of general affect (Kniazeva, 2006; Poortinga & Pidgeon, 2005; Wansink & Kim, 2001). However, when the role of multiple discrete emotions in food-related contexts is assessed, the emotions are often viewed as descriptive measures of consumers’ food-related perceptions (Cardello et al., 2012; Jiang et al., 2014; King & Meiselman, 2010; Spinelli et al., 2014). These approaches have contributed greatly to the current understanding of the role of emotions in consumer food choice, but each of them can be further complemented by a more indepth focus on the nuanced antecedents and implications of discrete emotions. This study was intended to contribute to the understanding of the intricacies of discrete emotions in consumer food choice, particularly in the contexts of ethical trade-off food purchase decisions, and consumer perceptions of the genetic modification of food. The following sections discuss the theoretical and managerial implications that this study has in the domain of consumer food choice and the substance areas that were at the focus of the empirical investigation of this study. The chapter is concluded by assessing the limitations of this study, and by providing suggestions for future research in the domain of consumer food choice.

6.1 Theoretical implications

Key aspects in the investigation of emotional influences in consumer food choice

By drawing from previous literature on emotions and consumer food choice, this study identified four aspects that have a key role in the understanding of emotional influences in consumer food choice. Even though different disciplines of research have different research foci in the investigation of emotional influences in consumer food choice, it is believed that the four aspects provide useful guidelines for the investigation of emotional influences in consumer food choice across disciplines. The identified aspects form a framework for gaining a comprehensive overview of the aspects that are involved in defining the general nature of emotional influences, the complexity and qualitative nature of emotional responses, and the specific types of emotional influences in particular food choice contexts. By taking a comprehensive overview to these aspects, it is also easier to tackle the question of whether the emotional influences in the particular food choice context involve more complex intricacies than may seem obvious at first. On the other hand, each of the aspects of the framework represents an area of investigation that can be focused on in emotion
research in the domain of consumer food choice. For instance, the framework implicates the following important questions in the investigation of emotional influences in a specific context of consumer food choice: are the emotional influences hedonic, rapid and intuitive, or slower, more stable, and deliberative; does the food choice context elicit singular or multiple emotions, or barely no emotions at all; what is the intensity and the qualitative nature of the elicited emotions, and what characteristics of the individual and the food choice context influence these aspects; which of the elicited emotions eventually have influence in the context; do the emotions have direct or indirect influences on the target phenomenon; are there mutually competing emotional influences in the context, and which take precedence; and how are emotional contradictions reflected in the target phenomenon.

The role of discrete emotions in price vs. ethicality trade-off food purchase decisions

The existing research on emotional influences in ethical consumption has focused strongly on the self-conscious moral emotions of guilt and pride (Elgaaied, 2012; Peloza et al., 2013; Steenhaut & Van Kenhove, 2006). In line with previous research, the findings of this study indicated that guilt and pride are important emotional influences in guiding ethical food purchase decision-making. However, the findings of this study extend the understanding of emotional influences in ethical consumption, particularly in trade-off purchase decision contexts. A key notion in Essay I of this study is that the overall emotional gratification that is gained or lost in trade-off purchase decisions is an important factor in ethical food purchase decision-making. This notion brings novel insights, especially to the understanding of the factors that inhibit unethical food purchase decision-making. The findings imply that the appeal of unethical food purchases is not necessarily reduced as much by anticipated guilt about making the purchase, than by the anticipated loss of the emotional gratification that could be gained from the attractive features of the product, such as its lucrative price.

The finding on the absence of positive emotions as an inhibitor of unethical food purchase decision-making can be accounted for by the proposition that consumption is often driven by a “hedonic asymmetry” (Desmet & Schifferstein, 2008; Schifferstein & Desmet, 2010; Spinelli et al., 2014). This proposition implies that consumers have a predominantly positive affective predisposition towards using and consuming products, as generally products that are sold in the consumer market are designed to appeal to consumers in one way or another (Desmet & Schifferstein, 2008; Schifferstein & Desmet, 2010; Spinelli et al., 2014). This stresses the importance of positive emotional gratification as a motivator of purchase decision-making. In light of the proposed hedonic asymmetry, it seems plausible that the fluctuations in positive emotional experiences play an important role also in other types of trade-offs that emerge in consumers’ food choices. Thus, it is possible that, for instance, the appeal of hedonically appealing but unhealthy treats is reduced more efficiently through attenuation in the delight that is anticipated to be gained from consuming the treat rather than by the anticipated guilt associated with the aspect of unhealthiness.
Given that the emotional gratification that is lost and gained in the making of unethical and ethical food purchase decisions is likely to be a prominent emotional influence in ethical consumption, it is important to understand the nature and sources of the emotional gratification, and factors that overshadow it in trade-off decisions. The findings showed that the price vs. ethicality trade-off induced qualitatively distinct positive and negative emotions depending on the direction of the trade-off. In the low-priced unethical purchase decision condition of this study, the positive emotional gratification was manifested predominantly as cheerfulness, tempered with guilt. In contrast, in the high-priced ethical purchase decision condition, the emotional gratification was manifested predominantly as pride, which was overshadowed by discontent. Similar findings have been reported in previous studies, in the context of consumption-related trade-off decisions (Chitturi et al., 2007; Mukhopadhyay & Johar, 2007). The findings of this study give further indications that certain consistency exists in the quality of mixed emotional responses to trade-off decisions depending on the characteristics of the trade-off.

Theoretically, the distinctions in the nature of the elicited emotions can be accounted for by differences in the goal orientations that are associated with the pursuit of personal price advantage, and ethical quality in purchase decisions (Brockner & Higgins, 2001; Chernev, 2004; Chitturi et al., 2007; Mukhopadhyay & Johar, 2007). Cheerfulness, which was the dominant positive response in the low-priced condition, is a characteristic response to the attainment of a promotion goal. The pursuit of promotion goals is motivated by the attainment of positive growth-oriented outcomes and the fulfilment of hedonic wishes and desires (Chitturi et al., 2007; Higgins, 1997; 2002; Pham & Avnet, 2004). This implies that the emotional gratification associated with gaining price advantage at the cost of ethical food product quality is enhanced and also attenuated to the extent to which a consumer perceives that the purchase responds to hedonic desires, e.g. in the form of making bargain purchases.

On the other hand, in the high-priced condition, the emotional gratification that was gained from the ethical food purchase was manifested predominantly as pride. The experience of pride about a responsible act is characteristic to the attainment of a prevention goal. The pursuit of prevention goals is motivated by the avoidance of negative outcomes, and living up to responsibilities and obligations (Brockner & Higgins, 2001; Higgins, 1997; Pham & Avnet, 2004). This implies that the pride-oriented gratification that motivates consumers to favour ethical food products despite their somewhat higher price should be accentuated to the extent to which the purchase responds to responsibility-oriented aspirations, such as supporting the welfare of food producers. The distinctions in the sources of the emotional gratification that is gained from unethical low-priced and ethical high-priced food purchase decisions have important managerial implications in the domain of ethical consumption, and they will be discussed later in this chapter.
The role of emotional ambivalence in price vs. ethicality trade-off food purchase decisions

The findings of this study on the role of emotional ambivalence in trade-off decision contexts have theoretical implications in the domain of consumers’ price perceptions of ethical and unethical food products. Commonly, consumers’ price perceptions of ethical food products are assessed through cognitive measures, such as the maximum amount that consumers are willing to pay for particular ethical products (Basu & Hicks, 2008; De Pelsmacker et al., 2005; Didier & Lucie, 2008; Loureiro & Lotade, 2005). However, consumers also assess product prices affectively (Peine et al., 2009). It is suggested that emotional ambivalence may be an important affective component in the way that consumers’ willingness to pay for ethical food products is defined.

Price-related emotional ambivalence reflects an intuitive and easily accessible affective evaluation of the acceptability of the balance between the perceived benefits and monetary costs associated with a product. Rapidly accessible affective evaluations have a particularly important role in guiding decision-making in everyday food shopping contexts, where individual product choices are not necessarily contemplated thoroughly in a cognitive manner, calculating the exact ratio of value and cost. It is possible that even when a consumer’s monetary resources allow for paying a premium price for an ethical food product, a specific price is acceptable only to the extent to which the trade-off fails to induce uncomfortable feelings of emotional ambivalence. Thus, the level of experienced price-related emotional ambivalence could provide an index for approximating price levels for ethical food products that intuitively feel acceptable to consumers.

It is notable that while the issue of product pricing is often discussed as a barrier of selecting ethical products (Carrigan et al., 2004; Eckhardt et al., 2010), it is rarely addressed as a pull factor that motivates the choice of unethical products instead. The findings of this study indicate that in both types of price vs. ethicality trade-off decisions (i.e. low-priced unethical and high-priced ethical purchase decisions) the emotional ambivalence that is induced by the trade-off has an attenuating effect on the appeal of the products. This implies that emotionally ambivalent responses to price vs. ethicality trade-offs in food purchase decisions can result in non-purchase, a similar outcome that can be expected to result from univalent negative responses to low-priced unethical, and high-priced ethical food products. This indicates that the attenuation, and also the activation, of emotional ambivalence about price vs. ethicality trade-offs can be a means to facilitate ethical food choices, and also to reduce the appeal of unethical food choices.

The findings on the role of emotional ambivalence in the trade-off decision contexts also shed light on the discrepancies that are often found, e.g. between consumers’ expressed attitudes towards ethical consumption, and actual ethical purchase decision-making (Carrigan & Attalla, 2001; Eckhardt et al., 2010; Gupta & Sen, 2013; Mohr & Webb, 2005; Vermeir & Verbeke, 2006). Previous literature has explained the discrepancies for instance so that in specific purchase decision contexts, consumers’ attention becomes easily focused on concrete personal benefits such as price advantage and convenience, even though on a
more distant time frame they would put strong weight on abstract altruistic motives and moral considerations in their food choices (Gupta & Sen, 2013). The findings of this study support this notion. More specifically, the findings imply that particularly consumers who empathize to a fair degree with a particular ethical issue, but not with a strong conviction, are prone to experience ambivalence in explicit food purchase decision contexts that juxtapose the ethical issue with other desirable product characteristics, such as lucrative price. The experienced ambivalence, in turn, attenuates the impact that their ethical attitudes or values would have on their favourable responses to the ethical purchase decision.

The findings imply that prominent evaluative conflicts in specific food purchase decision contexts of ethical products is a factor that hinders the transmission of consumers’ attitudes and values into actual ethical consumption decisions. The impact of favourable ethical attitudes on actual ethical consumption behaviour can be enhanced on the one hand by strengthening the attitudes through attitudinal persuasion. On the other hand, the present findings indicate that the impact of existing ethical attitudes can also be enhanced by attenuating ambivalent experiences in explicit purchase decision contexts of ethical products.

**Emotions and food-related contradictions**

The findings of this study also have several theoretical implications for the investigation food-related contradictions in consumer food choice more generally. This study investigated the elicitation of discrete emotions in a food purchase decision context that involved an attribute trade-off. Attribute trade-offs in specific food purchase decision contexts are one instance where more abstract food-related contradictions are materialized. For instance, the conceptual contradiction between health and indulgence can be materialized in the decision to purchase a bag of crisps for a snack instead of a fresh fruit. On the other hand, the conceptual contradiction between care and convenience can be faced explicitly in the decision to purchase fresh ingredients to prepare a meal for the family instead of choosing a ready-made meal even though it would be more convenient. This study featured a trade-off food purchase decision where the price of the product concretized an abstract contradiction between consumers’ personal monetary benefit and the welfare of another entity. The trade-off decision was found to induce qualitatively distinct positive and negative emotions depending on the direction of the trade-off. Theoretically it is expected that this was due to that the gain of personal price advantage, and the acknowledgement of the welfare of the other entity represented instances of goal attainment that were motivated by distinct goal orientations (Brockner & Higgins, 2001; Chernev, 2004).

By drawing from regulatory focus theory (Higgins, 1997; 1998) that gives a theoretical account of the finding, it is maintained that similar patterns may be found in the emotional manifestation of many common food-related contradictions that have been identified in previous literature (Leipämaa-Leskinen, 2007; Mäkelä, 2003; Warde, 1997). Many of the
contradictions encompass the balancing between desires and responsibilities, and the promotion and prevention of certain outcomes. According to regulatory focus theory, these pairings are characteristically associated with distinct goal orientations, which differentiate emotional responses to the attainment and the loss of particular goals (Brockner & Higgins, 2001; Higgins, 1998). This implies that the balancing between particular food-related contradictions, e.g. between health and indulgence, and care and convenience, might be relatively consistently associated with specific types of emotional responses. For instance, provided that the aspects of care, economy, and health are associated with responsibility-oriented goal pursuit, the gain and the loss of these aspects in food consumption contexts should induce emotions that are quiescent and agitated in nature, respectively. On the other hand, if the aspects of convenience, extravagance, and indulgence are associated with growth-oriented and desire-driven goal pursuit, the gain and the loss of these aspects in food consumption contexts should induce emotions that are cheerful and dejection-related in nature. The qualitatively distinct emotional responses have different motivational properties (Frijda et al., 1989). This implies that the assessment of consumers’ emotional responses to attribute trade-offs in explicit decisions, and the way that discrete emotions influence consumers’ decision-making in these contexts provides a novel perspective to the understanding of consumers’ ways to cope with commonly identified food-related contradictions more generally.

Previous research has identified alternative ways that consumers can manage contradictions associated with consumption and food choices (Luomala, 2005; Luomala et al., 2004; Ottes et al., 1997; Schröder & McEachern, 2004). These can be broadly classified into polarizing strategies that involve downplaying or accentuating the importance of either of the contradictory aspects, and avoiding strategies that include ignoring the contradiction, and altogether ignoring the event or object that activates the contradiction to begin with (Luomala, 2005; Luomala et al., 2004; Ottes et al., 1997; Schröder & McEachern, 2004). Little is known, however, regarding when and why particular strategies are used to resolve food-related contradictions. The findings of this study provide insights into the contemplation of this issue.

In this study, increased emotional ambivalence towards the featured trade-off food purchase decisions led to more neutral post-purchase responses. This resembles an avoiding coping strategy rather than a polarizing strategy. By drawing from literature on emotional and attitudinal ambivalence (Conner & Armitage, 2008; Jonas et al., 2000; 1997; van Harreveld et al., 2009), it is expected that this outcome is related to the low involvement that is commonly associated with everyday food purchase decisions. Under low involvement contexts, where accurate and rationalized decisions or opinions are not of utmost importance, ambivalence is often dealt with through avoidance and delay of contradictory decisions, and settling for hesitant or neutral opinions (Conner & Armitage, 2008; Jonas et al., 2000; 1997; van Harreveld et al., 2009). In contrast, under high involvement contexts that require the forming of a clear and univalent opinion, or the making of an accurate and well justified decision, ambivalence is more likely to be resolved with polarizing strategies, e.g. by finding justifications for and against the contradictory
aspects (Conner & Armitage, 2008; Jonas et al., 2000; 1997; van Harreveld et al., 2009). It is deemed likely that food-related contradictions that are materialized in attribute trade-offs in everyday food choices are often dealt with through avoiding strategies, e.g. by ignoring the contradiction that the trade-off involves, or by substituting less contradictory product alternatives for products that involve salient contradictory trade-offs.

The role of discrete negative emotions in the acceptance of genetically modified foods

The second empirical context of this study investigated the role of discrete negative emotions in the acceptance of genetically modified foods. The existing empirical research on discrete emotions in the context of the GM of food relates predominantly to fear (Laros & Steenkamp, 2004; Townsend & Campbell, 2004), which is connected to perceptions of uncertainty and unfamiliarity associated with the GM of food (Ellsworth & Scherer, 2003; Frijda, 1986). However, in previous literature it has been suggested that the role of anger in consumers’ perceptions of the GM of food should also be investigated more thoroughly (Townsend, 2006; Townsend & Campbell, 2004). The findings of this study indicate that along with fear, anger towards the GM of food also plays a critical role in the acceptance of the GM of food and genetically modified food products.

A key notion of Essay III of this study is that the findings outline two distinguishable patterns in consumers’ responses to the GM of food and GM food products, which are structured around the characteristic features of fear and anger. On one hand, the findings imply a connection between fear of the unknown, perception of unknown risk, concerns associated with the concrete application of gene technology in food production, and the preference to cope with the perceived threat of GM foods by personally avoiding such products. On the other hand, another identifiable pattern reflects a connection between more determined feelings of anger, perception of dread risk, principled concerns associated with the application of gene technology in food production, and the preference to cope with the perceived threat of GM foods by actively protesting against these products. The characteristics of these patterns of response are discussed in closer detail below in light of the findings of this study.

First, the findings of this study imply that fearful and angry consumers have a preference to cope with the potential threat associated with GM food products in different ways. Fearful consumers are prone to cope by avoiding GM products if they are introduced in the market, but they may even be reluctant to make active complaints about the products. In contrast, the findings indicate that among angry consumers, complaint behaviour is a more preferred mode of coping with the threat of GM foods than the personal avoidance of the products in the market. These findings reflect the types of behavioural tendencies that are characteristically associated with fear and anger (Lazarus, 1991; Frijda et al., 1989). More generally, the findings indicate that fearful consumers are prone to using avoiding means of coping with the perceived threat of GM food products, while angry consumers are prone to using antagonistic means of coping. This has important implications for the prospects of
the introduction of GM food products to consumer markets, and they will be discussed later in this chapter in the section of managerial implications.

Second, the findings of this study imply that the experiences of fear and anger towards the GM of food are rooted in different types of risk perceptions, which are manifested as different types of concerns associated with the GM of food. While both fear and anger were influenced by moral concern, health-related concern was a unique antecedent of fear, and market-related concern was a unique antecedent of anger. The nature of the health-related concerns has a correspondence to the qualities of the risk dimension of unknown risk, as the effects of regularly consuming GM foods can be unobservable in the short term and the effects can be delayed (Finucane & Holup, 2005). In contrast, the market-related concerns that were found to influence anger have a resemblance to the properties of the dread risk dimension, as they relate to the equality of the distribution of consequences, and external control (Finucane & Holup, 2005). Thus, provided that the health-related concerns about the GM of food represent the perception of unknown risk, and the market-related concerns represent the perception of dread risk as is suggested in the literature, the findings imply that the nature of consumers’ risk perceptions of the GM of food differentiates consumers’ emotional responses to the GM of food.

The health-related and market-related concerns that were found to be predictors of fear and anger, respectively, differ also in more concrete terms besides their association with abstract risk dimensions. The potential adverse health implications of consuming GM foods are related directly to the food product and its properties. In contrast, the negative aspects that relate to the unequal distribution of benefits gained from the GM of food, and the misuse of market power in the market of GM food, are related to broader societal phenomena around the GM of food. In light of this, it is plausible that the fear of the GM of food, which has most often been the focus of emotion research in this domain, is a characteristic negative emotional response particular to the imagery associated with concrete GM food applications. In contrast, it is maintained that the anger towards the GM of food arises more characteristically in response to the fact that GM food applications are being developed to begin with, and the way that these applications are utilized in the society. Overall, the distinctions in the antecedents of the fear and anger towards the GM of food have important implications for the prospects of GM foods in the consumer market, and these will be discussed in the section of managerial implications later in this chapter.

A final point regarding the findings on emotional influences in the acceptance of GM foods is that different consumer concerns about the GM of food are not equally emotionally toned. This is reflected in the present findings such that the impact of the environmental concern was not mediated through emotions at all. This may be due to that the environmental threat was perceived in this sample as a relatively distant and not emotionally involving issue, whereby it was processed in a more cognitive manner. However, the emotional involvement with different aspects of the GM of food is likely to vary, such that in other consumer groups the environmental concern may be more strongly emotion-laden. The present findings showed that the impacts of the moral and market concerns on consumers’
responses were fully mediated through emotions. This finding implies that such aspects of the GM of food that tap into consumers’ sense of moral and justice were particularly emotion provoking. These aspects of the GM of food are intertwined with consumers’ personal values, which enhances personal involvement and the elicitation of emotions. More generally, these findings underline that the personal involvement that consumers associate with particular aspects of the GM of food is an important factor in defining the extent to which consumers process them emotionally.

6.2 Managerial implications

The findings of this study have important managerial implications in the domains of ethical food consumption, the consumption of domestic food products, and the acceptance of genetically modified food products. The managerial implications of this study are discussed below.

The attenuation of the appeal of unethical food purchase decisions

The use of emotional appeals in different communicational approaches is a way to enhance consumer awareness, interest, and responsiveness to particular ethical aspects of food consumption. One approach to inhibiting unethical food consumption is to appeal to consumers’ sense of guilt for making unethical choices. The present findings indicate that the activation of consumers’ self-accountability in a decision context can indeed enhance feelings of guilt for unethical consumption decisions, such that the appeal of the unethical purchase is attenuated. However, a critical drawback of negative emotional appeals is that they can produce defensive responses, which is counterproductive to the aims of the appeal (Brennan & Binney, 2010; Brown & Locker, 2009; Peloza et al., 2013; Witte & Allen, 2000).

The findings of this study outline an alternative emotional approach to the attenuation of the appeal of unethical food purchase decisions, which can be applied when the appealing factors of the unethical object of consumption are known. The basic premise is that the overall appeal of an unethical product should be attenuated, when the emotional gratification that is expected to be gained from the appealing features of the product is questioned.

This notion can be applied for instance in promotional campaigns that are aimed to increase consumer awareness about the potential ethical caveats that attractive low consumer prices may entail, and to influence ethical consumption patterns this way. In the suggested communication approach, the content of a message should draw consumers’ attention to the hedonic delight that is often gained from making inexpensive food purchases or purchases in other categories of interest. Furthermore, the recipient should also be challenged to consider if the hedonic delight remains equally rewarding, when the
inexpensive product has unethical features. This contemplation can be expected to reduce the hedonic appeal of excessively low-priced unethical products, and result in a stronger appreciation of products whose pricing affords the fulfilment of particular ethical standards creditably, e.g. in terms of the labour conditions of production workers or environmental welfare. Importantly, the positive emotional approach may be a more efficient communicational approach than guilt-oriented negative appeals, because it is not likely to induce strong defensive responses.

The enhancement of the appeal of ethical food purchase decisions

The findings showed that the emotional gratification that is gained from a trade-off food purchase decision is also an important factor in enhancing the appeal of premium priced ethical food products. Feelings of pride, and also cheerfulness, were found to have a unique role in motivating favourable responses to the purchase decision. In light of the theoretical background of this study, pride in this context is expected to predominantly represent a response to the perceived attainment of a consumption goal that is characterized with the prevention of unethical implications, and with the fulfilment of responsibilities. On the other hand, cheerfulness is expected to represent a response to the perceived attainment of a consumption goal that is characterized with the promotion of hedonic wishes and desires, positive outcomes and growth.

Thus, it is maintained that the orientation that consumers have to ethical food consumption determines the nature of the gratification and reward that they seek and receive from engaging in ethical food consumption. Therefore it is meaningful to assess whether specific consumer segments are motivated to engage in particular patterns of ethical consumption primarily by the possibility to prevent and solve societal and environmental problems and have genuine impact on particular ethical causes, or by the personal motivation to attain personal growth, to live up to personal ideals, and to feel delight about contributing to ethical causes.

The distinctions in consumers’ motivational orientation towards ethical consumption have implications for the communicational approaches that external entities should employ to motivate consumers to adopt ethical consumption patterns. For instance, the reduction of food waste in households can be communicated to consumers from a prevention-oriented perspective as a function that is everybody’s responsibility in order to prevent the unnecessary generation of negative environmental impacts in the food chain. On the other hand, it can be also communicated with a promotion-oriented emphasis as a function that allows for consumers to participate in advancing a good and important societal and environmental cause, whilst obtaining personal hedonic gratification from it. The ability of these communicational approaches to lead to attitude change, stronger attitude internalization, and eventually to the reduction of food waste in households, is likely to depend, in part, on which approach has a closer correspondence to the nature of consumers’ motivation for sustainable food consumption.
In the case of commercial food products that are differentiated with ethical characteristics, the value proposition of the product should also resonate with the type of goal orientation that the product offering represents to key target segments. This depends on the perceptions and motivational orientation of consumers, and on the other hand on the characteristics of the product. In food product categories that inherently appeal to hedonic consumption needs, and for food product brands that emphasize an upbeat, progressive, and light image, a promotion-oriented framing of ethical features may be more compatible than a prevention-oriented framing. On the other hand, in food product categories that appeal to more functional needs, and for food product brands that emphasize a serene, prestigious, and traditional image, a prevention-oriented ethical value proposition is likely to fit coherently to the overall product offering. The ethical value proposition of a food product or brand can also combine prevention- and promotion-oriented elements in a way that matches the characteristics of the product and the goal orientation of target consumer segments.

The appeal of low-priced and high-priced domestic food products

The retail pricing of domestic food products is currently a very topical issue being publicly discussed in Finland. A major Finnish retailer has recently drawn considerable attention by campaigning with the lowering of food prices across various product categories, and by also launching an affordable private label product line of domestic food products. This has evoked discussion about the implications of major retailers’ pricing policies to the fairness of the compensation that domestic primary food producers receive for their input in the food industry.

The findings of this study imply that the emotional gratification that consumers receive from making inexpensive purchases of domestic food products is cheerful in nature, which is a characteristic response to the attainment of hedonic promotion-oriented consumption goals. Affordable domestic food products can deliver consumers value, for example through perceived high quality and safety, locality, and likely also through the gratification of supporting societal welfare in the home country through increased sales volume of domestic products.

The findings of this study also imply that when the affordable price of domestic food products is associated with the disadvantage of domestic food producers, as it currently is in the public discussion in Finland, the gratification that is gained from the inexpensive prices is overshadowed by negative emotions. The tension between the mixed emotional responses was manifested such that increased emotional ambivalence towards the low-priced food purchase decision attenuated the favourability of satisfaction judgments of the purchase. Furthermore, the negative emotional responses to the purchase decision of the low-priced domestic food product were found to be accentuated, when it was noted that the retail chain could offer its regular customers the very low price due to its strong market position. This indicates that a retailer’s efforts to deliver value to its customers can paradoxically turn against the appeal of the value proposition, if the benefit of the customers
is perceived to contradict the benefit of another entity whose welfare is meaningful to consumers.

Low prices on domestic food products, however, undoubtedly appeal and continue to appeal to most consumers, particularly among those who value domestic food products primarily for their intrinsic quality, and the benefit implications that their consumption has in the society through sales volume. Nonetheless, in light of the present findings, it is proposed that also the concept of domestic fair trade, which has been coined in public discussion and the previous literature (Zander & Hamm, 2010), has potential in the Finnish consumer market. In this study, the purchase of a high-priced domestic food product, whose retail price accommodated a fair share to the primary producer, induced mixed emotions and emotional ambivalence to a similar extent as the low-priced purchase. However, the findings showed that the purchase decision offered a different type of emotional gratification than the low-priced purchase, namely pride. Furthermore, the favourable responses to the high-priced purchase were enhanced by increased appreciation of ethical principles in consumption, and by the normative motivation to favour domestic food products.

These findings imply that the consumption of domestic fair-trade food products would likely be appealing, particularly to consumers who gain gratification from responsible consumption choices, and those who view the consumption of domestic food products as an ethical choice. This specification allows for defining a clearly defined target segment for domestic fair-trade food products, based on a specific motivational orientation towards the consumption of domestic food products. Within this segment, the aspect of fairness could justify a producer-friendly premium price, for instance for a premium private label product line in the retail sector. Along with high product quality, such a product line would offer consumers a transparent means to contribute to a specific societal cause without having to speculate on the fairness of the price structure, and to also gain personal gratification from the consumption of these products. In the retail sector, this would be a source of differentiation and competitive advantage. Furthermore, an umbrella premium brand for different domestic fair-trade food products would benefit producers in different fields of primary food production, and enhance the appreciation of domestic food at a general level.

Consumers’ perceptions of the genetic modification of food and genetically modified food products

The findings of this study have important managerial implications in the context of consumers’ responses to GM foods. The findings indicate that in terms of the reception of GM food products in consumer markets, the nature of the emotional predispositions of the opponents of the GM of food plays a critical role. Furthermore, it is maintained that the anger that the GM of food elicits among consumers may pose an even more serious challenge for the acceptance of GM food products than fear. This is because the findings indicate that angry consumers are more likely to actively protest against the introduction of
GM food products into the consumer market than fearful consumers. In contrast, fearful consumers may settle for avoiding GM food products in the case that they potentially become available on the consumer market. On the other hand, the findings indicate that the fear and anger towards the GM of food are fuelled by different types of concerns, and those underlying anger may be more difficult to address than those underlying fear.

Provided that the key concerns that underlie the fear of the GM of food are predominantly associated with the properties and direct implications of concrete GM food applications, as it is suggested in this study, it is plausible that excessive and unfounded fear among consumers can be alleviated by informational approaches. Over time, the scientific knowledge about developed GM food applications and their implications increases, and consumers can be provided with accurate and convincing information about thoroughly tested and beneficial GM food applications. In previous literature, the extension of consumers’ knowledge of the GM of food has been suggested to be a meaningful way to enhance the formation of informed opinions and perceptions of the GM of food (Christoph et al., 2008; House et al., 2004; Klerck & Sweeney, 2007). This approach may also work well for alleviating excessive fear of the GM of food, which would allow for consumers to evaluate the potential advantages and disadvantages of particular GM food applications with an open mind.

In contrast, the present findings imply that the anger towards the GM of food is influenced importantly by the way that GM food applications are perceived to be utilized in the society, rather than the way that the applications are perceived as such. It is maintained that at the same time that consumers become more familiar with, and potentially less intimidated by, different applications of gene technology in food production, they also become more aware about the markets and commercial interests around GM food applications. This predicts a shift from fear to anger in consumers’ predominant negative emotional responses to the GM of food.

While the provision of information about GM food applications may alleviate consumers’ fear, the alleviation of anger calls for different measures. The findings of this study imply that these measures include the fairness of conduct, equal distribution of benefits and risks, transparency in the market of GM foods, and consumer trust in these features. These aspects have strong moral connotations, and consumers’ views of moral standards, fairness and trust are defined on cultural, societal, and subjective basis. It is likely to be more difficult to convince consumers about the moral acceptability of the utilization of GM applications in the society than about the safety of concrete GM food applications with rational arguments. Therefore the anger that is induced by the GM of food among consumers, and the societal and moral concerns that underlie it, may pose an increasingly critical challenge to the acceptance of the GM of food and its applications in the consumer market.
6.3 Conclusions

This study was motivated by the need to gain more detailed insights about the intricacies of emotional influences in consumer food choice, particularly in the context of price vs ethicality trade-offs and consumers’ perceptions of GM food products. Overall, the findings indicate that the investigation of the nuanced antecedents and implications of discrete emotions, and their interactions with other emotions and psychological constructs provide multifaceted insights into consumer food choice. Consumers’ discrete emotional responses to particular food choice contexts reflect the way that the characteristics of the food choice context are interpreted, and on the other hand they convey information about possible attitudinal and behavioural responses in the food choice context. Thus, the informational value of discrete emotions in consumer food choice extends much wider than merely to interpreting how consumers feel in particular contexts. However, it is acknowledged that in some food-choice contexts, affect plays only a modest role, or emotional influences are involved in the context merely at the level of general affect. This further highlights the importance of taking a comprehensive overview to the specific food choice context, where affective influences are being investigated. This allows for identifying the characteristics of the affective phenomena that are likely to be involved in the particular context, and understanding the emotional intricacies that may have a considerable impact on consumers’ food choices.

6.4 Limitations of the study and suggestions for future research

This study has certain limitations that need to be taken into account in the assessment of the findings. First, the generalizability of the empirical findings of the study has limitations due to the characteristics of the data. The first data set was acquired from a consumer panel that consisted of Finnish consumers. However, the age structure and the educational background of the sample respondents deviated from the characteristics of Finnish population. Thus, the findings of Essays I and II are not directly generalizable to the Finnish population. On the other hand, the second data set that was used to investigate emotional influences in the context of the GM of food, was acquired from students of the University of Helsinki. Thus, the sample has a known bias towards particular educational background, geographical area in Finland, and a relatively young age. It is possible that this is reflected in the strengths of the emotional responses, the extent to which different concerns are emphasized, and the anticipated behavioural responses. Thus, the findings of Essay III are not directly generalizable to the general Finnish population. The empirical findings in these data were in line with theoretical assumptions about the characteristic antecedents and implications of discrete emotions, however. This provides a reason to expect that the discovered relationships between the investigated variables are not arbitrary, and that relatively similar patterns can also be found in other consumer populations.

An evident limitation of the study is associated with the nature of the study’s focus phenomenon: consumer emotions. Emotional experiences are highly subjective, and
difficult to assess objectively. A quantitative survey approach has limitations in capturing the full emotional experience as it is subjectively felt by consumers. Moreover, there are likely to be differences among respondents in how easily they can express their emotional responses with questionnaire items. Thus, the emotion variables that were assessed in this study represent approximations about how consumers believe they would feel in particular contexts, and relatively enduring affective predispositions rather than intensively felt momentary emotional experiences. Furthermore, another limitation is related to the stimuli that were used for emotion-elicitation. The emotional responses were elicited in response to specifically defined concepts and contexts that were described in writing. However, in actual consumption contexts a wide variety of situational factors and mental associations are integrated in consumers’ psychological processes that result in emotion elicitation. Thus, the findings should be considered as providing insights on patterns in emotional responses and influences that potentially emerge in association with particular contextual features, but each actual consumption context encompasses unique characteristics that can alter the emotional phenomena that are involved in the context.

Certain study limitations are brought forth also concerning the variables that were available for the empirical investigation. In the assessment of the influences of emotional ambivalence, the assessment of subjective emotional ambivalence along with objective emotional ambivalence would have allowed for gaining a more detailed understanding about the role of subjectively felt internal conflict in the discovered effects. On the other hand, the third essay of the study that addressed emotional influences in the context of the GM of food has research limitations in that it assessed only the influences of negative emotions. Thus, the findings fail to account for the possible counter influences of positive emotions and beliefs, for example, or the role of ambivalence in consumers’ perceptions of and responses towards GM foods.

The findings of this study give rise to several potential avenues for future research in the domain of food consumption. One intriguing future direction is to assess, whether different previously identified food-related contradictions, such as between health and indulgence, economy and extravagance, care and convenience, tradition and novelty, and others and the self, are associated with the aggregate level contradiction between prevention and promotion orientation in goal pursuit. This would imply that the encountering of these contradictions in food choice contexts is also potentially characterized with an emotional pattern that has certain consistency across the substantively distinct contradictions. Given that such patterns exist, the investigation of the way that consumers cope with the characteristic emotional responses would provide new insights into consumers’ strategies to deal with food-related contradictions. Another direction for future research in the domain of food-related contradictions is to assess the ways that consumers deal with emotional ambivalence under different food-related contexts. For instance, it is argued that the level of decision involvement is a factor that may differentiate consumers’ strategies to cope with the emotional ambivalence induced by food-related contradictions that are encountered. Furthermore, future research should investigate if the purposeful activation of emotional ambivalence can be used to inhibit undesirable food-related behaviours. The proposition of
the hedonic asymmetry in food consumption should also be elaborated further by investigating if the presence and absence of positive emotions, rather than the presence and absence of negative emotions is indeed a dominant emotional influence in food purchase decisions. It is also suggested that the association between consumers’ food consumption motives and discrete emotions should be investigated more thoroughly. This would be beneficial for gaining a better understanding of the nature of the emotional gratification that consumers gain from different forms of food consumption. Moreover, the investigation would also benefit from the understanding of the efficiency of different types of emotional appeals that can be used to guide consumers’ food choices towards desirable directions.
References


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