MASTER THESIS

INVESTIGATING THE INFLUENCE OF PRODUCT FAMILIARITY ON SHAPE SYMBOLISM IN FOOD SHOPPING

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EXECUTIVE SUMMARY

Based on the evaluations of five different yoghurt brands, each presented in two different packaging shapes, this research investigated whether people with higher product familiarity scores were less receptive for product information transmitted by shape symbolism. The data were collected by the means of an online survey and analyzed using a multiple regression approach. The study offers mixed results regarding the role of product familiarity for shape symbolism. In some conditions, it is indicated that participants who scored higher in product familiarity, were more receptive for shape symbolism. The results of this thesis suggest that shoppers with low product familiarity will be less likely to predict changed product characteristics after the packaging shape was alternated. Frequent buyers, who are very familiar with a product may however expect that the product characteristics have changed. The obtained results close a research gap as the connection between shape symbolism and product familiarity have been assumed, but not investigated to this point.

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1 INTRODUCTION

As for the domain of marketing, it is widely acknowledged that packaging holds a decisive role in consumer purchase decisions (Bloch, 1995; Deng & Kahn, 2009; Limon, Kahle, & Orth, 2009; Metcalf, Hess, Danes, & Singh, 2012; Orth & Malkewitz, 2008). Both graphical and structural components of packaging serve as a source of information for the consumer (Ampuero & Vila, 2006) and can be used in order to generate expectations as extrinsic cues regarding a product's attributes (Deliza & MacFie, 1996; Olson & Jacoby, 1972; Underwood, Klein, & Burke, 2001). These communication functions of packaging are seen as of central importance as researchers suggest that consumers only spend very limited time on purchase decisions for non-durable goods, such as groceries (Burke, Harlam, Kahn, & Lodish, 1992; Hoyer, 1984; Rebollar, Lidón, Serrano, Martín, & Fernández, 2012; Schoormans & Robben, 1997).

While packaging has several graphical and structural components, which may serve as extrinsic cues about the product, this thesis will be concerned with shape symbolism as one form of generating insights from structural components of packaging. In shape symbolism, which is widely acknowledged in the scientific community, the form of the packaging influences the perception and thus the expectations consumers have about a product (Ampuero & Vila, 2006; Deliza & MacFie, 1996; Fenko, Schifferstein, & Hekkert, 2010). As shape symbolism is supposed to be a powerful communicative channel, it is according to Spence (2012), one important element of a successful packaging design strategy.

The consumers' consideration of visual clues provided through packaging shape (shape symbolism) might, as Becker, van Rompay, Schifferstein, and Galetzka (2011) claim, be due to a lack of information (e.g. never tasted the yoghurt in question before) and an insufficient opportunity to evaluate the intrinsic attributes of the products (e.g. taste of a yoghurt) in the store (Underwood et al., 2001; Zeithaml, 1988). Consumers are suggested to make use of extrinsic cues like packaging shape if they are uncertain and unfamiliar with the product (Becker et al., 2011; Fenko et al., 2010; Underwood, 2003).

Despite the presented view on packaging and shape symbolism, little scientific research was conducted on how familiarized and non-familiarized shoppers evaluate

the shape of packaging in relation to characteristics of the content. Scholars suggest that consumers who have little or no expertise (and in consequence a low degree of product familiarity, following the definition provided by Herrera and Blanco (2011)), are uncertain about the products they consider buying and thus will mostly rely on extrinsic cues like shape symbolism (Becker et al., 2011; Fenko et al., 2010; Underwood, 2003), when evaluating an unknown product.

The conducted research intents to scientifically evaluate the assumption that consumers, who show low levels of product familiarity, will rely on shape symbolism in order to evaluate unknown products. This interrelation is currently being assumed by researchers (Becker et al., 2011; Fenko et al., 2010; Underwood, 2003), however, it has not been scientifically proven. Furthermore, this prominent assumption can be challenged with regards to research results on product familiarity. For the construct of product familiarity, it is assumed that a higher degree of product familiarity reduces effortfulness and frees up cognitive resources of the consumers, which in consequence allow more analytical processing to take place (Zhou & Nakamoto, 2007). In consequence, the assumption by Becker et al. (2011) may head for the wrong direction and a consumer with high product familiarity might pay more attention and use shape symbolism more frequently compared to consumers with low familiarity levels.

When looking at food shopping in particular, taste expectations are very important for purchase decisions. When consumers are familiar with a food product, they know what to expect in terms of taste and consistency of the product. However, if a shopper is not familiar with the food item and cannot try it at the point of sale, the consumer is likely to draw conclusions about the properties of the food product from external clues like the shape of the packaging – in other words: they make use of shape symbolism to assess the product in question. (Becker et al., 2011; Deliza & MacFie, 1996). Shape symbolism can be seen as a powerful tool, as it is appears to be universal and shared by people all over the world and is assumed to work on a subconscious level (Spence, 2012).

Literature suggests a high importance of packaging design for low involvement products, as consumers are likely to base their purchase decisions on visual clues of the packaging when they do not have previous experiences with the product or cannot

try the product at the point of sale (Becker et al., 2011; Bloch, 1995; Crilly, Moultrie, & Clarkson, 2004; Fenko et al., 2010; Underwood, 2003).

However, although researchers suggest that consumers make use of extrinsic cues from packaging (shape symbolism) when they are not familiar with the product (Becker et al., 2011; Fenko et al., 2010; Underwood, 2003), this assumption has not been researched.

The proposed research aims to shed light into the power of packaging shapes, as one structural component of packaging (Ampuero & Vila, 2006), and wants to investigate whether product familiarity affects the degree to which consumers rely on shape symbolism to generate expectations when purchasing grocery products.

The preceding remarks lead to the following research question that this master thesis addresses: **'To what extent does product familiarity affect the degree to which consumers rely on shape symbolism to generate expectations when purchasing grocery products?'**

The data to answer this research question were captured using an online survey in which respondents where shown a number of manipulated yoghurt cups, which they were asked to rate according to their expected taste and texture. As this study controlled for the familiarity level with the shown yoghurt cups, conclusions can be drawn whether or not product familiarity has an effect on the derived sensory expectation from the packaging. This thesis is based on a convenience sample which contained data from 110 respondents. The respondents were recruited from fellow students, friends and extended family of the author. As yoghurt is a very common food product, no specific participant quotation was applied. In order to answer the research question, the data were analyzed using a multiple regression approach.

Packaging activities are often viewed as additional costs and not as an additional value to the product (Azzi, Battini, Persona, & Sgarbossa, 2012). When reconsidering the role of packaging, it becomes clear that changing an already existing package to better please the consumer as one chain of the distribution chain, comes along with enormous effort, which may affect all members of the distribution chain (Simms & Trott, 2010). Changes in packaging, whether the objective is to improve its marketing function or its logistic function will always come with tradeoffs (Azzi et al., 2012; Simms & Trott, 2010).

While for products which enjoy a positive image with consumers, a packaging redesign that pushes the product out of the categorization boundaries should be avoided, changes of packaging may generate new attention to a product already available on the market for a long time (Lee, 1995; Schoormans & Robben, 1997). Detractors often view packaging alternation as too costly. However, due to recent developments in packaging technology, changes in packaging shape are cheaper than ever before (Spence, 2012).

There are several reasons that the gained knowledge about the effect of product familiarity on the degree that consumers rely on shape symbolism to generate expectations about products is of relevance for researchers as well as the food industry:

The scientific community will benefit from the results of this study, because this work will close a research gap as a possible influence of familiarity on shape symbolism is currently assumed but has not yet been verified. In addition, this thesis will shed light in consumers' purchase behavior for food products.

For the food industry, changes in the market structure may bring the need to alter the shape of a packaging. Research conducted by Argo and White (2012), as well as Chandon and Ordabayeva (2009), indicate that one of the recent trends for food products is the offering of smaller sized packaging with a reduced portion size, which actually drives up sales of hedonic food products. A plain downscale of the normal size packaging in all three dimensions would not signal the smaller portion size of the new packaging as size impression are biased – in this case shape changes of the packaging may help and support communication (Chandon & Ordabayeva, 2009). The proposed research would support industry considerations as the effect of the altered shape on existing customers, that already buy the larger packaging, could be

predicted. Through designated actions like further shape changes, producers then could ensure that existing consumers would also purchase the new and smaller packaging with higher profit margins.

Another practical implication of this research can be seen for current packagings which might not hold a product with the same characteristics as the appearance of the packaging may suggest. This leaves a disappointed consumer, who is not likely to buy the product again (Deliza & MacFie, 1996). In order to address this issue, Löfgren (2005) divided the interaction between product and consumer in two essential moments of truth (before purchase and after consumption). Löfgren's concept and its impact for well-designed packagings will be discussed as part of the literature review. As minor shape changes can also result in significantly improved perception and sales, changes in packaging should be considered (Janiszewski, 1998; Pieters & Warlop, 1999).

This study might contribute information that consumers who are familiar with the product (have tasted it before) and were disappointed, might try the product again in an alternated packaging, as it will communicate different sensory expectations and thus please the consumer more than the old 'version'.

For the revitalization of a brand, a new packaging may however not only draw new attention to the product at the point of sale, but also change consumer evaluations of the product (Schoormans & Robben, 1997). Schoormans and Robben (1997) hence suggest to moderately alter the packaging to draw new attention, change evaluations and, at the same time, avoid negative evaluation of the packaging. In the case of a revitalization by altering the packaging shape, this thesis will offer insights on the behavior of the existing consumers who might hesitate to purchase the new packaging because it communicates different sensory expectation or if their high degree of product familiarity will lead them to expect the same product in the container as in the previous, familiar, packaging.

The following chapter (THEORIES AND CONCEPTS) will review the fundamental literature and thus broaden the understanding of packaging and shape symbolism as well as introduce the reader to the concept of product familiarity. The METHODOLOGY-section will present the research approach pursued in this thesis and explain how the collected data were processed. The outcomes of the statistical analyses conducted on

the questionnaire data are presented in the section RESEARCH RESULTS. The chapter CONLUSION AND DISCUSSION will then describe the interpretation of the research data, name limitations of the study and offer suggestions for further research activities in the field of shape symbolism. For the questionnaire employed in the study and the variable derivation, please refer to the APPENDIX.

2 THEORIES AND CONCEPTS

The two central concepts which are brought together in this research is the theory of shape symbolism, which is concerned with derivation of assumed product characteristics through the shape of the packaging, and on the other side, the construct of product familiarity, which captures the consumer's experience with a product. In the following chapter both concepts are introduced.

2.1 SHAPE SYMBOLISM

The buying behavior of consumers is, as Pieters and Warlop (1999) put it, affected by visual stimuli like packaging. Before the concept of shape symbolism is elaborated in detail, the importance of vision for product perception is summarized.

Berkowitz (1987) and Young (2008) suggest that preference starts with visual perception. However, the dominance of vision for product evaluations has been discussed controversially (Creusen & Schoormans, 2005; Fenko et al., 2010; Schifferstein, 2006; Schifferstein & Cleiren, 2005; Schifferstein, H. N. J. & Desmet, P. M. A., 2007; van Rompay, Pruyn, & Tieke, 2009).

Whereas Fenko et al. (2010) approach the topic of sensory dominance from a time perspective, Schifferstein (2006) investigates the effect of product categories on sensory dominance.

While product experiences are always to be regarded as multisensory, research suggests that the dominance of a particular sensory modality depends on the period of product usage (Fenko et al., 2010). Vision is traditionally seen as the most important sense which provides the consumer with the most detailed information about the product at a rapid speed and its role in purchase decisions is widely supported (Bloch, 1995; Crilly et al., 2004; Fenko et al., 2010; Schifferstein & Cleiren, 2005; Schifferstein, H. N. J. & Desmet, P. M. A., 2007), However visions prominent position is now challenged.

Data collected by Fenko et al. (2010) suggest that the importance of vision varies over different episodes of product usage. At the time of purchase, results indicate that vision is the most important modality. Reasons for that may lay in the fact that the possibility to explore most products at the store is limited. Looking at the product or its packaging is often the only way to explore the product before making a purchase. After the actual purchase, many respondents of the study claimed that the dominant modality changed. Fenko et al. (2010) thus suggest, that after the product was purchased, the dominant modality depends on the primary function of the product: a guitar has to sound good, food has be tasty. Those variations are being explained by changes in product-user interaction. As most products are not bought for pure visual enjoyment, the importance of vision declines after the purchase (Fenko et al., 2010).

The previously elaborated research results fit together nicely with the concept of the 'moment of truth' which was introduced by Löfgren (2005). Based on this work, products and their packages have two main interaction points with the consumer, which are key factors for consumer purchase and judgment of the product. While the first moment of truth is concerned with the buying decision, the second moment of truth is related to the consumption of the product.

According to Löfgren (2005) the first moment of truth deals with the communicative ability of the product package to inform the consumer of the product's benefits and its ability to draw the consumer's attention. The consumer has to be able to derive from the packaging what he is actually buying – the package thus has to provide the right information about the product and drives decision making (Becker et al., 2011; Löfgren, 2005). During the first few seconds of package-consumer interaction in the store, the package has to function as a silent salesman (Judd, Aalders, & Melis, 1988; Löfgren, Witell, & Gustafsson, 2008). During this first moment of truth, where the attention is centered on the package, vision plays an important role.

Thus merging the views of Fenko et al. (2010), Löfgren (2005) and Löfgren et al. (2008), vision can be regarded as the dominant modality for the first moment of truth. Industry seems to have recognized the importance of the first moment of truth and in-store-packaging importance. One example for this development can be seen in Procter & Gamble's appointment of a "Director of the First Moment of Truth" (Stilley, Inman, & Wakefield, 2010).

The second moment of truth usually does not take place at the store but when and where the actual product (and not the packaging) is consumed (Löfgren, 2005). During the second moment of truth, the package has to facilitate easy use and hold to product promises that the packaging made (Löfgren et al., 2008). In the case of yoghurt packaging, the second moment of truth would be the taste of the yogurt itself. Here it is important that the informational service provided by the packaging about the taste of the product holds true. If the package communicated the right product expectations (e.g. creaminess), the consumer is likely to be happy with the product (Spence, 2012). However, when the package raises disconfirmed taste expectations, long lasting negative consequences might occur for consumption and perception of the product (Spence, 2012; Yeomans, Chambers, Blumenthal, & Blake, 2008).

Taking the second moment of truth into account, it is important to better understand how consumers perceive and evaluate products on the basis of their packaging. Adequate packaging design ensures more effective communication and more satisfied consumers (Gelici-Zeko, Lutters, Klooster, & Weijzen, 2013).

Schifferstein's research, however, did not investigate the dominant modality during the purchase phase, but the dominant modality during product use. Hence, vision can still be seen as the probably most important modality during the purchase stage, also for food products. This argument was recently confirmed by Schifferstein, Fenko, Desmet, Labbe, and Martin (2013). In their study, researchers investigated the effect of package design on food experience. Their data support the hypothesis that for food products, vision is the most important modality in the buying stage as 85.1% of all respondents look at the packaging in order to determine what to expect of a product (in terms of taste and ingredients) (Schifferstein et al., 2013). Consequently, the expected taste is being imagined at the store, even though no tasting of the product is possible.

Vision is regarded the most important factor in the buying stage. However, as food products usually cannot be tasted at the store before the purchase is made, the product impression has to be seen as incomplete, because the shopper does not know what the exact taste of the product will be like (Deliza & MacFie, 2001).

Schifferstein and Spence (2008) propose that when tasting the product before the actual purchase is not possible, other (available) sensory inputs (for example vision)

can be used to create a cross-modal illusion in order to compensate for the missing sensory input of product taste. Cross-modal illusion here can be defined as the tendency that attributes or sensory features, of a product which appears in one sensory modality of the product, can be matched or associated with an attribute or feature in a different sensory modality (Parise & Spence, 2012). In case that the available sensory modality is vision, the process of drawing inferences from the shape of the food packaging about the taste of the product can be titled as shape symbolism. In more general terms: Shape symbolism refers to the cross-modal mapping between abstract shapes and other sensory attributes of a product (Spence, 2012). Consequently, shape symbolism can be used to create (appropriate) sensory expectations for products, or may even mislead consumers in their expectations, which will probably leave them disappointed about the product (Schifferstein & Spence, 2008; Spence, 2012). Shape symbolism can be seen as a powerful tool as it is appears to be universal and shared by people all over the world and is assumed to work on a subconscious level. It has to be concluded that shape symbolism is to be regarded as one important element of a successful packaging design strategy (Spence, 2012)

When buying an unfamiliar yoghurt, the taste is usually imagined beforehand, right at the point of purchase. A mental image of what the product would be or taste like, is created and can be regarded to be of central importance for products that cannot be experienced physically at the store (Schifferstein & Spence, 2008). Schifferstein and Spence (2008) propose that, as taste cannot be used in this situation, another available sensory input (for example vision) can be used to create a cross-modal illusion in order to compensate for the missing sensory input of taste. The process of matching an available product attribute (like packaging shape) in a certain sensory modality with a different attribute associated with another present or imagined sensory modality (taste) can be defined as cross-modal correspondence (Spence, 2011; Spence & Ngo, 2012).

Taste expectations are of great importance to food shopping and even if products cannot be tasted at the supermarket taste expectations are formed also using visual clues like packaging shape (Schifferstein et al., 2013; Spence, 2012). Packaging shape is, according to Deliza and MacFie (1996), one influencing factor on sensory evaluation which the consumer wishes to be confirmed when he actually tastes the product. It is suggested that, when the shape of a packaging matches the consumption experience (taste), a positive consumer experience is created which can make the

consumer decide to buy the product again. A dissonance between imagined and actual taste, however, is likely to leave a disappointed customer (Deliza & MacFie, 1996; Spence, 2012). Manufactures should therefore not only try to grab attention by packaging design but also to create sensory and hedonic expectations that match the product's actual characteristics (Ares & Deliza, 2010; Schifferstein & Spence, 2008; Spence, 2012).

Ares and Deliza (2010) showed that consumer expectations are depending on the shape of the packaging. Their data suggest that for the tested yoghurt cups round packaging shapes were associated with runny, whereas square packaging lead the consumers to the assumption for a rather thick dessert. This insight is supported by Becker et al. (2011) who demonstrate that packaging shape can influence product expectations and even taste perceptions as angular shapes seem to trigger more intense taste perceptions in consumers. The process of picking up cues from packaging shape may not be on a fully conscious bases, as it is suggested by Gelici-Zeko et al. (2013).

2.2 PRODUCT FAMILIARITY

The concept of product familiarity refers to the degree of expertise that a consumer has with a certain product (Herrera & Blanco, 2011). Alba and Hutchinson (1987) argue that familiarity is defined as the number of product related experiences which the consumer has already experienced. As a result, the familiar consumer has gained understanding of the product and its characteristics. Product familiarity commonly results in a reduction in consumer decision-making and product usage (Alba & Hutchinson, 1987). At the same time it is suggested, that product familiarity reduces effortfulness and frees up cognitive resources of the consumer, which in consequence allow more analytical processing to take place. It is suggested that consumers with a high product familiarity pay more attention to changes to the product as consumers with low familiarity levels do (Zhou & Nakamoto, 2007).

3 RESEARCH HYPOTHESES

It is suggested that consumers are likely to base their purchase decisions on visual clues of the packaging when they do not have previous experiences with the product or cannot try the product at the point of sale (Becker et al., 2011; Bloch, 1995; Crilly et al., 2004; Fenko et al., 2010; Underwood, 2003). However, this assumption has not been researched. This thesis aims to investigate whether the assumption that consumers low in product familiarity will more often turn to extrinsic clues from packaging shape for product evaluation than highly familiar consumers is true.

The null hypothesis (H_0), which is aimed to be rejected in this research, states that product familiarity has no impact on the degree to which consumers derive information using shape symbolism:

H_0: *It is hypothesized that product familiarity will have no impact on the degree to which consumers derive information using shape symbolism when evaluating a food product.*

Next to the null hypothesis, three alternative hypotheses are formulated. While H_1 is a non-directional hypothesis and thus only states that an effect of product familiarity on the degree of which consumers derive information using shape symbolism exists, hypotheses H_{2a} and H_{2b} aim to indicate the direction of the effect (Field, 2009).

It is widely acknowledged that packaging shapes influence the consumers perception and therefore also expectations about a product (Ampuero & Vila, 2006; Becker et al., 2011; Deliza & MacFie, 1996; Fenko et al., 2010). Additionally, several scholars suggested that consumers make use of implicit product information like packaging shape, when information on the product in question is incomplete or missing entirely (Becker et al., 2011; Deliza & MacFie, 2001). This leads to hypothesis H_1 which suggests that the degree of product familiarity will have an impact on the extent to which consumers rely on external cues:

H_1: *It is hypothesized that product familiarity will have an impact on the degree to which consumers derive information using shape symbolism when evaluating a food product.*

Hypothesis H_{2a} now suggests an effect-direction for the relationship of product familiarity and the amount of information derived from shape symbolism. As other researchers suggest, consumers rely on external cues, when they cannot dispose over other product information (Deliza & MacFie, 2001; Underwood et al., 2001). Hence it is hypothesized that, the more familiar a person is with a product, the less information he will derive from the symbolic shape of product packaging:

H_{2a}: *It is hypothesized that consumers with high product familiarity will derive less information from the shape of a product packaging when evaluating a food product.*

Other studies revealed that consumers with high product familiarity derive more information form shape symbolism, as they pay more attention to changes than consumers with low familiarity levels do (Zhou & Nakamoto, 2007).

Thus H_{2b} is being employed:

H_{2b}: *It is hypothesized that consumers with low product familiarity will derive less information from the shape of a product packaging when evaluating a food product.*

4 METHODOLOGY

It comes with advantages to conduct this study on the effect of product familiarity within the field of fast moving consumer goods – more concrete using yoghurt packaging. As for most food products, the packaging is inseparable from the product and its core benefit (Simms & Trott, 2010). In the case of yoghurt, one can go even further and say that the product itself is shapeless. Yoghurt may have a certain texture to it, it may contain fruits or it may not, but when it comes down to its shape, yoghurt itself is rather fluent and the 'shape' of the product 'yoghurt' is highly dependent on its packaging. Consumers may also experience a strong connection of the yoghurt and its packaging as it is in most cases consumed directly out of the container (Deng & Srinivasan, 2013). Another beneficial circumstance that eases the study, is that yoghurt is usually sold in primary packaging and a secondary packaging only exists in some cases, when several yoghurt cups are sold in a small bundle, which is held together by an additional cardboard layer.

Furthermore, this thesis will benefit from existing literature that is concerned with shape symbolism in yoghurt cups. Researchers like Ares and Deliza (2010) have demonstrated that expectations of a yoghurt's sensory qualities were depending on the shape of the packaging. Their data suggest that for the tested yoghurt cups round packaging shapes were associated with runny, whereas square packaging lead the consumers to the assumption for a rather thick dessert. This insight is supported by Becker et al. (2011) who demonstrate that packaging shape can influence product expectations and even taste perceptions as angular shapes seem to trigger more intense taste perceptions in consumers. The process of picking up cues from packaging shape may not be on a fully conscious bases as it is suggested by Gelici-Zeko et al. (2013).

4.1 RESEARCH DESIGN

As the purchase of fast moving consumer goods generally is of low involvement levels, decision-making at the store is likely to be carried out without paying much attention and hence mostly subconsciously (Gelici-Zeko et al., 2013). For practical reasons this study was conducted using an online survey which facilitated fast response times and low costs (Ilieva, Baron, & Healey, 2002). Respondents were shown a number of manipulated yoghurt cups which they were asked to rate according to their expected taste and texture. As the study controlled for the familiarity level of the shown yoghurt cups, conclusions were drawn, about whether or not product familiarity had an effect on the derived sensory expectation from the packaging.

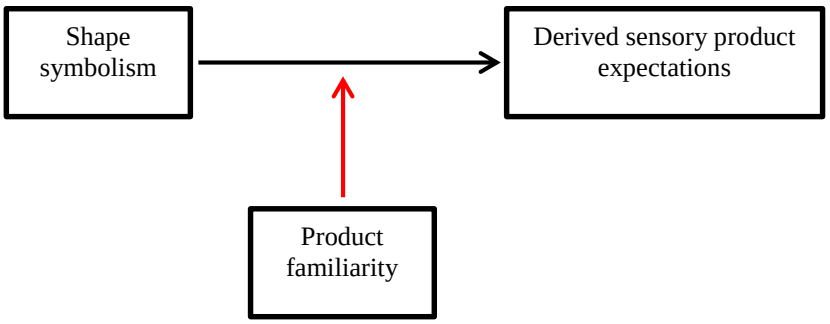

Figure 1: Research framework

This thesis is based on a convenience sample with a number of 110 completed questionnaires. Participants were recruited from fellow students, friends and extended family of the author. Additionally, respondents were asked to share the survey link with their friends and families. It is estimated that approximately 50% of the valid replies were generated through referrals of participants. Since the survey is aimed at investigating shape symbolism in food products and yoghurt is a very common food product in Germany, no specific participant quotation was applied. As German yoghurt brands will be used as references, the survey was only administered in German. An English version however is available in the APPENDIX.

4.2 RESEARCH PROCEDURE

The participants of the study were presented an online questionnaire which took approximately ten to fifteen minutes to complete. During the questionnaire the respondents were asked to rate several yoghurt cups according to their expected taste and texture. Texture and taste adjectives were derived from Ares and Deliza; Bayarri, Carbonell, Barrios, and Costell; Bouteille et al.; Pohjanheimo and Sandell (2010; 2011; 2013; 2009) and each represents two sides of one dimension. The yoghurt cups were displayed in a picture right below the question. Respondents were asked to rate the shown yoghurt cup on a bi-polar 10-point Likert-scale. The texture dimension extends from ‘creamy’ to ‘runny’. The taste dimension which the respondents had to estimate, reached from ‘sweet’ to ‘sour”. The assessment was carried out using five different yoghurt brands, three of which German participants should have been familiar with, one existing brand that is rather unknown in Germany and one fictional yoghurt brand that the author of this study invented and thus should score very low familiarity levels.

All brands were presented in two different, manipulated versions. One round and one square, both with white body and labeled lit. These questions measured the taste and texture expectation for the 5 different brands.

Original cup: Manipulated cup (round): Manipulated cup (square):

Figure 2: Three different versions of a ‘Der grosse Bauer’ packaging

It was carefully chosen to only use a labeled lid, as researchers suggest that changes in branding composition (i.e. the implementation of pictures and branding on the actual

cup) will result in altered product perception (Otterbring, 2013). Since the round as well as the square yoghurt cup offer different surfaces, the yoghurt's labeling would have to be adapted to fit the cups, resulting in slight changes in labeling composition. By leaving the body of the cup entirely white and relying on the lid as labeling space, the author avoids a potential distortion of results.

The effect which shape symbolism has on the taste and texture expectation is calculated as the absolute value of the evaluation change resulting from the respondent's expectations between the round and the square packaging.

Furthermore, the study controlled for variables that may also affect the dependent variables, but which are not in the center of this research. The following variables were imposed:

- Frequency of yoghurt consumption (in general)
- Frequency of yoghurt consumption (for all tested brands)
- Product familiarity with tested yoghurt brands
- Product involvement and purchase decision involvement for yoghurt
- Bloch's Centrality of visual product aesthetics (CPVA)
- Design typicality of tested yoghurt cups
- Big-Five Traits
- Gender, Age, marital status, highest education level, occupation
- Household size and number of children within household, household income
- Importance of product information, attitude towards health and food
- Attitude towards price-quality relation, joy of shopping

Please refer to the APPENDIX for a detailed explanation of the variables and their convergence into items used in the questionnaire.

Using the research results of Ares and Deliza (2010), who suggest that yoghurt served in round packagings is expected to be creamy while such served in square packaging was expected to be runny, the following conclusions can be drawn from this thesis.

4.3 DATA ANALYSIS

In order to analyze the collected research data, IBM's Statistical Package for the Social Sciences (SPSS 22) was used. This section will provide you with an overview of the analysis process.

For this thesis, three assumptions of multiple regression, namely multicollinearity, homoscedasticity and normal distribution were investigated. If these assumptions are not met, regression results may not be reliable and could result in an over- or underestimation of effect sizes and significance or type I, respectively type II errors (Osborne & Waters, 2002).

Multicollinearity refers to the 'instability' of the regression coefficient, which results from dependencies of the predictor variables of the regression (Bortz & Schuster, 2010). In consequence, multicollinearity can be seen as a serious threat to calculations carried out in regression analysis (Farrar & Glauber, 1967). In order to check for multicollinearity between the predictor variables, bivariate correlation analysis was run on all independent variables. The correlation coefficients were manually checked for perfect multicollinearity which was not found in the dataset. However the predictor variables V11 (product involvement) and V13 (frequency of general yoghurt consumption) were condensed into the new predictor variable V43 (product involvement extended). Their initial correlation ($r(108) = .77$, $p < 0.01$), was not considered too high, but as this thesis contains too many predictor variables, both items were merged. In order to conduct this procedure, V13, which technically is an ordinal variable, was treated as a scale variable. Together represent the new variable 'Product involvement extended (V42)'.

Homoscedasticity is known as the equalness of variances of the y- values on a certain point of the predictor. Thus the variance of errors is equal across all levels of the independent variable (Bortz & Schuster, 2010; Osborne & Waters, 2002). In this research, homoscedasticity was investigated by plotting the standardized predicted values (*ZPRED) against the standardized residuals (*ZRESID) (Bortz & Schuster, 2010; Field, 2009; Osborne & Waters, 2002).

Additionally, n*ormal distribution* was investigated by using the Kolmogorov-Smirnov Test (Osborne & Waters, 2002). The Kolmogorov-Smirnov Test indicates that the variable distribution deviates from a normal distribution when the test statistic is significant and can be employed even with small sample sizes (Field, 2009; Lilliefors, 1967).

The questionnaire yielded 110 observations. A maximum of eleven independent variables were investigated, by applying the 10 cases per predictor rule (Harris, 2001; Van Voorhis & Morgan, 2007). In order to further reduce the high number of control variables in this study, predictor variables, which had a lower correlation than -0.1, respectively 0.1 with the dependent variables, were not taken into consideration. Predictors were manually rotated and selected based on their overall contribution (R^2) to the regression model.

The dependent variables were checked for outliers using the 3-sigma-rule (Pukelsheim, 1994). All determined outliers were excluded from further analysis.

5 RESEARCH RESULTS

5.1 SAMPLE CHARACTERISTICS

The sample from which the raw data were generated, included110 respondents. 44 % of the participants were male, 56 % female. Most respondents (53 %) were aged between 21 and 29 years. Each of the age groups of '30-39', '40-49' and '50-59' years as well as '60 years and above' accounts for approximately 11 % of the sample size. Around two thirds of the respondents (63.6 %) hold at least a bachelor's degree, 35.5 % obtained a master degree and 6.4 % of the participants held a PhD. Most respondents were employed (57.3 %), 30 % were students with or without side jobs. The majority of the participants was single (64.5 %), around one third (30 %) was married. More than 75 % of the respondents lived together with one to three other persons, slightly less than 22 % lived on their own. Regarding product involvement with yoghurt, the participants showed a mean of 3.58 (*SD* = 1.09), while 62.7 % consumed yoghurt at least once a week or daily. 13.6 % of the respondents included in the sample ate yoghurt less than once a month and an additional 2.7 % did not consume yoghurt at all.

The following sub-chapters will separately present the results for the five surveyed yoghurt brands. The results will be interpreted with regard to the research hypothesis in the CONCLUSION-section.

5.2 RESULTS ‚BAUER'-YOGHURT

In order to investigate homoscedasticity, a scatterplot of the standardized predicted values (*ZPRED) against the standardized residuals (*ZRESID) has been carried out. The scatterplot did not indicate heteroscedasticity for dependent variables 'V23_non_outliers' (creamy vs. runny) and 'V28_non_outliers' (sweet vs. sour). A One-Sample Kolmogorov-Smirnov Test indicated that all variables employed in the model below were below $p < 0.05$. The variables thus deviate from a significantly normal distribution. The interpretation of the results thus is limited. When using bivariate correlation analysis, no multicollinearity between predictor variables was detected.

5.2.1 TEXTURE DIMENSION (CREAMY VS. RUNNY)

In the texture dimension, participants were asked to rate two 'Bauer' yoghurt cups – one round shaped and one square shaped cup – according to their expected texture on a scale ranging from creamy to runny. The absolute value of the difference between the ratings of the round and the square cup was interpreted as the influence of different packaging shapes.

Multiple regression analysis was conducted in order to examine the relationship between the texture expectation differences and a set of eight predictors. The regression model, however, was not significant ($r^2 = .12$, $F(8,81) = 1.22$, $p = .30$). In turn none of the predictors of the regression model reached statistical significance. Although they cannot be considered significant, a statistical trend was found for 'product familiarity' with the 'Bauer'-brand. Product familiarity showed a trend towards being a positive predictor of the experienced delta between the packaging shapes ($\beta = .20$; $t = 1.67$, $p = .10$).

Regression model: Bauer-yoghurt (texture dimension)					
	b	**SE**	**β**	**t**	***p***
Constant	1.367	1.096		1.247	.216
Product familiarity Bauer	.125	.075	**.200**$^{+}$	1.674	**.098**
Product involvement extended	-.281	.183	-.217	-1.534	.129
Purchase decision involvement	-.125	.186	-.091	-.670	.505
Gender	.477	.332	.177	1.438	.155
Big Five (Factor: Extraversion)	-.168	.171	-.111	-.984	.328
Big Five (Factor: Agreeableness)	.246	.195	.145	1.261	.211
Marital status	.107	.222	.059	.483	.631
Number of children within household	-.323	.304	-.133	-1.063	.291

Notes. N = 81. r^2 = .118, F (8,81) = 1.219, p = .300. $^{+}$ p < .1; * p < .05; ** p < .01 *** p < .001.
Table 1: Regression model Bauer-yoghurt (texture dimension)

5.2.2 TASTE DIMENSION (SWEET VS. SOUR)

Likewise, participants in the taste dimension were asked to rate the two 'Bauer' yoghurt cups according to their expected taste on a scale ranging from sweet to sour. The absolute value of the difference between the ratings of the round and the square cup was interpreted as the influence of different packaging shapes (variable: 'Delta Manipulated Bauer sweet vs. sour').

A multiple regression was carried out investigating the predictive abilities of a set consisting of eight independent variables on the criterion variable in the taste dimension. The regression model was not significant (r^2 = .17, F (8,81) = 1.83), p = .09).

While the predictor 'product familiarity' did not reach statistical significance (β = .02; t = .14, p = .89), 'product involvement extended' was a significant negative predictor (β = -.28; t = -2.00, p < .05) for the absolute evaluation difference between the different yoghurt cups. Statistical trends were found for the 'Big Five' Factor 'Extraversion' (β = -.21; t = -1.95, p = .055) as well for the respondents' marital status (β = -.23; t = -1.91, p = .06).

Regression model: Bauer-yoghurt (taste dimension)					
	b	**SE**	**β**	**t**	***p***
Constant	1.681	.608		2.763	.007
Product familiarity Bauer	.006	.042	.016	.140	.889
Product involvement extended	-.203	.102	**-.275***	-1.995	**.050**
Purchase decision involvement	.087	.103	.111	.843	.402
Gender	.251	.184	.163	1.366	.176
Big Five (Factor: Extraversion)	-.185	.095	-.214	**-1.952**$^{+}$	**.055**
Big Five (Factor: Agreeableness)	.-.122	.108	-.126	-1.127	.263
Marital status	-.234	.123	-.225	**-1.905**$^{+}$	**.061**
Number of children within household	.247	.169	.178	1.465	.147

Notes. N = 81. r^2 = .118, F (8,81) = 1.830, p = .085. $^{+}$ p < .1; * p < .05; ** p < .01 *** p < .001.
Table 2: Regression model Bauer-yoghurt (taste dimension)

5.3 RESULTS 'DANONE'-YOGHURT

A scatterplot of the standardized predicted values (*ZPRED) against the standardized residuals (*ZRESID) has been plotted in order to investigate homoscedasticity of the data. The scatterplot indicates homoscedasticity for both dependent variables 'V24_non_outliers' and 'V29_non_outliers'. A One-Sample Kolmogorov-Smirnov Test was carried out in order to investigate the normal distribution of the variables. The interpretation of the results as such is limited. Aside from 'Bloch's CPVA Total Score' (p = .17) and 'Bloch's CPVA Factor: Acumen' (p = .20) which show normal distributions, all other variables indicate significance levels below p = .05 and thus are not normally distributed. By using bivariate correlation analysis, no multicollinearity between predictor variables was detected.

5.3.1 TEXTURE DIMENSION (CREAMY VS. RUNNY)

Participants were asked to rate two manipulated 'Danone' yoghurt cups – one round shaped and one square shaped cup according to their expected texture on a scale ranging from creamy to runny. The absolute value of this difference between the ratings of the round and the square cup are interpreted as the influence of different packaging shapes.

Multiple regression analysis was conducted in order to examine the relationship between the texture expectation difference and a set of nine predictors. The regression model was not significant (r^2 = .16, F (9,99) = 1.84, p = .07). However the variable 'Joy of shopping' (β = -.26; t = -2.42, p < .05) was a significant negative predictor for the dependent variable. Product familiarity (β = -.08; t = -.83, p = .41) as well as the other independent variables did not reach significance.

Regression model: Danone-yoghurt (texture dimension)

	b	**SE**	**β**	**t**	***p***
Constant	3.628	1.378		2.633	.010
Product familiarity Danone	-.124	.150	-.083	-.826	.411
Product involvement extended	-.226	.153	-.152	-1.476	.143
Bloch's CPVA (Factor: Acumen)	.327	.319	.208	1.026	.308
Big Five (Factor: Extraversion)	.001	.176	.000	.003	.997
Joy of shopping	-.405	.167	**-.256***	-2.422	**.017**
Household income level	.065	.094	.069	.689	.493
Assessment of typicality round cup	-.272	.166	-.161	-1.636	.105
Bloch's CPVA Total Score	-.197	.372	-.111	-.530	.597
Price-quality relation	.168	.203	.085	.829	.409

Notes. N = 99. r^2 = .155, F (9,99) = 1.836, p = .072. $^{+}$ p < .1; * p < .05; ** p < .01 *** p < .001.
Table 3: Regression model Danone-yoghurt (texture dimension)

5.3.2 TASTE DIMENSION (SWEET VS. SOUR)

Likewise, participants in the taste dimension were asked to rate the two 'Danone' yoghurt cups according to their expected taste. The rating scale ranged from sweet to sour. The absolute value of this difference between the ratings of the round and the square cup was interpreted as the influence of different packaging shapes (variable: 'Delta Manipulated Danone sweet vs. sour').

A multiple regression was carried out investigating the predictive abilities of a set consisting of nine independent variables on the criterion variable in the taste dimension. The regression model yielded to be not significant (r^2 = .14, F (9,99) = 1.67, p = .11).

The regression revealed, that the factor 'Acumen' from Bloch's CPVA did significantly predict the criterion variable (β = .47; t = 2.28, p < .05). Additionally, the regression indicated a statistical trend for 'product familiarity' (β = .19; t = 1.86, p = .07).

Regression model: Danone-yoghurt (taste dimension)

	b	**SE**	**β**	**t**	***p***
Constant	.305	.907		.337	.737
Product familiarity Danone	.183	.099	**.187**$^{+}$	1.855	**.067**
Product involvement extended	-.111	.101	-.114	-1.099	.275
Bloch's CPVA (Factor: Acumen)	.480	.210	**.466***	2.283	**.025**
Big Five (Factor: Extraversion)	-.126	.116	-.109	-1.088	.280
Joy of shopping	.075	.110	.073	.684	.496
Household income level	.084	.062	.137	1.348	.181
Assessment of typicality round cup	.123	.109	.111	1.125	.263
Bloch's CPVA Total Score	-.325	.245	-.280	-1.330	.187
Price-quality relation	-.132	.133	-.102	-.987	.326

Notes. N = 99. r^2 = .143, F (9,99) = 1.671, p = .108. $^{+}$ p < .1; * p < .05; ** p < .01 *** p < .001.
Table 4: Regression model Danone-yoghurt (taste dimension)

5.4 RESULTS 'EHRMANN'-YOGHURT

A scatterplot of the standardized predicted values (*ZPRED) against the standardized residuals (*ZRESID) suggests homoscedasticity for both dependent variables. While 'Bloch's CPVA Total Score'(p = .17) and 'Bloch's CPVA Factor: Acumen' (p = .20) show a normal distribution, a One-Sample Kolmogorov-Smirnov test suggests that all other variables show significance levels below p = .05 and thus cannot be considered normally distributed. The interpretation of the results, as such, is limited. By using bivariate correlation analysis, no multicollinearity between predictor variables was detected.

5.4.1 TEXTURE DIMENSION (CREAMY VS. RUNNY)

In the texture dimension, participants were asked to rate two 'Ehrmann' yoghurt cups – one round shaped and one square shaped cup – according to their expected texture on a scale ranging from creamy to runny. The absolute value of the difference between the ratings of the round and the square cup was interpreted as the influence of different packaging shapes.

Multiple regression analysis was conducted in order to examine the relationship between the texture expectation difference and a set of eight predictors. The resulting regression model was not significant (r^2 = .11, F (8,106) = 1.50, p = .17). In the presented regression model 'product involvement extended' significantly predicted the dependent variable (β = - .26; t = -2.47, p < .05). Furthermore, the Big Five factor 'Agreeableness' predicted significantly (β = .21; t = 2.08, p < .05). 'Product familiarity' did not turn out to be a significant predictor (β = -.03; t = -.31, p = .76).

Regression model: Ehrmann-yoghurt (texture dimension)					
	b	**SE**	**β**	**t**	***p***
Constant	1.049	1.233		.851	.397
Product familiarity Ehrmann	-.025	.081	-.033	-.306	.760
Product involvement extended	-.393	.159	**-.261***	-2.469	**.015**
Bloch's CPVA (Total Score)	.358	.380	.195	.941	.349
Big Five (Factor: Acumen)	-.157	.330	-.096	-.476	.635
Price quality relation	-.229	.187	-.120	-1.227	.223
Big Five (Factor: Agreeableness)	.419	.202	**.207***	2.079	**.040**
Big Five (Factor: Openness)	.144	.183	.083	.787	.433
Marital status	.177	.184	.095	.965	.337

Notes. N = 106. r^2 = .109, F (8,106) = 1.499, p = .167. $^{+}$ p < .1; * p < .05; ** p < .01 *** p < .001.
Table 5: Regression model Ehrmann-yoghurt (texture dimension)

5.4.2 TASTE DIMENSION (SWEET VS. SOUR)

Likewise, participants in the taste dimension were asked to rate the two 'Ehrmann' yoghurt cups according to their expected taste on a scale ranging from sweet to sour. The absolute value of the difference between the ratings of the round and the square cup was interpreted as the influence of different packaging shapes (variable: 'Delta Manipulated Ehrmann sweet vs. sour').

A multiple regression was calculated investigating the predictive abilities of a set consisting of eight independent variables on the criterion variable in the taste dimension. The regression model yielded to be significant (r^2 = .19, F (8,106) = 2.94, p < .01). The variable Bloch's CPVA 'Acumen' was a significant predictor (β = .49; t = 2.55, p < .05). Other significant predictions were made by 'Price quality relation' (β = - .21; t= -2.24, p < .05) and the Big Five factor 'Openness' (β = - .21; t = -2.05, p < .05). In addition, a statistical trend has been found for 'marital status' (β = - .177; t = -1.89, p = .06).

Regression model: Ehrmann-yoghurt (taste dimension)					
	b	**SE**	**β**	**t**	***p***
Constant	1.844	.657		2.806	.006
Product familiarity Ehrmann	.033	.043	.076	.753	.454
Product involvement extended	-.070	.085	-.083	-.826	.411
Bloch's CPVA (Total Score)	-.198	.203	-.192	-.976	.331
Big Five (Factor: Acumen)	.448	.176	**.491***	2.548	**.012**
Price quality relation	-.223	.100	**-.207***	-2.238	**.027**
Big Five (Factor: Agreeableness)	-.007	.107	-.006	-.065	.948
Big Five (Factor: Openness)	-.200	.097	**-.205***	-2.050	**.043**
Marital status	-.185	.098	**-.176**$^{+}$	-1.886	**.062**

Notes. N = 106. r^2 = .193, F (8,106) = 2.936, p = .006. $^{+}$ p < .1; * p < .05; ** p < .01 *** p < .001.
Table 6: Regression model Ehrmann-yoghurt (taste dimension)

5.5 RESULTS 'LANDLIEBE'-YOGHURT

The scatterplot of the standardized predicted values (*ZPRED) against the standardized residuals (*ZRESID) suggests homoscedasticity for both dependent variables. The One-Sample Kolmogorov-Smirnov Test suggests normal distribution of V19 (Bloch's CPVA Total Score, p = .17). The other variables from the models below, however, show significance levels below p = .05 and hence are not normally distributed. The interpretation of the results, as such, is limited. By using bivariate correlation analysis, no multicollinearity between predictor variables was detected.

5.5.1 TEXTURE DIMENSION (CREAMY VS. RUNNY)

In the texture dimension, participants were asked to rate two 'Landliebe' yoghurt cups – one round shaped and one square shaped cup – according to their expected texture. The bi-polar rating scale ranged from creamy to runny. The absolute value of the

difference between the ratings of the round and the square cup was interpreted as the influence of different packaging shapes.

Multiple regression analysis was conducted in order to examine the relationship between the texture expectation difference and a set of ten predictors. The regression model, however, yielded to be highly significant (r^2 = .27, F (10,102) = 3.33, p < .00). While two predictors were statistically significant, a trend was recognized for two additional predictors. 'Product involvement extended' (β = - .35; t = -3.47, p < .00) as well as the Big Five factor 'Agreeableness' (β = .29; t = 3.05, p < .01) were significant predictors for the dependent variable. Insignificant trends were found for 'Education level' (β = -.18; t = -1.95, p = .06) and 'Importance of product information' (β = -.18; t = -1.80, p = .07).

Regression model: Landliebe-yoghurt (texture dimension)

	b	**SE**	**β**	**t**	***p***
Constant	3.583	1.602		2.237	.028
Product familiarity Landliebe	.134	.081	.172	1.658	.101
Product involvement extended	-.575	.166	**-.354*** **	-3.472	**.001**
Bloch's CPVA (Total Score)	.199	.191	.103	1.042	.300
Importance of product information	-.329	.183	**-.178**$^{+}$	-1.804	**.074**
Age	.126	.103	.115	1.215	.228
Education level	-.251	.129	**-.181**$^{+}$	-1.946	**.055**
Health and food attitude	-.104	.221	-.046	-.472	.638
Price quality relation	-.160	.195	-.077	-.821	.414
Big Five (Factor: Agreeableness)	.614	.202	**.292****	3.046	**.003**
Joy of shopping	-.010	.181	-.006	-.055	.956

Notes. N = 102. r^2 = .266, F (10,102) = 3.327, p = .001. $^{+}$ p < .1; * p < .05; ** p < .01 *** p < .001.
Table 7: Regression model Landliebe-yoghurt (texture dimension)

5.5.2 TASTE DIMENSION (SWEET VS. SOUR)

Participants in the taste dimension were instructed to rate the two 'Landliebe' yoghurt cups according to their expected taste on a scale ranging from sweet to sour. The absolute value of the difference between the ratings of the round and the square cup is interpreted as the influence of different packaging shapes (variable: 'Delta Manipulated Landliebe sweet vs. sour').

A multiple regression was carried out investigating the predictive abilities of a set consisting from ten independent variables on the criterion variable in the taste dimension. The regression model yielded to be significant (r^2 = .19, F (10,102) = 2.10), p < .05). While 'product familiarity' was no significant predictor (β = .01; t = .06, p = .95), the regression model indicated significance for the variables 'Price quality relation' (β = -.23; t = -2.28, p < .05) as well as 'Bloch's CPVA Total Score' (β = .24; t = 2.33, p < .05).

Regression model: Landliebe-yoghurt (taste dimension)

	b	**SE**	**β**	**t**	***p***
Constant	1.454	.879		1.654	.101
Product familiarity Landliebe	.003	.044	.006	.059	.953
Product involvement extended	-.036	.091	-.042	-.392	.696
Bloch's CPVA (Total Score)	.244	.105	**.244***	2.333	**.022**
Importance of product information	.121	.100	.125	1.204	.232
Age	-.082	.057	-.145	-1.453	.150
Education level	-.022	.071	-.031	-.313	.755
Health and food attitude	-.118	.121	-.101	-.976	.332
Price quality relation	-.243	.107	**-.226***	-2.276	**.025**
Big Five (Factor: Agreeableness)	-.087	.111	-.079	-.785	.434
Joy of shopping	.044	.099	.049	.443	.659

Notes. N = 102. r^2 = .186, F (10,102) = 2.099, p = .032. $^{+}$ p < .1; * p < .05; ** p < .01 *** p < .001.
Table 8: Regression model Landliebe-yoghurt (taste dimension)

5.6 RESULTS 'SONNENHOF'-YOGHURT

The scatterplot of the standardized predicted values (*ZPRED) against the standardized residuals (*ZRESID) suggests that the dependent variables can be considered homoscedatic. The One-Sample Kolmogorov-Smirnov Variable suggests that V19 (Bloch's CPVA Total Score, p = .17) and V21 (Bloch's CPVA Factor: Acumen, p = .20) show normal distributions, while all other variables from the models below are not considered normally distributed and yield significance levels below p = .05. The interpretation of the results, as such, is limited. By using bivariate correlation analysis, no multicollinearity between predictor variables was detected.

5.6.1 TEXTURE DIMENSION

In the texture dimension participants were asked to rate two 'Sonnenhof' yoghurt cups – one round shaped and one square shaped cup – according to their expected texture on a scale ranging from creamy to runny. The absolute value of the difference between the ratings of the round and the square cup was interpreted as the influence of different packaging shapes.

Multiple regression analysis was conducted in order to examine the relationship between the texture expectation difference and a set of ten predictors. The regression model was highly significant (r^2 = .30, F (10,105) = 4.02, p < .00). The regression revealed 'product familiarity' (β = .34; t = 3.71, p < .00), 'Yoghurt consumption Sonnenhof' (β = -.34; t = -2.46, p < .05) as significant predictors. The variables 'Marital status' and 'Importance of product information' were not significant (β = .20; t = 1.73, p = .086, respectively β = -.15; t = -1.68, p = .10), their values however indicate statistical trends.

Regression model: Sonnenhof-yoghurt (texture dimension)					
	b	**SE**	**β**	**t**	***p***
Constant	3.770	1.464		2.576	.012
Product familiarity Sonnenhof	.717	.192	**.343*** **	3.714	**.000**
Yoghurt consumption Sonnenhof	-.1.724	.702	**-.225***	-2.456	**.016**
Bloch's CPVA (Total Score)	.132	.635	.070	.209	.835
Importance of product information	-.268	.160	**-.148**$^{+}$	-1.678	**.097**
Bloch's CPVA (Factor: Aucmen)	.405	.348	.238	1.164	.247
Age	-.113	.123	-.105	-.923	.358
Education level	-.172	.122	-.126	-1.411	.162
Big Five (Factor: Extraversion)	.132	.170	.069	.773	.441
Marital status	.378	.218	**.195**$^{+}$	1.734	**.086**
Bloch's CPVA (Factor: Value)	-.512	.381	-.294	-1.343	.183

Notes. N = 105. r^2 = .297, F (10,105) = 4.020, p = .000. $^{+}$ p < .1; * p < .05; ** p < .01 *** p < .001.
Table 9: Regression model Sonnenhof-yoghurt (texture dimension)

5.6.2 TASTE DIMENSION

Participants in the taste dimension were asked to rate the two 'Sonnenhof' yoghurt cups according to their expected taste on a scale ranging from sweet to sour. The absolute value of the difference between the ratings of the round and the square cup is interpreted as the influence of different packaging shapes (variable: 'Delta Manipulated Sonnenhof sweet vs. sour').

A multiple regression was carried out investigating the predictive abilities of a set consisting of ten independent variables on the criterion variable in the taste dimension. The regression model was significant (r^2 = .18, F (10,105) = 2.11), p < .05). While 'product familiarity' was no significant predictor (β = .16; t = 1.65, p = .10), only the predictor 'age' was statistically significant (β = -.33; t = -2.64, p < .01).

Regression model: Sonnenhof-yoghurt (taste dimension)					
	b	**SE**	**β**	**t**	***p***
Constant	1.430	.634		2.255	.026
Product familiarity Sonnenhof	.138	.084	.164	1.650	.102
Yoghurt consumption Sonnenhof	-.320	.304	-.104	-1.052	.295
Bloch's CPVA (Total Score)	.271	.275	.355	.984	.327
Importance of product information	-.057	.069	-.078	-.826	.411
Bloch's CPVA (Factor: Aucmen)	-.024	.151	-.035	-.158	.875
Age	-.140	.053	**-.325****	-2.636	**.010**
Education level	-.046	.053	-.084	-.870	.386
Big Five (Factor: Extraversion)	-.115	.074	-.151	-1.559	.122
Marital status	.054	.095	.069	.586	.571
Bloch's CPVA (Factor: Value)	-.069	.165	-.099	-.420	.675

Notes. N = 105. r^2 = .182, F (10,105) = 2.110, p = .031. $^{+}$ p < .1; * p < .05; ** p < .01 *** p < .001.
Table 10: Regression model Sonnenhof-yoghurt (taste dimension)

5.7 SUMMARY REGRESSION RESULTS

For the 'Bauer'-brand, product familiarity did not serve as a significant predictor. A statistical trend in the multiple predictor regression indicated, that familiarity might be a positive predictor (β = .20) for the evaluative difference between the round and the square shaped yoghurt cup in the texture dimension. In the taste dimension, where the respondents had to assess the yoghurt on a bipolar scale ranging from sweet to sour, no significant effects were recognized for the Bauer-cups.

While product familiarity did not act as a significant predictor in the texture dimension for 'Danone'-yoghurt, a statistical trend has been recognized in the taste dimension. The regression here suggests, that product familiarity may be a positive predictor (β = .19) for the expected taste differences between the packaging shapes.

For the 'Ehrmann'-brand product familiarity was no significant predictor, neither in texture, nor in the taste dimension.

In the texture dimension of the ‘Landliebe’-brand, multiple regression indicated a statistical trend that product familiarity may be a positive predictor (β = .17). In the taste dimension, product familiarity was no significant predictor of the outcome variable.

For the ‘Sonnenhof’-brand, product familiarity was a highly significant positive predictor (β = .34) in the texture dimension. In the taste dimension, a statistical trend has been recognized for product familiarity to be a positive predictor (β = .164) for the use of shape symbolism.

	Texture dimension	**Taste dimension**
	Multiple predictor	Multiple predictor
‘Bauer’	trend *(p = .098)*	n. s.
‘Danone’	n. s.	trend *(p = .067)*
‘Ehrmann’	n. s.	n. s.
‘Landliebe’	trend *(p = .101)*	n. s.
‘Sonnenhof’	*p < .001*	trend *(p = .102)*

Notes. n. s. = not significant; trend = statistical trend

Table 11: Regression results for product familiarity

5.8 OTHER PREDICTOR VARIABLES

Next to product familiarity, other variables served as significant predictors for the degree that shape symbolism occurred. However, the results are mixed here as well, as not every factor was confirmed for every brand and dimension:

A highly significant predictor is ‘Joy of shopping’, as the ‘Danone’ texture dimension suggests (β = -.26; t = -2.42, *p* = .02). Participants who enjoyed shopping for food, experienced less shape symbolism than respondents who did less enjoy shopping (β = -.26).

Bloch’s CPVAs factor ‘Acumen’ which refers to the consumers capability to recognize, categorize and evaluate product design (Bloch, Brunel, & Arnold, 2003), is

a strong positive predictor (β = .49 respectively β = .47) for the evaluative difference between of packaging shapes. Bloch's CPVAs factor 'Acumen' was a significant predictor in the 'Ehrmann' taste dimension (β = .49; t = 2.55, *p* = .01) as well as in the taste dimension of 'Danone' (β = .46; t = 2.28, *p* = .03).

The variable 'product involvement extended', which is constructed as a mixed measure from the involvement with yoghurt in general, as well as the frequency of the overall yoghurt consumption, is a significant predictor in the 'Ehrmann'-texture dimension (β = -.26; t = -2.47, *p* = .02). 'Product involvement extended' is also suggested to be a negative predictor in the 'Bauer' taste-dimension (β = -.28; t = -2.00, *p* = .05) and the 'Landliebe' texture-dimension (β = -.35; t = -3.47, *p* = .00).

The variable 'price-quality-relation' refers to the participant's affinity to compare prices among products and opt for a good value deal. 'Price-quality-relation' is a significant negative predictor in the 'Ehrmann' taste dimension (β = -.21; t = -2.24, *p* = .03) as well as in the 'Landliebe' taste dimension (β = -.23; t = -2.28, *p* = .03).

'Bloch's CPVA Total Score', which measures the overall level of significance which visual aesthetics hold for consumers in their relationship with products, is a significant positive predictor of the criterion variable in the 'Landliebe' taste dimension (β = .24; t = 2.33, *p* = .02).

In the 'Landliebe' texture condition, the Big Five factor 'Agreeableness' (β = .29; t = 3.05, *p* = .00) is a positive predictor (β = .29). Furthermore 'Agreeableness' is significant positive predictor in the 'Ehrmann'-texture dimension (β = .21; t = 2.08, *p* = .04).

The Big Five factor 'Openness' was a significant negative predictor of the outcome variable in the 'Ehrmann' taste-dimension (β = -.21; t = -2.10, *p* = .04).

Furthermore in the Sonnenhof 'texture' dimension, 'Age' and the brand specific yoghurt consumption-'Sonnenhof' were identified as a significant negative predictors ((β = -.33; t = -2.64, *p* = .01) respectively (β = -.23; t = -2.46, *p* = .02).

6 CONCLUSION AND DISCUSSION

While testing the regression assumptions, the Kolmogorov-Smirnov-Test suggested that the normality assumption had not been met and that the errors of the predicted values were not normally distributed. In consequence, the probability of making a type I or II error is elevated. Lumley, Diehr, Emerson, and Chen (2002), however, suggest after having reviewed several studies that test performance for sample sizes over 80 have been acceptable in terms of making a type I or II error. Several scholars suggest that for sample sizes which are sufficiently large, the least-squares linear regression does not require the normal distribution assumption (Lumley et al., 2002; Morgan & Solomon, 2002). Thus, relying on the central limit theorem, which states that the distributions of means from a sample will converge to a normal distribution, as the case number gets bigger (Bortz & Schuster, 2010), the following conclusions are suggested:

The study offers mixed results regarding the role of product familiarity for shape symbolism. Based on the evaluations of five different yoghurt brands, this thesis investigates the extent to what product familiarity affects the degree to which consumers rely on shape symbolism to generate expectations when purchasing grocery products.

In the null hypothesis, it was assumed that product familiarity has no impact on the degree to which consumers derive information using shape symbolism. Taking the regression results into account, the null hypothesis has to be rejected. For the ‘Sonnenhof-brand, product familiarity served as a significant predictor for the evaluative difference between the packaging shapes. In addition, regressions indicated statistical trends that product familiarity may predict the dependent variable for ‘Bauer’, ‘Danone’ and ‘Landliebe-conditions.

Based on these insights, H_1 is accepted, suggesting that product familiarity has an impact on the degree to which consumers derive information using shape symbolism. While H_1 is a non-directional hypothesis, both hypothesis H_{2a}, and H_{2b}, aim to indicate a direction of the effect.

In H_{2a}, it was hypothesized that consumers with a high degree of product familiarity will derive less product information using shape symbolism. In other words, the more familiar a person is with a product, the less information he will derive from the symbolic shape of product packaging. Scholars suggest that consumers are likely to base their buying decisions on visual cues provided by packaging, when no previous experience with the product exists and it cannot be tasted at the point of sale (Becker et al., 2011; Fenko et al., 2010; Underwood, 2003). In those cases, it is proposed that consumers rely on cross-modal references: Vision thus may compensate for the missing information like taste (Deliza & MacFie, 2001; Schifferstein & Spence, 2008). Hypothesis H_{2a} is evaluated, by taking the β-values of the product familiarity models into account. Beta values were positive, ranging from .168 to .286, and thus indicate that participants who scored higher in product familiarity experienced higher expectation differences between the two yoghurt-cups compared to participants with low product familiarity. In consequence, H_{2a} has to be rejected.

As the beta values for product familiarity suggest a positive relationship between product familiarity and the expectation difference between the different yoghurt cups, hypothesis H_{2b}, which suggests that product familiarity has a positive impact on the degree to which consumers derive information using shape symbolism, is accepted.

This result may be explained as product familiarity is believed to cause a reduction in consumer decision making and product usage (Alba & Hutchinson, 1987), which reduces effortfulness and frees up cognitive resources (Zhou & Nakamoto, 2007). In turn, familiar consumers may allow more analytical processing to take place. Furthermore, it is suggested that consumers with a high product familiarity pay more attention to changes to the product compared to consumers with low familiarity levels (Zhou & Nakamoto, 2007).

6.1 RESEARCH IMPLICATIONS

Product packaging is considered a central element to food products as the packaging is often inseparable from the core product (Simms & Trott, 2010). In academics, it is widely acknowledged that the shape of a packaging influences the perception, and as a consequence, also the expectations that consumers have about a product (Ampuero & Vila, 2006; Deliza & MacFie, 1996; Fenko et al., 2010). Shape symbolism thus, according to Spence (2012), has to be regarded as one important element of a successful packaging design strategy.

While scholars suggest that consumers with little product familiarity will mostly rely on extrinsic cues as shape symbolism (Becker et al., 2011; Fenko et al., 2010; Underwood, 2003), the conducted research suggests that consumers who are more familiar with the product in question, will experience a greater difference in product property expectations generated from shape symbolism compared to users who are less familiar with the product in question. This finding has several interesting implications for packaging design from a marketing perspective:

6.1.1 GAINING NEW CONSUMER ATTENTION

Gaining new consumer attention is considered one of the important tasks that packaging has to fulfill in the store environment. Scholars suggest, that the time consumers spend on a purchase decision for a non-durable good is very limited. Being confronted with enormous selection of similar products, most shoppers do not pay a lot of attention and make use of dedicated shopping strategies which disburden their shopping experience (Burke et al., 1992; Hoyer, 1984; Rebollar et al., 2012; Schoormans & Robben, 1997). Hereby their attention can be conceptualized moving along with Underwood et al. (2001), as the degree to which consumers focus on a stimulus that is within a their range of exposure. Once such a strategy is used, it becomes difficult to sell the consumer a product which does not fit in his designated strategy, as usually no attention is paid to the alternative products. For that reason gaining the consumer's attention is key for marketers in order to sell new products to

habitual or low level involvement shoppers (Underwood et al., 2001). In order to be considered, the other product has to draw attention. In his work 'The package appearance in choice', Garber, Jr. (1995) concludes that stimuli that differ from other stimuli presented in an environment are more likely to attract a consumer's attention. He further suggests that a new stimulus, like a different form of a packaged product, succeeds in disrupting consumers from their usual routine and brakes their existing patters of behavior (Garber, Jr., 1995). In their study, Schoormans and Robben (1997) demonstrated that the bigger the design deviation of a redesigned package from the existing product is, the more product attention will be induced by the novel packaging.

The results of this thesis now suggest that, when manufacturers alternate the packaging of an existing product to draw new attention towards the possibly mature product, consumers highly familiar with the product may expect that the product characteristics have changed. As a consequence, frequent buyers will at least be irritated by the new packaging and in extreme cases may decide to choose another brand. In other words, a package reshaping in order to draw new attention of non-buyers, may in some cases, withhold current buyers from buying the product in question again.

New potential consumers who are not very familiar with the product, are suggested to not expect changed sensory characteristics when the product comes in a newly shaped cup, they might consider purchasing the product because it was brought into their consideration set due to the alternated packaging. To put it differently, a new packaging shape might draw new attention to the product. However, manufacturers may pay the price of irritating the frequent buyers in terms of product sensory qualities, which could lead to a drop in sales, whereas new consumers do not expect alternated product characteristics.

6.1.2 PACKAGING CHANGES FOR OTHER REASONS

Researchers suggest that a newly designed package should not be entirely different from the usual product category packaging shape, because large deviations may cause the packaging to not be perceived to belong to a certain product category anymore. Instead, smaller changes that still draw attention are recommended (Bloch, 1995; Loken & Ward, 1990; Schoormans & Robben, 1997; Sujan, 1985). The same principle applies to manufacturers who consider redesigning their packaging in order to re-launch their product. Scholars suggest a tradeoff between the ability of new packages to draw attention and failed categorization of the product (Garber, Jr., 1995; Schoormans & Robben, 1997). When packaging is being used as a marketing instrument, it has to be regarded an essential factor to communicate the right product characteristics and brand values using packaging as a communication channel, while at time same time maintaining a suitable aesthetic and visual level of the packaging (Nancarrow, Wright, & Brace, 1998).

As this research has shown, companies should carefully consider their packaging alternations when re-launching their products. Manufacturers will have to take into account that redesigning the packaging may cause their existing consumers to question whether or not the product's characteristics have been changed as well. On the other hand, less familiar consumers may recognize the product and take it into their consideration set without questioning product characteristics.

In shape symbolism, the consumer derives information about a product he might not be able to taste at the store, from the packaging (Schifferstein & Spence, 2008). Manufacturers should keep in mind that the packaging shape should raise the correct product expectations in consumers, as they are suggested to be disappointed when the product does not match the characteristics promised by the packaging (Deliza & MacFie, 1996). A packaging re-design therefore can be recommended as beneficial when the shape of the packaging has been aligned to trigger the correct taste expectations of the product – new, unfamiliar consumers will not be disappointed as the product will match their expectations and might buy the product again. Lapsed, but familiar consumers, will notice the new packaging shape and may be willing to re-purchase the product, discovering a new, maybe pleasant taste, which could convince

them to buy the product on a regular basis. Highly familiar consumers will notice the new form and expect changed product characteristics. This may lead to disappointment or relief when the product itself is tasted. There evidently is the need for further research to investigate the buying behavior of highly familiar users after packaging changes.

Furthermore, food manufacturers can use shape symbolism to their advantage. As food companies improve their products' recipes they usually advertise the 'better' taste of their products using graphic teasers (e.g. 'New recipe' or 'Improved taste'). Instead of only relying on the graphical elements on the packaging, manufacturers could use an alternated packaging shape to communicate their message even more effectively as familiar users will already expect changed product characteristics just by looking at the packaging from the distance.

Next to recipe changes, shape symbolism can be used to differentiate new products (e.g. an even creamier yoghurt) from products which are already available in the market as consumers who are highly familiar with the existing product will have different product expectations due to the changed shape. Companies can use the outer appearance of a product, which provides for functional and symbolic interpretation of the product's attributes (Person, Snelders, Karjalainen, & Schoormans, 2007) and signal the attributes of the new product line to their already existing consumers.

6.1.3 DOWNSIZING PACKAGES

A recent trend in the food industry is downsizing the package sizes to offer reduced portion sizes (Argo & White, 2012). It has been shown that smaller portion sizes will drive up sales of hedonic food products and thus lead to an increased revenue for the manufacturers (Chandon & Ordabayeva, 2009; Coelho do Vale, Pieters, & Zeelenberg, 2008; Jain, 2012). Chandon and Ordabayeva (2009) point out that a simple three-dimensional downscale of the packaging to fit the smaller portion size will not sufficiently signal the smaller portion size, as consumers face difficulties estimating volumes (Folkes & Matta, 2004). As a consequence, it is suggested that packaging shapes have to change in order to signal the reduced portion size (Chandon

& Ordabayeva, 2009). Taking the results of this study into account, manufacturers should thoroughly investigate whether or not the down-sized-packaging design leads to changed product expectations, as frequent buyers of the product might assume different product characteristics. In extreme cases they may even refrain from purchasing the new product size as they expected changed product characteristics.

6.1.4 Drawbacks of package shape changes

The packaging of a product is not only a concern for the manufacturer and the retailer who wants to sell the item in his store. As all stakeholders (manufacturers, wholesalers, distributors, retailers, customers, recyclers) along the distribution chain do get in contact with at least one layer of product packaging, it can be considered a key role for the whole distribution process (Simms & Trott, 2010). Once the product leaves the manufacturer, the product usually passes several intermediaries like wholesalers and distributors. For these companies, the most important aspects of an improved packaging are its handling, logistics and distribution abilities (Simms & Trott, 2010). Changes in packaging shape, in consequence, are not just relevant on the supermarket shelves but will also impact all stakeholders in the distribution process. When alternating packages, manufacturers should consider potential additional expenditures that the shape differences may cause alongside the distributive chain.

6.2 LIMITATIONS

Finally, the limitations of this study have to be addressed. As shape symbolism itself cannot be measured directly, this study used an evaluative difference between two different packaging shapes to capture the effect of shape symbolism. The respondents were asked to rate differently shaped yoghurt cups accordingly to their expected taste (and texture). The absolute difference of these ratings was regarded as the effect of shape symbolism towards the perception of the yoghurt. Unfortunately, this procedure only captures an evaluative difference between the cups, which in this study was then interpreted as (the effect of) shape symbolism and shape symbolism. Shape symbolism itself was not measured.

Another limitation of this study is the definition of product familiarity. Respondents were asked to self-assess their degree of product familiarity as suggested by Herrera and Blanco (2011). Their scale, however, is to be considered as vague as the respondents were not provided with a clear definition of product familiarity. For some respondents, familiarity may be that they know the look of the packaging from the supermarket shelves, for other respondents familiarity may mean that the frequently buy and consume the product. For that reason it remains unclear under which conditions consumers are considered familiar with a product.

In conversations with respondents it was noticed that most participants were trying to assign the same values from the rating scales (creamy vs. runny, respectively sweet vs. sour) to the cups form the same brand. Unfortunately, the questionnaire made it easy to carry through with this approach, as the round and square cup of each brand were presented to the respondents in succession. Thus, remembering the rating for the round cup and assigning the same value to the square cup of the same brand was relatively easy. It is suspected, that participants aimed at answering the questions in a very consistent way, which might have impacted the results. A rather simple way to avoid this issue would have been to apply a randomization to the rating questions and therefore presenting them in an order which makes it hard for the participants to remember their ratings. A different approach to undermine this participant strategy and to avoid a result bias could have been to not use an online questionnaire but to opt for an Implicit Association Test (IAT). An IAT measures the association strengths

between different concepts by observing the respondents response latencies in computer administered categorization tasks (Greenwald, Poehlman, Uhlmann, & Banaji, 2009). As the IAT is a reaction time based test, it will deliver more accurate data than self-assessment and the participants' desire for consistency would not be bias the results.

Furthermore, it has to be mentioned that shopping for fast moving consumer goods generally is of low involvement levels and decision making at the store is likely to be carried out without paying much attention. Hence purchase decisions are frequently made subconsciously (Gelici-Zeko et al., 2013). Since shape symbolism is thought to mostly work on a non-conscious level, the Implicit Association Test would have been a vivid methodical choice due to its ability to be sensitive to implicit as well as explicit semantic association (Greenwald, McGhee, & Schwartz, 1998). In consequence, the obtained data for this thesis would have been less biased. Conducting this study using an IAT has been considered but was not actionable because the freeware testing program would have needed to be changed, in order to fit the research approach.

This research has further limitations regarding its statistical results. The results obtained during the study, unfortunately indicate mixed results. While only for two conditions a statistical significant effect of product familiarity on shape symbolism was shown, influences in the other conditional were not significant but can be regarded as statistical trends. Also for the Ehrmann-brand, neither a statistical trend nor a statistical significance was found.

As one of the major limitations of this study, it has to be stated that no clear recommendations can be given to food manufacturing companies as this study did not investigate the influence and possible consequences that changed expectations in the purchase behavior of highly familiar consumers.

6.3 FURTHER RESEARCH

It would be advisable to validate the obtained research results and to further clarify the role of product familiarity using a bigger sample as well as a less biased method for data collection, such as an Implicit Association Test, in order to provide a solid base for further scientific work. Also from the methodological side, a clear definition for product familiarity should be provided to the respondents when using self-evaluative measures like the scale suggested by Herrera and Blanco (2011). This is of particular importance as, participants cannot be properly segmented for the analysis of the study results, when no definition of product familiarity is provided.

As one important aspect, it should be investigated how big the difference between two packaging shapes has to be, in order to trigger changed expectations regarding a product's characteristics. Companies then could determine whether or not their new packaging design would run the risk of irritating their highly familiar consumers or if the shape changes would only be minor and not trigger (potentially unwanted) reactions.

For companies the interplay between packaging shape and other structural as well as graphical components of packaging is to be considered as important: It should be investigated how many product expectations regarding taste and texture can be explained through shape symbolism in contrast to, for example, labels and colors and the way in which these packaging features blend it to a coherent packaging.

In order to give sound recommendations to food manufactures regarding planned shape changes of their packaging, the influence and possible consequences that changed expectations of highly familiar consumers on their purchase behavior should be investigated.

Last but not least, the range of test products should be broadened to also include food products sold in cardboard boxes which is removed before final consumption as not all the available food products are consumed without removing the packaging entirely from the product such as in the case of yoghurts.

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8 APPENDIX

A. VARIABLE DERIVATION

The following section is dedicated to the variables used in the questionnaire. It will cover the derivation of all variables employed and offer insights on their indication. The translations into German are provided by the author of this thesis, if not indicated otherwise.

a. PRODUCT INVOLVEMENT AND PURCHASE DECISION INVOLVEMENT

Since consumers may value yoghurt differently in their lives, it can be expected that involvement levels between study participants will vary. Involvement can be described as the extent to which a consumer values a specific object (in this case: yoghurt) as a central part of life, attaches value to it and considers it as important. Marketers consider involvement as the key to activate a consumer's motivation and regard it as a fundamental basis to understand consumer/seller relationship in markets. Furthermore, it is suggested that increased levels of involvement may lead to increased marketing effectiveness and efficiency (O'Cass, 2000). As to the knowledge of the author, no measure to determine the degree of product involvement and purchase decision involvement for yoghurt is available, an existing scale on fashion clothing from O'Cass and Choy (2008) was adapted.

Original measure for fashion clothing product involvement by (O'Cass & Choy, 2008) English Version *Questions that load on the factor of product involvement:*
1. Fashion clothing means a lot to me 2. Fashion clothing is significant to me 3. For me personally fashion clothing is important 4. I am interested in fashion clothing 5. I pay a lot of attention to fashion clothing 6. How involved are you with fashion clothing?

For the purpose of this study, questions five and six were not used in the adapted measure. By this the author meets concerns that these questions may be adequate for the topic of ‘fashion clothing’ but not for ‘yoghurt’. Those questions might appear very obscure to respondents in the context of yoghurt and could trigger unwanted behavior that might influence further answers to the questionnaire in a negative way (e.g. not taking it as a serious cause). As all questions of this measure are very similar, the author adapted the scale by changing questions two and four, in order to also employ inverted items. Employing inverted items should ensure that respondents carefully read the questions before answering and prevent them from just clicking through the questions.

Adapted measure for this study based on O'Cass and Choy (2008) English version *Questions that load on the factor of product involvement:*
1. Yoghurt means a lot to me 2. Yoghurt is insignificant to me 3. For me personally yoghurt is important 4. I am not interested in yoghurt ~~5. I pay a lot of attention to yoghurt~~ ~~6. How involved are you with yoghurt?~~

Adapted measure for this study based on O'Cass and Choy (2008) German version *Questions that load on the factor of product involvement:*
1. Joghurt bedeutet mir sehr viel 2. Ich erachte Joghurt als unwichtig 3. Für mich persönlich ist Joghurt wichtig 4. Ich interessiere mich nicht für Joghurt

Additionally, to product involvement, as a second measure adapted from O'Cass and Choy (2008) was used to determine the purchase decision involvement:

Original measure for fashion clothing purchase decision involvement by (O'Cass & Choy, 2008) English version *Questions that load on the factor of purchase decision involvement:*
1. Deciding fashion clothing brand to buy is important
2. I think a lot about which fashion clothing brand to buy
3. For me personally fashion clothing is important
4. Making purchase decisions for fashion clothing is significant
5. I think a lot about my purchase decisions when it comes to fashion clothing
6. The purchase decisions I make for fashion clothing are important to me

The measure has been adapted for 'yoghurt' and slight changes to include inverted items were made to questions one and four:

Adapted measure for this study based on O'Cass and Choy (2008) English version *Questions that load on the factor of product decision involvement:*
1. Deciding which yoghurt brand to buy is unimportant
2. I think a lot about which yoghurt brand to buy
3. Making purchase decisions for yoghurt is significant
4. I don't think a lot about my purchase decisions when it to comes to yoghurt
5. The purchase decisions I make for yoghurt are important to me

Adapted measure for this study based on O'Cass and Choy (2008), German version German version *Questions that load on the factor of product decision involvement:*
1. Mir ist egal, welcher Joghurt gekauft wird
2. Ich denke lange darüber nach, welchen Joghurt ich kaufe
3. Kaufentscheidungen für Joghurt zu treffen ist wichtig
4. Ich denke nicht viel über meine Kaufentscheidungen nach wenn es um Joghurt geht
5. Die Kaufentscheidungen welche ich für Joghurt treffe sind mir wichtig

Both measures will be implemented using a 5-point Likert scale ranging from ‘disagree strongly’ to ‘agree strongly’.

b. Frequency of yoghurt consumption (general)

As the general frequency of yoghurt consumption may have an effect on the test results of the questionnaire, the participant’s consumption was investigated. To do so, a measure used by Pohjanheimo and Sandell (2009) to determine the frequency of yogurt consumption was employed. The 5 point scale (frequencies: daily, at least once a week, at least once a month, occasionally, never) was adapted with a slight change to the answer option ‘occasionally’. In order to assure the mutual exclusivity of the answers, the option ‘occasionally’ was altered to ‘occasionally (less than once a month)’. Please find the question in an English as well as in a German version below:

Original measure for yogurt consumption based on Pohjanheimo and Sandell (2009) English version *How often do you eat yoghurt?*
☐ daily ☐ at least once a week ☐ at least once a month ☐ occasionally (less than once a month) ☐ never

Translated measure for yogurt consumption based on Pohjanheimo and Sandell (2009) German version *Wie oft essen Sie Joghurt?*
☐ täglich ☐ mindestens 1x die Woche ☐ mindestens 1x im Monat ☐ gelegentlich (seltener als 1x im Monat) ☐ nie

c. ASSESSMENT OF PACKAGING TYPICALITY

In order to control for the different degrees of typicality that the presented yoghurt cups may hold, one item (per tested packaging) of the questionnaire was dedicated to determine whether the packaging is seen as a typical yoghurt packaging. Based on Blijlevens, Carbon, Mugge, and Schoormans (2012) a 5 point Likert scale was used to ask the respondents to indicate the level of typicality of the cup displayed just below the question:

Assessment for typicality in yoghurt packaging based on Blijlevens et al. (2012) English version *How typical is the displayed packaging for a yoghurt packaging?* 
not typical ☐ ☐ ☐ ☐ ☐ typical

Assessment for typicality in yoghurt packaging based on Blijlevens et al. (2012)

German version

Für wie typisch halten Sie die abgebildete Verpackung für eine Joghurt-Verpackung?

nicht typisch				typisch
☐	☐	☐	☐	☐

d. ASSESSMENT OF PRODUCT FAMILIARITY

In order to evaluate the influence of familiarity on the product perception, the familiarity of the consumer with the tested yoghurt brands was questioned. Based on the familiarity measure used by Herrera and Blanco (2011) to evaluate the familiarity with a certain brand of ham, this study assessed consumer familiarity with every tested product as follows:

Original assessment for product familiarity by Herrera and Blanco (2011)

English version

I am very familiarized with PDF cured ham Jamón de Tereul.

disagree strongly						agree strongly
☐	☐	☐	☐	☐	☐	☐

Adapted assessment for product familiarity based on Herrera and Blanco (2011)

English version

I am very familiarized with 'Der grosse Bauer'.

disagree strongly						agree strongly
☐	☐	☐	☐	☐	☐	☐

Adapted assessment for product familiarity based on Herrera and Blanco (2011)

German version

Ich mit sehr vertraut mit "Der grosse Bauer".

Stimme überhaupt nicht zu						Stimme voll und ganz zu
☐	☐	☐	☐	☐	☐	☐

e. YOGHURT CONSUMPTION OF PRODUCTS TESTED

As the consumption-frequency of tested products may have an effect on the test results, the participant's consumption was investigated. To do so, a measure used by Pohjanheimo and Sandell (2009) to determine the frequency of yogurt consumption was employed. The 5 point scale (frequencies: daily, at least once a week, at least once a month, occasionally, never) was adapted with a slight change to the answer option 'occasionally'. In order to assure the mutual exclusivity of the answers the option 'occasionally' was altered to 'occasionally (less than once a month)'. Please find the question in an English as well as in a German version below:

Adapted measure for 'Der große Bauer' consumption based on Pohjanheimo and Sandell (2009)

English version

How often do you eat 'Der grosse Bauer'?

☐ daily

☐ at least once a week

☐ at least once a month

☐ occasionally (less than once a month)

☐ never

Adapeted measure for 'Der große Bauer' consumption based on Pohjanheimo and Sandell (2009) German version *Wie oft essen Sie 'Der grosse Bauer'?* 
☐ täglich ☐ mindestens 1x die Woche ☐ mindestens 1x im Monat ☐ gelegentlich (seltener als 1x im Monat) ☐ nie

f. BIG-FIVE INVENTORY-10

In order to control for influences that personality may have on the dependent variable, the questionnaire included a measure that uses the Big-Five framework. The Big-Five framework can be considered a hierarchical model of personality traits, which captures personality in five broad factors (Extraversion, Agreeableness, Conscientiousness, Emotional Stability, Openness to Experience). The framework is the most commonly used model for personality and enjoys considerable support (Gosling, Rentfrow, & Swann Jr, William B, 2003).

However, as personality was not in the center of the proposed research, extensive measures of the Big-Five that include the NEO-PI-R (Revised NEO Personality Inventory) or the already streamlined BFI-44 (Big Five Inventory with 44 items), would be too time consuming and thus reduce response rates of the questionnaire

(Gosling et al., 2003; Rammstedt & John, 2007). Hence, since the author of this study still wanted to control for personality, he had to fall back on short measures for the Big-Five framework, namely the BFI-10 developed by Rammstedt and John (2007). The BFI-10 only includes 10 items but can, despite its shortness, explain an average of 70% of the variance of the full scale measure while retaining 85% of the retest reliability (Rammstedt & John, 2007). Another important aspect why Rammstedt and John's instrument was chosen, is that it is available in English as well as in German. As the questionnaire was only issued in German to the test persons, this was a big help as biases through translation could be avoided. The Big-Five Inventory-10 according to Rammstedt and John (2007) comes with the following questions:

Original BFI-10 measure by Rammstedt and John (2007)

English version

How well do the following statements describe your personality?

I see myself as someone who…	Disagree strongly	Disagree a little	Neither agree nor disagree	Agree a little	Agree strongly
… is reserved	(1)	(2)	(3)	(4)	(5)
… is generally trusting	(1)	(2)	(3)	(4)	(5)
… tends to be lazy	(1)	(2)	(3)	(4)	(5)
… is relaxed, handles stress well	(1)	(2)	(3)	(4)	(5)
… has few artistic interests	(1)	(2)	(3)	(4)	(5)
… is outgoing, sociable	(1)	(2)	(3)	(4)	(5)
… tends to find fault with others	(1)	(2)	(3)	(4)	(5)
… does a thorough job	(1)	(2)	(3)	(4)	(5)
… get nervous easily	(1)	(2)	(3)	(4)	(5)
… has an active imagination	(1)	(2)	(3)	(4)	(5)

The following translation provided by Rammstedt and John (2007) will be used:

Original BFI-10 measure by Rammstedt and John (2007) German version *Inwieweit treffen die folgenden Aussagen auf Sie zu?*					
Ich…	trifft überhaupt nicht zu	trifft eher nicht zu	weder noch	eher zutreffend	trifft voll und ganz zu
… bin eher zurückhaltend, reserviert.	(1)	(2)	(3)	(4)	(5)
… schenke anderen leicht Vertrauen, glaube an das Gute im Menschen.	(1)	(2)	(3)	(4)	(5)
… bin bequem, neige zur Faulheit.	(1)	(2)	(3)	(4)	(5)
… bin entspannt, lasse mich durch Stress nicht aus der Ruhe bringen.	(1)	(2)	(3)	(4)	(5)
… habe nur wenig künstlerisches Interesse.	(1)	(2)	(3)	(4)	(5)
… gehe aus mir heraus, bin gesellig.	(1)	(2)	(3)	(4)	(5)
… neige dazu, andere zu kritisieren.	(1)	(2)	(3)	(4)	(5)
… erledige Aufgaben gründlich.	(1)	(2)	(3)	(4)	(5)
… werde leicht nervös und unsicher.	(1)	(2)	(3)	(4)	(5)
… habe eine aktive Vorstellungskraft, bin phantasievoll.	(1)	(2)	(3)	(4)	(5)

g. BLOCH'S CPVA

Different people may assign different levels of significance to visual aesthetics in products. Bloch et al. (2003) established a set of questions that allows measuring the CPVA in its three dimensions: value, acumen and response identity. The CPVA represents a general consumer trait and its effects can range from almost zero up to high levels, where visual aesthetics strongly dominate the consumer's purchasing and product usage behavior. CPVA does not judge on good or bad product design but rather assesses the general significance of product aesthetics to a consumer itself. The value dimension of this construct captures the perceived amendment of life quality that results of encounter with well designed products. Acumen refers to consumers' capability to recognize, categorize and evaluate product design in the sense of Osborne, which is expected to vary within the population (Bloch et al., 2003).
Product designs can trigger positive as well as negative responses, such as dislike or disgust in consumers. Product responses are measured in the dimension of response identity (Bloch et al., 2003). As people with high CVPA's consider product design as important and are more sensitive to design issues as people with low CVPA's, this study will control for CVPA level.

Original CPVA measure by Bloch et al. (2003) English version
Value: Owning products that have superior designs makes me feel good about myself. I enjoy seeing displays of products that have superior designs. A product's design is a source of pleasure for me. Beautiful product designs make our world a better place to live. *Acumen:* Being able to see subtle differences in product designs is one skill that I have developed over time. I see things in a product's design that other people tend to pass over. I have the ability to imagine how a product will fit in with the designs I already own. I have a pretty good idea of what makes one product look better that its competitors.

Response:
Sometimes the way a product looks seems to out and grab me.
If a product's design really speaks to me, I feel that I must buy it.
When I see a product that has a really great design, I feel a strong urge to buy it.

The German version has been translated and validated by Thielsch (2008):

Adapted CPVA measure by Thielsch (2008) based on Bloch et al. (2003)
German version

Value:
Es gibt mir ein gutes Gefühl, Produkte mit hochwertigen Designs zu besitzen.
Ich schaue mir hochwertig gestaltete Produkte gerne an.
Das Design eines Produktes bereitet mir Freude.
Schönes Produktdesign macht die Welt lebenswerter.

Acumen:
Feine Unterschiede im Design von Produkten zu erkennen ist eine Fähigkeit, die ich im Laufe der Zeit entwickelt habe.
Mir fallen am Design von Produkten Dinge auf, die Andere eher nicht bemerken.
Ich kann mir vorstellen, wie ein Produkt zum Design anderer Dinge passt, die ich bereits besitze.
Ich habe eine ziemlich genaue Vorstellung davon, was ein Produkt besser aussehen lässt als andere vergleichbare Produkte.

Response:
Manchmal kann mich das Aussehen eines Produktes regelrecht fesseln.
Wenn mich das Design eines Produktes wirklich anspricht, habe ich das Gefühl, es kaufen zu müssen.
Wenn ich ein Produkt sehe, das ein wirklich gutes Design hat, empfinde ich einen starken Drang es zu kaufen.

h. DETERMINATION OF GENDER, AGE AND MARITAL STATUS

In order to control for other influencing variables and to allow for segmentation, gender, age as well as marital status of the respondents were surveyed. All three questions were adapted from the SurveyMonkey® question databank[1].

Determination of gender:

English version

Are you male or female?

☐ Male
☐ Female

Determination of gender:

German version

Sind Sie männlich oder weiblich?

☐ Männlich
☐ Weiblich

Determination of age:

English version

How old are you? Please choose the applicable answer from the drop-down menu.

- Below 18 (1)
- 18-20 (2)
- 21-29 (3)
- 30-39 (4)
- 40-49 (5)
- 50-59 (6)
- Over 60 (7)

[1] http://surveymonkey.com

Determination of age:

German version

Wie alt sind Sie? Bitte wählen Sie die zutreffende Antwort aus dem Drop-down-Menü aus.

- Unter 18 (1)
- 18-20 (2)
- 21-29 (3)
- 30-39 (4)
- 40-49 (5)
- 50-59 (6)
- Über 60 (7)

Determination of marital status:

English version:

Are you currently married, widowed, divorced, separated or single? Please choose the applicable answer from the drop-down menu.

- Single
- Married
- Widowed
- Divorced
- Separated

Determination of marital status:

German version

Sind Sie derzeit verheiratet, verwitwet, geschieden, getrennt oder ledig? Bitte wählen Sie die zutreffende Antwort aus dem Drop-down-Menü aus.

- Ledig
- Verheiratet
- Verwitwet
- Geschieden
- Getrennt

i. DETERMINATION OF HIGHEST EDUCATION LEVEL AND OCCUPATION

The participants' levels of education as well as their occupation was captured in the survey to control potentially influencing variables and to allow segmentation. Both questions are adapted from the SurveyMonkey® question databank[2].

The answer options for the highest level of education are aligned with the German educational system as the survey will be carried out in Germany.

Determination of highest education level:

English version

What is the highest level of education that you have reached so far? Please choose the applicable answer from the drop-down menu.

- Less than Grundschule
- Grundschule
- Hauptschulabschluss
- Realschulabschluss respectively mittlere Reife
- Fachhochschulreife respectively Abitur
- Bachelor
- Master, Magister respectively Diplom
- Conferral of doctorate

Determination of highest education level:

German version

Was ist der höchste Bildungsgrad den Sie bisher erlangt haben? Bitte wählen Sie die zutreffende Antwort aus dem Drop-down-Menü aus.

- weniger als Grundschule
- Grundschule
- Hauptschulabschluss
- Realschulabschluss bzw. mittlere Reife
- Fachhochschulreife bzw. Abitur
- Bachelor
- Master, Magister bzw. Diplom
- Promotion

[2] http://surveymonkey.com

The occupation of the respondents was determined by means of the following question:

Determination of occupation:

English version

Which of the following categories describes your employment status best? Please choose the applicable answer from the drop-down menu.

- Employed (1-39 hours per week)
- Employed (40+ hours per week)
- Student (with or without side job)
- Unemployed
- Retiree
- Unfit for work

Determination of occupation:

German version

Welche der folgenden Kategorien beschreibt am besten Ihren Beschäftigungsstatus? Bitte wählen Sie die zutreffende Antwort aus dem Drop-down-Menü aus.

- Berufstätig (1-39 Stunden pro Woche)
- Berufstätig (40+ Stunden pro Woche)
- Schüler bzw. Student (mit und ohne Nebenjob)
- Arbeitssuchend bzw. Arbeitslos
- Rentner
- Arbeitsunfähig

j. DETERMINATION OF HOUSEHOLD SIZE AND NUMBER OF CHILDREN WITHIN THE HOUSEHOLD

As the size of household as well as the number of children may affect the shopping habits and thus influence the product perception of the participants, the household size as well as the number of children within the household were surveyed. The questions were adapted from the SurveyMonkey® question databank[3].

Determination of household size:

English version

How many people live in your household?

☐ Only me (1 person)
☐ 2-4 persons
☐ 5 persons or more

Determination of household size:

German version

Wie viele Personen wohnen in Ihrem Haushalt?

☐ Nur ich (1 Person)
☐ 2-4 Personen
☐ 5 oder mehr Personen

Determination of number of children within the household:

English version

How many children below 18 live in your household?

☐ None
☐ 1 child
☐ 2-3 children
☐ 4 or more children

[3] http://surveymonkey.com

Determination of number of children within the household:

German version

Wie viele Kinder unter 18 Jahren wohnen in Ihrem Haushalt?

☐ Keines
☐ 1 Kind
☐ 2-3 Kinder
☐ 4 oder mehr Kinder

k. ASSESSMENT OF FOOD RELATED LIFESTYLE

To control for the food related lifestyle of the respondents, the importance of product information, the joy of shopping, the attitude towards health and food as well as the attitude towards the price-quality relationship were being measured. All questions were adapted from Brunsø and Grunert; Brunsø, Grunert, and Bisp (1995; 1993).

The importance of product information investigates to what extent the consumer pays attention to the product information provided by the label and compares between labels. As all the questions of this measure are very similar, the author adapted the scale by changing question one, in order to also employ inverted items.

Importance of product information:

English version

How well do the following statements apply to you?

	Disagree strongly	Disagree a little	Neither agree nor disagree	Agree a little	Agree strongly
Product information is unimportant to me. I don't need to know what the product contains.	☐	☐	☐	☐	☐
I compare labels to select	☐	☐	☐	☐	☐

the most nutritious food. I compare product information labels to decide which brand to buy.	☐	☐	☐	☐	☐

Importance of product information:

German version

Inwieweit treffen die folgenden Aussagen auf Sie zu?

	Trifft überhaupt nicht zu	Trifft eher nicht zu	Weder noch	Eher zutreffend	Trifft voll und ganz zu
Produktinformationen sind unwichtig für mich. Mir ist egal, was ein Produkt beinhaltet.	☐	☐	☐	☐	☐
Ich vergleiche die Produkt-Etiketten um das nahrhafteste Produkt auszuwählen.	☐	☐	☐	☐	☐
Ich vergleiche die Produkt-Etiketten um mich zwischen Produkten zu entscheiden.	☐	☐	☐	☐	☐

The control variable ‚Joy of shopping' was supposed to investigate whether the respondent likes to engage in food shopping and thus may behave differently when choosing yoghurt.

Joy of shopping:

English version

How well do the following statements apply to you?

	Disagree strongly	Disagree a little	Neither agree nor disagree	Agree a little	Agree strongly
Shopping for food bores me.	☐	☐	☐	☐	☐
I just love shopping for food.	☐	☐	☐	☐	☐
Shopping for food is like a game to me.	☐	☐	☐	☐	☐

Joy of shopping:

German version

Inwieweit treffen die folgenden Aussagen auf Sie zu?

	Trifft überhaupt nicht zu	Trifft eher nicht zu	Weder noch	Eher zutreffend	Trifft voll und ganz zu
Lebensmittel einzukaufen finde ich langweilig. (1)	☐	☐	☐	☐	☐
Ich liebe es Lebensmittel einzukaufen. (2)	☐	☐	☐	☐	☐
Lebensmittel einzukaufen ist wie ein Spiel für mich. (3)	☐	☐	☐	☐	☐

The following questions were included in the questionnaire in order to determine the respondent's relationship to health and food:

Attitude towards health and food:

English version

How well do the following statements apply to you?

	Disagree strongly	Disagree a little	Neither agree nor disagree	Agree a little	Agree strongly
I try to plan the amounts and types of food that the family consumes. (1)	☐	☐	☐	☐	☐
To me the naturalness of the food that I buy is an important quality. (2)	☐	☐	☐	☐	☐
I don't try to avoid food products with additives. (3)	☐	☐	☐	☐	☐

Attitude towards health and food:

German version

Inwieweit treffen die folgenden Aussagen auf Sie zu?

	Trifft überhaupt nicht zu	Trifft eher nicht zu	Weder noch	Eher zutreffend	Trifft voll und ganz zu
Ich versuche die Mengen und die Art der Lebensmittel, die ich esse zu planen. (1)	☐	☐	☐	☐	☐
Die Naturbelassenheit der Produkte die	☐	☐	☐	☐	☐

ich kaufe ist mir wichtig. (2)					
Ich versuche nicht, Produkte mit Zusatzstoffen zu vermeiden. (3)	☐	☐	☐	☐	☐

The last food-related lifestyle variable is the attitude towards the price-quality relationship:

Attitude towards price-quality relation:

English version

How well do the following statements apply to you?

	Disagree strongly	Disagree a little	Neither agree nor disagree	Agree a little	Agree strongly
I always try to get the best quality for the best price. (1)	☐	☐	☐	☐	☐
I compare prices between product variants in order to get the best value food. (2)	☐	☐	☐	☐	☐

Attitude towards price-quality relation:

German version

Inwieweit treffen die folgenden Aussagen auf Sie zu?

	Trifft überhaupt nicht zu	Trifft eher nicht zu	Weder noch	Eher zutreffend	Trifft voll und ganz zu
Ich versuche immer die beste Qualität für den besten Preis zu bekommen. (1)	☐	☐	☐	☐	☐

Ich vergleiche Preise zwischen den einzelnen Produktvarianten, um den besten Gegenwert zu erhalten. (2)	☐	☐	☐	☐	☐

I. HOUSEHOLD INCOME LEVEL

The control variable 'household income level' measured the available financial resources of the participants and was the only question within the survey, which could be skipped and left unanswered by the respondents.

Household income level:

English version:

How much money have all the members of your household (18 years or older) earned in the year 2013 in total?

(This includes any kind of income including salary, income from commerce or farming, property rental income, pensions, dividends, interests, benefits for social security and other income. Please indicate the grand total in Euro. – Without deduction of taxes or other deductions. Please choose the applicable answer from the drop-down menu.

- 0 - 19 999 € (1)
- 20 000 - 34 999 € (2)
- 35 000 - 49 999€ (3)
- 50 000 - 74 999 € (4)
- 75 000 - 99 999 € (5)
- 100 000 - 149 999 € (6)
- 150 000 € or more (7)

Household income level:

German version

Wie viel Geld haben alle Mitglieder (18 Jahre oder älter) Ihres Haushalts im Jahre 2013 insgesamt verdient? (Dies beinhaltet jegliches Einkommen inklusive Gehälter, Einkünfte aus Wirtschaft oder Landwirtschaft, Mieteinkünfte, Renten, Dividenden, Zinsen, Sozialabgaben und sonstige Einkünfte. Bitte geben Sie den Gesamtbetrag in Euro an. - Ohne den Abzug von Steuern oder sonstigen Abzügen.) Bitte wählen Sie die zutreffende Antwort aus dem Drop-down-Menü aus.

- 0 - 19 999 € (1)
- 20 000 - 34 999 € (2)
- 35 000 - 49 999€ (3)
- 50 000 - 74 999 € (4)
- 75 000 - 99 999 € (5)
- 100 000 - 149 999 € (6)
- 150 000 € oder mehr (7)

B. QUESTIONNAIRE (ENGLISH VERSION)

Q54:

Dear participant, thank you for supporting my master thesis by filling out this questionnaire. This survey is anonymous and the information provided by you cannot be traced back to you. Please answer the following questions in a speedy manner without extensive consideration of the answer choices. However, please take enough time to read the questions and the task completely. By using the blue button below the questions, that is being labeled with ">>", you continue to the next question. The survey will take approximately 10 to 15 minutes of your time. After you have answered the last question, you will be informed that you have now completed the survey.

Thank you for your participation!

- Julian Schaefer

Q5 – Product involvement:

How well do the following statements apply to you?

	Disagree strongly (1)	Disagree a little (2)	Neither agree nor disagree (3)	Agree a little (4)	Agree strongly (5)
Yoghurt means a lot to me (1)	☐	☐	☐	☐	☐
Yoghurt is insignificant to me (2)	☐	☐	☐	☐	☐
For me personally yoghurt is important (3)	☐	☐	☐	☐	☐
I am not interested in yoghurt (4)	☐	☐	☐	☐	☐

Q11 – Purchase decision involvement:

How well do the following statements apply to you?

	Disagree strongly (1)	Disagree a little (2)	Neither agree nor disagree (3)	Agree a little (4)	Agree strongly (5)
Deciding which yoghurt brand to buy is unimportant (1)	☐	☐	☐	☐	☐
I think a lot about which yoghurt brand to buy (2)	☐	☐	☐	☐	☐
Making purchase decisions for yoghurt is significant (3)	☐	☐	☐	☐	☐
I don't think a lot about my purchase decisions when it to comes to yoghurt (4)	☐	☐	☐	☐	☐
The purchase decisions I make for yoghurt are important to me (5)	☐	☐	☐	☐	☐

Q3 – Frequency of yoghurt consumption (general):

How often do you eat yoghurt?

☐ daily (1)
☐ at least once a week (2)
☐ at least once a month (3)
☐ occasionally (less than once a month) (4)
☐ never (5)

Q16 – Big Five Inventory-10:

How well do the following statements describe your personality?

	Disagree strongly (1)	Disagree a little (2)	Neither agree nor disagree (3)	Agree a little (4)	Agree strongly (5)
I see myself as someone who is reserved (1)	☐	☐	☐	☐	☐
I see myself as someone who is generally trusting (2)	☐	☐	☐	☐	☐
I see myself as someone who tends to be lazy (3)	☐	☐	☐	☐	☐
I see myself as someone who is relaxed, handles stress well (4)	☐	☐	☐	☐	☐
I see myself as someone who has few artistic interests (5)	☐	☐	☐	☐	☐
I see myself as someone who is outgoing, sociable (6)	☐	☐	☐	☐	☐
I see myself as someone who tends to find fault with others (7)	☐	☐	☐	☐	☐
I see myself as someone who does a thorough job (8)	☐	☐	☐	☐	☐
I see myself as someone who gets nervous easily (9)	☐	☐	☐	☐	☐
I see myself as someone who has an active imagination (10)	☐	☐	☐	☐	☐

Q18 – Bloch's CPVA:

How well do the following statements apply to you?

	Disagree strongly (1)	Disagree a little (2)	Neither agree nor disagree (3)	Agree a little (4)	Agree strongly (5)
Owning products that have superior designs makes me feel good about myself (1)	☐	☐	☐	☐	☐
I enjoy seeing displays of products that have superior designs (2)	☐	☐	☐	☐	☐
A product's design is a source of pleasure for me (3)	☐	☐	☐	☐	☐
Beautiful product designs make our world a better place to live (4)	☐	☐	☐	☐	☐
Being able to see subtle differences in product designs is one skill that I have developed over time (5)	☐	☐	☐	☐	☐
I see things in a product's design that other people tend to pass over (6)	☐	☐	☐	☐	☐
I have the ability to imagine how a product will fit in with the designs I already own (7)	☐	☐	☐	☐	☐
I have a pretty good idea of what makes one product look better that its competitors (8)	☐	☐	☐	☐	☐

Sometimes the way a product looks seems to out and grab me (9)	☐	☐	☐	☐	☐
If a product's design really speaks to me, I feel that I must buy it (10)	☐	☐	☐	☐	☐
When I see a product that has a really great design, I feel a strong urge to buy it (11)	☐	☐	☐	☐	☐

Q55 – Instructions for the following tasks:

In the following question-block please estimate the consistency of the displayed yoghurt on a continuum ranging from 'creamy' to 'runny'.

Q30 – Creamy vs. runny with manipulated cups:

How do you estimate the displayed yoghurt on a continuum ranging from 'creamy' to 'runny'?

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	
creamy	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	runny

Q31 – Creamy vs. runny with manipulated cups:

How do you estimate the displayed yoghurt on a continuum ranging from ‘creamy’ to ‘runny‘?

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	
creamy	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	runny

Q32 – Creamy vs. runny with manipulated cups:

How do you estimate the displayed yoghurt on a continuum ranging from ‘creamy’ to ‘runny‘?

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	
creamy	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	runny

Q33 – Creamy vs. runny with manipulated cups:

How do you estimate the displayed yoghurt on a continuum ranging from ‘creamy’ to ‘runny‘?

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	
creamy	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	runny

Q34 – Creamy vs. runny with manipulated cups:

How do you estimate the displayed yoghurt on a continuum ranging from ‘creamy’ to ‘runny‘?

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	
creamy	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	runny

Q35 – Creamy vs. runny with manipulated cups:

How do you estimate the displayed yoghurt on a continuum ranging from ‘creamy’ to ‘runny‘?

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	
creamy	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	runny

Q36 – Creamy vs. runny with manipulated cups:

How do you estimate the displayed yoghurt on a continuum ranging from ‘creamy’ to ‘runny‘?

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	
creamy	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	runny

Q37 – Creamy vs. runny with manipulated cups:

How do you estimate the displayed yoghurt on a continuum ranging from ‘creamy’ to ‘runny‘?

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	
creamy	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	runny

Q38 – Creamy vs. runny with manipulated cups:

How do you estimate the displayed yoghurt on a continuum ranging from ‘creamy’ to ‘runny‘?

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	
creamy	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	runny

Q39 – Creamy vs. runny with manipulated cups:

How do you estimate the displayed yoghurt on a continuum ranging from ‘creamy’ to ‘runny‘?

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	
creamy	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	runny

Q40 – Creamy vs. runny with original cups:

How do you estimate the displayed yoghurt on a continuum ranging from ‘creamy’ to ‘runny‘?

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	
creamy	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	runny

Q41 – Creamy vs. runny with original cups:

How do you estimate the displayed yoghurt on a continuum ranging from ‘creamy’ to ‘runny‘?

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	
creamy	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	runny

Q42 – Creamy vs. runny with original cups:

How do you estimate the displayed yoghurt on a continuum ranging from ‘creamy’ to ‘runny‘?

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	
creamy	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	runny

Q43 – Creamy vs. runny with original cups:

How do you estimate the displayed yoghurt on a continuum ranging from ‘creamy’ to ‘runny‘?

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	
creamy	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	runny

Q45 – Creamy vs. runny with original cups:

How do you estimate the displayed yoghurt on a continuum ranging from ‘creamy’ to ‘runny‘?

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	
creamy	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	runny

Q56 – Instructions for the following tasks:

In the following question block, please estimate the consistency of the displayed yoghurt on a continuum ranging from ‘sweet‘ to ‘sour‘.

Q46 – Sweet vs. sour with manipulated cups:

How do you estimate the displayed yoghurt on a continuum ranging from ‘sweet’ to ‘sour‘?

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	
sweet	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	sour

Q47 – Sweet vs. sour with manipulated cups:

How do you estimate the displayed yoghurt on a continuum ranging from ‘sweet’ to ‘sour‘?

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	
sweet	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	sour

Q48 – Sweet vs. sour with manipulated cups:

How do you estimate the displayed yoghurt on a continuum ranging from ‘sweet’ to ‘sour‘?

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	
sweet	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	sour

Q49 – Sweet vs. sour with manipulated cups:

How do you estimate the displayed yoghurt on a continuum ranging from ‘sweet’ to ‘sour‘?

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	
sweet	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	sour

Q50 – Sweet vs. sour with manipulated cups:

How do you estimate the displayed yoghurt on a continuum ranging from ‘sweet’ to ‘sour‘?

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	
sweet	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	sour

Q51 – Sweet vs. sour with manipulated cups:

How do you estimate the displayed yoghurt on a continuum ranging from ‘sweet’ to ‘sour‘?

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	
sweet	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	sour

Q52 – Sweet vs. sour with manipulated cups:

How do you estimate the displayed yoghurt on a continuum ranging from ‘sweet’ to ‘sour‘?

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	
sweet	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	sour

Q53 – Sweet vs. sour with manipulated cups:

How do you estimate the displayed yoghurt on a continuum ranging from ‘sweet’ to ‘sour‘?

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	
sweet	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	sour

Q54 – Sweet vs. sour with manipulated cups:

How do you estimate the displayed yoghurt on a continuum ranging from ‘sweet’ to ‘sour‘?

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	
sweet	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	sour

Q55 – Sweet vs. sour with manipulated cups:

How do you estimate the displayed yoghurt on a continuum ranging from ‘sweet’ to ‘sour‘?

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	
sweet	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	sour

Q56 – Sweet vs. sour with manipulated cups:

How do you estimate the displayed yoghurt on a continuum ranging from ‘sweet’ to ‘sour‘?

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	
sweet	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	sour

Q57 – Sweet vs. sour with original cups:

How do you estimate the displayed yoghurt on a continuum ranging from ‘sweet’ to ‘sour‘?

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	
sweet	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	sour

Q58 – Sweet vs. sour with original cups:

How do you estimate the displayed yoghurt on a continuum ranging from ‘sweet’ to ‘sour‘?

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	
sweet	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	sour

Q59 – Sweet vs. sour with original cups:

How do you estimate the displayed yoghurt on a continuum ranging from ‘sweet’ to ‘sour‘?

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	
sweet	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	sour

Q60 – Sweet vs. sour with original cups:

How do you estimate the displayed yoghurt on a continuum ranging from ‘sweet’ to ‘sour‘?

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	
sweet	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	sour

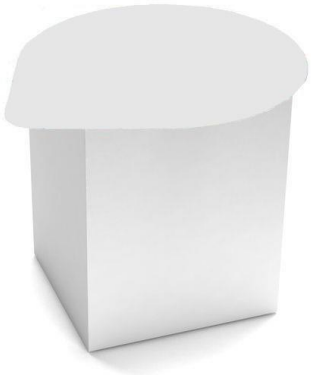
Q25 – Assessment of packaging typicality:

How typical is the displayed packaging for a yoghurt packaging?

	(1)	(2)	(3)	(4)	(5)	
not typical	☐	☐	☐	☐	☐	typical

Q61 – Assessment of packaging typicality:

How typical is the displayed packaging for a yoghurt packaging?



	(1)	(2)	(3)	(4)	(5)	
not typical	☐	☐	☐	☐	☐	typical

Q18 – Assessment of product familiarity:

Please indicate to what extent you agree with the following statement:

‘I am very familiarized with ‘Der grosse Bauer’ from Bauer. ‘

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	
disagree strongly	☐	☐	☐	☐	☐	☐	☐	agree strongly

Q22 – Assessment of product familiarity:

Please indicate to what extent you agree with the following statement:

'I am very familiarized with 'Yoghurt Pause' from Danone.'

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	
disagree strongly	☐	☐	☐	☐	☐	☐	☐	agree strongly

Q23 – Assessment of product familiarity:

Please indicate to what extent you agree with the following statement:

'I am very familiarized with 'Almighurt' from Ehrmann.'

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	
disagree strongly	☐	☐	☐	☐	☐	☐	☐	agree strongly

Q24 – Assessment of product familiarity:

Please indicate to what extent you agree with the following statement:

'I am very familiarized with 'Joghurt mild' von Landliebe.'

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	
disagree strongly	☐	☐	☐	☐	☐	☐	☐	agree strongly

Q25 – Assessment of product familiarity:

Please indicate to what extent you agree with the following statement:

'I am very familiarized with strawberry yoghurt from Sonnenhof Natur.'

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	
disagree strongly	☐	☐	☐	☐	☐	☐	☐	agree strongly

Q20 – Yoghurt consumption measure:

How often do you eat ‘Der grosse Bauer’ from Bauer ?

- ☐ daily (1)
- ☐ at least once a week (2)
- ☐ at least once a month (3)
- ☐ occasionally (less than once a month) (4)
- ☐ never (5)

Q26 – Yoghurt consumption measure:

How often do you eat ‘Yoghurt Pause’ from Danone ?

- ☐ daily (1)
- ☐ at least once a week (2)
- ☐ at least once a month (3)
- ☐ occasionally (less than once a month) (4)
- ☐ never (5)

Q27 – Yoghurt consumption measure:

How often do you eat ‘Almighurt’ from Ehrmann?

- ☐ daily (1)
- ☐ at least once a week (2)
- ☐ at least once a month (3)
- ☐ occasionally (less than once a month) (4)
- ☐ never (5)

Q28 – Yoghurt consumption measure:

How often do you eat ‘Joghurt mild’ from Landliebe?

- ☐ daily (1)
- ☐ at least once a week (2)
- ☐ at least once a month (3)
- ☐ occasionally (less than once a month) (4)
- ☐ never (5)

Q29 – Yoghurt consumption measure:

How often do you eat strawberry yoghurt from ‘Sonnenhof Natur’?

- ☐ daily (1)
- ☐ at least once a week (2)
- ☐ at least once a month (3)
- ☐ occasionally (less than once a month) (4)
- ☐ never (5)

Q62 – Determination of gender:

Are you male or female?

- ☐ Male (1)
- ☐ Female (2)

Q63 – Determination of age:

How old are you? Please choose the applicable answer from the drop-down menu.

- Below 18 (1)
- 18-20 (2)
- 21-29 (3)
- 30-39 (4)
- 40-49 (5)
- 50-59 (6)
- Over 60 (7)

Q64 – Determination of highest education level:

What is the highest level of education that you have reached so far? Please choose the applicable answer from the drop-down menu.

- Less than Grundschule (1)
- Grundschule (2)
- Hauptschulabschluss (3)
- Realschulabschluss respectively mittlere Reife (4)
- Fachhochschulreife respectively Abitur (5)
- Bachelor (6)
- Master, Magister respectively Diplom (7)
- Conferral of doctorate (8)

Q65 – Determination of occupation:

Which of the following categories describes your employment status best? Please choose the applicable answer from the drop-down menu.

- Working (1-39 hours per week) (1)
- Working (40+ hours per week) (2)
- Student (with or without side job) (3)
- Unemployed (4)
- Retiree (5)
- Unfit for work (6)

Q66 – Determination of marital status:

Are you currently married, widowed, divorced, separated or single? Please choose the applicable answer from the drop-down menu.

- Single (1)
- Married (2)
- Widowed (3)
- Divorced (4)
- Separated (5)

Q72 – Determination of household size:

How many people live in your household?

- ☐ Only me (1 person) (1)
- ☐ 2-4 persons (2)
- ☐ 5 persons or more (3)

Q73 – Determination of number of children within the household:

How many children below 18 live in your household?

☐ None (4)
☐ 1 child (5)
☐ 2-3 children (6)
☐ 4 or more children (7)

Q58 – Importance of product information:

How well do the following statements apply to you?

	Disagree strongly (1)	Disagree a little (2)	Neither agree nor disagree (3)	Agree a little (4)	Agree strongly (5)
Product information is unimportant to me. I don't need to know what the product contains. (1)	☐	☐	☐	☐	☐
I compare labels to select the most nutritious food. (2)	☐	☐	☐	☐	☐
I compare product information labels to decide which brand to buy. (3)	☐	☐	☐	☐	☐

Q59 – Joy of shopping:

How well do the following statements apply to you?

	Disagree strongly (1)	Disagree a little (2)	Neither agree nor disagree (3)	Agree a little (4)	Agree strongly (5)
Shopping for food bores me. (1)	☐	☐	☐	☐	☐
I just love shopping for food. (2)	☐	☐	☐	☐	☐
Shopping for food is like a game to me. (3)	☐	☐	☐	☐	☐

Q60 – Attitude towards health and food:

How well do the following statements apply to you?

	Disagree strongly (1)	Disagree a little (2)	Neither agree nor disagree (3)	Agree a little (4)	Agree strongly (5)
I try to plan the amounts and types of food that the family consumes. (1)	☐	☐	☐	☐	☐
To me the naturalness of the food that I buy is an important quality. (2)	☐	☐	☐	☐	☐
I don't try to avoid food products with additives. (3)	☐	☐	☐	☐	☐

Q61 – Attitude towards price-quality relation:

How well do the following statements apply to you?

	Disagree strongly (1)	Disagree a little (2)	Neither agree nor disagree (3)	Agree a little (4)	Agree strongly (5)
I always try to get the best quality for the best price. (1)	☐	☐	☐	☐	☐
I compare prices between product variants in order to get the best value food. (2)	☐	☐	☐	☐	☐

Q67 – Household income level:

How much money have all the members of your household (18 years or older) earned in the year 2013 in total?

(This includes any kind of income including salary, income from commerce or farming, property rental income, pensions, dividends, interests, benefits for social security and other income. Please indicate the grand total in Euro. – Without deduction of taxes or other deductions. Please choose the applicable answer from the drop-down menu.

- 0 - 19 999 € (1)
- 20 000 - 34 999 € (2)
- 35 000 - 49 999€ (3)
- 50 000 - 74 999 € (4)
- 75 000 - 99 999 € (5)
- 100 000 - 149 999 € (6)
- 150 000 € or more (7)