The effects of colour-product congruence and incongruence on product evaluation among Dutch and German consumers

Snyders, E., s1026597, Eva.snyders@student.ru.nl
Assessor: Speed, L., L.Speed@let.ru.nl
Second Assessor: Starren, M., M.Starren@let.ru.nl
Abstract

Cross modal correspondences refer to the tendency for consumers to link packaging features to different senses. More specifically, consumers often associate packaging colours with a certain product flavour. This connection is made through repeated exposure to products and their packaging colour. Little is known about the role culture plays in regard to cross-modal correspondences for culture specific product-colour associations, and the potential roles attitudes to novelty and personal colour preferences might play. Therefore, this study was conducted to assess how packaging colour-product congruence/incongruence could affect product evaluations (tastiness, purchase intention & product attitude) across two different consumer groups: Dutch (n = 108) and German (n = 99) (mixed-design). Attitude to ‘novelty’ and potential colour biases were also evaluated as they might affect the results. Overall, the results revealed that consumers liked a product less when the packaging colour was incongruent with the colour typical for their own country. Having said that, the results also showed that the Dutch consumers were more open to ‘novelty’ products and had a more positive attitude towards incongruent packaging colours in comparison to the German sample. Finally, personal colour preferences for the colour pink did affect results for familiarity, but not for perceived tastiness, purchase intention and product attitude. All in all, the results of this study provide an answer to how colour-product congruence and incongruence is appreciated across two different cultures: Germany and the Netherlands. Moreover, how it could affect product evaluations for snack, sweets, and water products. Finally, this study suggested that marketers should be aware of cross modal congruence in the sense that it could either positively or negatively affect product evaluations, depending on the culture.

Introduction

During any supermarket shopping process, people are faced with numerous products within the same category. Packaging appearance seems to play an important role when it comes to forming brand consideration sets (subset of brands that consumers evaluate when making a purchase decision) (Garber, Burke, & Jones, 2000). When identifying and evaluating a brand for purchase, consumers go through four stages: (1) category attention, (2) brand attention, (3) brand consideration, and (4) brand choice (Garber, Hyatt, & Starr, 2000). The colour of the product packaging can affect each stage in this process. Past research shows that people gravitate towards brands they can instantly identify (due to prior exposure), or towards brands with new or different appearances (Garber et al., 2000). Thus, packaging colour is relevant for both familiar and ‘new’ appearances.
As consumers tend to be gravitated towards familiar or interesting product packages, studies suggest that brands who plan to launch a new product in a competitive category need to pay attention to the use of colour (Garber et al., 2000). The main reason being that colour triggers pre-existing associations within the consumer’s mind when it comes to taste, quality, category, or brand (Piqueras-Fizman & Spence, 2011). Whenever the pre-existing colour associations do not correspond with the actual item, this may affect product evaluation (Matthews, Simmonds, & Spence, 2019). For instance, Spence (2018) found that when a packaging colour of an existing product changes, individuals often report a change in the taste as well. This could affect consumer’s attitude towards the product and purchase intention (Spence, 2018). However, little is known about cultural differences in relation to colour-product congruity for country specific packaging colour-flavour parings (Velasco et al., 2016). The current study will evaluate the effects that country specific colour-product congruence and incongruence have on product evaluation and brand perception among Dutch and German consumers.

**Theoretical background**

Colour is among the three main considerations consumers take before a purchase, together with quality and price (Madden, Hewett, & Roth, 2000). However, individuals are often affected by colour in ways they do not necessarily understand at a conscious level (Piqueras-Fiszman & Spence, 2011). Packaging colour, as well as shape, size, and orientation, has the psychological ability to attract visual attention and retain attention (Clement, 2007). This in turn facilitates cognitive information processing (Kauppinen-Räisänen, 2014; Schoormans & Rubben, 1997). In practice, marketers have to find a balance between the ability for unconventional packages to (1) draw (positive) attention and (2) eliciting negative package evaluations due to it being ‘strange’ or ‘unconventional’. To do so, it is important to understand what happens in the consumer’s mind (Schoormans & Rubben, 1997).

When solely looking at ‘colour’ as a visual feature, there are specific assumptions people make about the product. For unfamiliar products and brands, due to pre-established colour-taste associations, purchase intention is primarily determined by how ‘tasty’ a product looks (Hyatt & Starr, 2000; Matthews et al., 2019). For example, people would not question the taste of red strawberries; however, when the same people would be confronted with a blue strawberry, they might question whether the taste would be the same (Garber et al., 2000; Pieters et al., 1997). However, for familiar products or brands, packaging colours pose as ‘cues’ to efficiently find the preferred/sought after brand and/or flavour (Lawrence, Garber, Hyatt &
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Nafees, 2016; Pieters, Warlop & Hartog, 1997). Besides whether a product looks tasty, there also seems to be a relationship between consumer colour preferences and product-colour choice. Studies show that some individuals select products with colours similar to their favourite colour, regardless of whether the product is familiar or if it corresponds with the taste expectations (Westland & Shin, 2015; Yu et al., 2018). More importantly, personal colour preferences can affect consumers’ purchase intention and product attitude (Westland & Shin, 2015; Yu et al., 2018). All in all, marketers should design product packages in such a way that is elicits the most attention and is strong enough to establish a favourable position in the mind of consumers in comparison to competitive brands (Marques da Rosa, Spence, & Miletto Tonetto, 2019).

The extent to which product packaging affects consumer attention and eventual purchase intention is highly related to cognitive processes and cross-modal correspondences (Piqueras-Fiszman & Spence, 2011; Schoormans & Rubben, 1997). Memory is structured as an associative network, meaning that associative learning takes place when individuals connect two pieces of information together. This leads to people having well-established conventions (cross-modal correspondence) about colours and the extent to which they ‘fit’ a product (Huang & Lu, 2015; Piqueras-Fiszman & Spence, 2011; Spence, 2010). There are three kinds of cross-modal correspondences, which have consequences on how consumers process information. Firstly, statistical cross-modal correspondences are learned through prior experiences and are learned over time (associative learning) (e.g. disliking a food after food poisoning) (Grossman & Wisenblit, 1999; Humphrey, 1976; Spence, 2011). In practice, consumers will choose products that are most ‘typical’ (or familiar) for a product category (Schoormans & Rubben, 1997). Learning through past experiences can either be conscious (e.g. colour preferences based on experiences) or semiconscious (learned through culture) (e.g. orange being the Dutch national colour) (Kauppinen-Räisänen, 2014). Secondly, structural cross-modal correspondences are natural or born (innate) associations; however, it could also depend on maturation of neural structures (sunlight refers to the day, darkness to the night) (Kauppinen-Räisänen, 2014; Spence, 2011). In this case, a colour could directly signal the brain to trigger a positive reaction (Grossman & Wisenblit, 1999; Humphrey, 1976). Finally, semantic cross-modal correspondences emerge through language development; how the word ‘soda’ often reminds people of certain brands: Coca Cola, Fanta, etc. (Spence, 2011).

The statistical cross-modal correspondence explains how, when presented with a selection of new brands, consumers seem to rely on their existing product knowledge and will
choose the most exemplary brand (Alba & Hutchinson, 1987). This often results in a dislike for incongruent colour-product matches (Huang & Wan, 2019; Kauppinen-Räisänen, 2014; Piqueras-Fiszman & Spence, 2011). For instance, Garber et al. (2000) found that for US students, it was more difficult to guess the correct flavour when the food was in an ‘atypical’ colour (e.g. strawberries blue instead of red). Matthews at al. (2019) conducted a study among UK consumers to assess the effects of colour and taste expectations (sweet, sour) in regard to packaging. They found that taste-congruent cues (colour, text, & design) aided the participants to guess the flavour (sour or sweet) correctly. Furthermore, Huang and Wan (2019) conducted a study among Chinese young adults and found that chips packages with incongruent colour-flavour information were liked less than chips bags with congruent colour-label information. Similarly, Piqueras-Fiszman and Spence (2011) found that UK consumers who tasted crisps with incongruent packaging colours liked the taste of the crisps less than a bag with colouring congruent for that flavour. To summarize, there is a global understanding that products with incongruent colour-product packaging are liked less in comparison to congruent packaging colours, which in turn can affect tastiness, purchase intention and product attitude (Huang & Wan, 2019; Kauppinen-Räisänen, 2014; Piqueras-Fiszman & Spence, 2011).

On the other hand, there is theoretical evidence for a positive relationship between novelty, preference and purchase intention. This is especially the case for novelty seekers, who aim to find variety in their brand choices (Barto, Mirolli & Baldassarre, 2013). In practice, a changes in product packaging could enhance product considerations (Barto, Mirolli & Baldassarre, 2013; Huang & Wan, 2019). For instance, Huang and Wan (2019) found that when packaging colours were incongruent with flavour labels, the brand was considered more innovative and created an unexpectedness, which led to favourable product evaluations. The reason being that ‘novelty seekers’ are often more attracted to unconventional products (Labrecque & Milne, 2013; Pechmann & Ratneshwar, 1991). So, marketers could act on consumer’s attraction to novelty and surprise by offering packages that are visually unexpected or unfamiliar.

The studies discussed above, which focused on the effects of colour-product incongruence on product evaluations (i.e. product attitude, purchase intention & tastiness), have each focused on one consumer group from one country; however, when it comes to colour-taste associations, cultural differences also seem to play a role (Valesco et al., 2016; Wan et al., 2014). For instance, Wan et al. (2014) tested colour-taste associations among students from the UK, India, and South Korea. They had to guess the flavour of varying coloured juices (green,
yellow, blue, orange, & brown). This study revealed differing colour-product associations across cultures. For example, red drinks were associated with cherry, cranberry, strawberry, or watermelon, depending on the country. This cultural difference seems to be dependent on ‘fit’. Piqueras-Fiszman, Velasco and Spence (2012) found that for British and Columbian participants, conventional colour-flavour pairings were more easily linked to the corresponding brand than unconventional pairings. They, however, did not evaluate congruence and incongruence in relationship to product attitude, tastiness or purchase intention. Finally, Valesco et al. (2016) found that product-colour associations for crisps corresponding to natural pairings (e.g. tomato to red and cucumber to green) was equal among British, Chinese, and Colombian consumers. However, varying colour associations were found among more complex and unspecified flavours (salt and vinegar, natural, & original). To the author’s best knowledge, there is a gap in the literature for cultural/country specific packaging colour-product associations in relation to the effects congruent and incongruent colour packaging have on perceived tastiness, purchase intention and product attitude across cultures (Piqueras-Fiszman et al., 2012; Valesco et al., 2016; Wan et al., 2014).

Culture does not only seem to play a role in regard to colour-taste and brand associations, but also for the acceptance of new products (Yaveroglu & Donthu, 2003; Yeniyurt & Townsend, 2003). Cultures high in power distance (opposing/acceptance of unequal distribution of power) tend to be less open to new ideas and products (Hofstede, 1991; Yaveroglu & Donthu, 2003). Cultures low in uncertainty avoidance (whether individuals feel comfortable with vagueness and ambiguity) on the other hand tend to be more innovative and entrepreneurial. Finally, individualism (preference for a loosely-knit social framework) positively affects whether new and innovative products are accepted. Individualistic cultures tend to have a more positive outlook towards uniqueness and differentiation (Hofstede, 1991; Yaveroglu & Donthu, 2003; Yeniyurt & Townsend, 2003). The past studies explain the importance of exploring the different meanings across cultures before launching a new product or campaign (Aslam, 2006; Choungourian, 1968; Jacobs, Keown, Worthley & Ghymn, 1991).

**Current study**

As described above, consumers create links between packaging colours and product flavours through prior exposure, which is called cross-modal correspondence. Usually, when a packaging colour does not match with existing colour-flavour associations, the product is liked less than when the packaging colour ‘fits’ with the expected flavour (Huang & Lu, 2015;
Piqueras-Fiszman & Spence, 2011; Spence, 2010). However, studies argue that incongruent product packaging could positively influence novelty seekers; the unusual packaging would catch their attention (Barto et al., 2013; Huang & Wan, 2019). Colour-flavour congruence, however, is not the only determinant for whether or not the product is evaluated positively. Previous studies have also found it to be dependent on personal colour preferences (Westland & Shin, 2015; Yu et al., 2018). Overall, colour-flavour congruence and incongruence could affect product evaluations, which could depend on the acceptance of ‘novelty’ products and personal colour preferences.

Pairing the right colour to the suitable taste might not be as easy as it initially seems. Culture appears to play a role in colour-flavour associations (Velasco et al., 2016). However, studies on the effects of packaging incongruence, each solely focused on one consumer group and did not compare different cultures (Huang & Wan, 2019; Kauppinen-Räisänen, 2014; Piqueras-Fiszman & Spence, 2011). The studies that focused on the colour-taste associations across cultures, in turn, failed to acknowledge that product package colours can vary across countries, which can result in different colour-taste associations. Also, they did not assess the effects congruent and incongruent packaging colour-product combinations have on perceived tastiness, purchase intention or product attitude for different cultures (Piqueras-Fiszman et al., 2012; Valesco et al., 2016; Wan et al., 2014). For example, paprika chips is sold in a blue bag in the Netherlands, while it is sold in a red bag in Germany. So, little is known about cultural differences in relation to colour-product congruity and incongruity for country specific colour-flavour parings (Velasco et al., 2016). Furthermore, cultures can also vary in their acceptance of ‘novelty’ products, which in turn could affect product evaluations (Yaveroglu & Donthu, 2003). As Yaveroglu and Donthu, (2003) and Yeniyurt and Townsend (2003) found, countries with low uncertainty avoidance and high individualism are more open to new ideas and innovativeness. However, this theory has not yet been applied in relation for colour-flavour congruency and incongruence.

Based on the remaining questions in the field of cross-modal correspondence, this study will examine cultural differences in the effects of congruent and incongruent colour-product packages in relation for culture specific colour-product parings, and whether cultural profiles could predict the openness to ‘novelty’ products (incongruence) (Velasco et al., 2016; Wan et al., 2014; Yaveroglu & Donthu, 2003; Yeniyurt & Townsend, 2003). While taking in mind that openness to novelty and personal colour preferences could act as moderating factors (Barto et al., 2013; Huang & Wan, 2019; Westland & Shin, 2015; Yu et al., 2018). The two countries
that will be assessed are the Netherlands and Germany. They have not yet been compared in related studies. As explained by Yaveroglu and Donthu, (2003) and Yeniyurt and Townsend (2003), low power distance and uncertainty avoidance could predict openness to ‘novelty’ products. In regard to these two dimensions, only in uncertainty avoidance do the countries vary. All in all, even though Germany and the Netherlands are similar in cultural profiles (Appendix 1), Dutch consumers should be more open to innovative products (low uncertainty avoidance) (Hofstede-Insights, 2020; Yaveroglu & Donthu, 2002; Yeniyurt & Townsend, 2003).

All in all, because packaging colours can differ across countries, cultures could show differences in terms of packaging colour-taste associations, colour preferences and the reaction to novelty products, which are important for marketers to understand (Madden et al., 2000; Yaveroglu & Donthu, 2002; Yenihurt & Townsend, 2003). The current study will focus on colour-taste associations learned through culture. More specifically, culture specific associations based on packaging (Kauppinen-Räisänen, 2014). This study attempts to fill the gap between two knowledge streams: different effects congruent and incongruent packaging colours can have on product evaluation, as well as the premise that cross-cultural differences exist in terms of colour-taste associations (Huang & Lu, 2015; Piqueras-Fiszman & Spence, 2011; Piqueras-Fiszman et al., 2012; Spence, 2010; Valesco et al., 2016; Wan et al., 2014). Also, if German and Dutch participants differ in their acceptance of new products. To do this, the following research questions were formulated:

1. **How do German and Dutch consumers respond to incongruent product packaging in terms of product attitude, perceived tastiness, and purchase intention?**

2. **To what extent do German and Dutch consumers differ when it comes to the acceptance of new or innovative products?**

   Based on the previously mentioned studies, it is expected that the Dutch and German participants will have differing product-colour associations, as packaging colours vary across countries. It is predicted that participants will have a higher attitude, perceived tastiness and purchase intention towards packaging colours most typical for their country. This is because packaging colours pose as ‘cues’ to find the product and/or flavour more efficiently (Hyatt & Starr, 2000; Matthews et al., 2019). This is explained through cross-modal correspondence and the consumer’s categorization process; consumers are likely to select products that are familiar
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and fit well with pre-established conventions (Lawrence, Garber, Hyatt & Nafees, 2016; Pieters et al., 1997). More specifically, based on prior exposure, consumers often have existing colour-taste associations for specific products (e.g. chips, soft drinks). So, when shown a product with varying packaging colours, it was predicted that the Dutch sample will have a higher product attitude, tastiness perception (whether it looks tasty), and purchase intention towards products with packaging colours most exemplary for the Netherlands, and the German sample towards the packaging colours most typical for Germany.

Openness to new products and personal colour preference can be moderating factors which could affect purchase intention and product attitude as well. It was expected that cultural profiles can predict a country’s openness to new products. This because atypical product packaging can elicit involuntary attention and potentially purchase intention by novelty seekers (Huang & Wan, 2019). Furthermore, the product may be perceived as more innovative, even though the packaging colour might not match existing colour-flavour associations (Barto et al., 2013; Huang & Wan, 2019). Based on the fact that the Netherlands is low in uncertainty avoidance, it is expected that as ‘novelty’ goes up, the effect of product congruence will be smaller in the Dutch sample; the differences in product attitude and purchase intention between the congruent and incongruent packaging is expected to be smaller in comparison to the German sample (Yaveroglu & Donthu, 2002; Yenihurt & Townsend, 2003). Finally, personal colour preferences could result in consumers showing positive attitudes and purchase intentions towards packaging colours, regardless of whether the colour corresponds with the expected flavour (Westland & Shin, 2015; Yu et al., 2018). How this will look in the experiment is that a German participant may have a higher attitude towards the blue paprika chips bag, even though the congruent colour for Germany is red.

Method

Materials

For this study, twelve non-existing product packages were designed (Appendix 2); three colour variations for each product (paprika chips, sweet popcorn, sparkling water, and sour sweets). This so that participants would not recognize them before hand. These packages were created with Adobe Photoshop. The colours of the packaging are based on (1) congruent colour for the Netherlands, (2) congruent colour for Germany, and (3) incongruent colour for both countries. The basis for these colours (real examples) can be found in Appendix 3. These items were based on differences in colour in the Netherlands and Germany. The items were sourced
through desk research and physical visits to supermarkets in Nijmegen, the Netherlands (Albert Heijn, Jumbo, Aldi) and Hamburg, Germany (Rewe, Kaufland). The information written on the product packages, as well as the survey, are in the participants’ native language (Dutch or German). This is to avoid possible anchor contraction effects, where individuals tend to answer Likert scales differently in their native language in comparison to their second language (de Langhe, Puntoni, Fernandes & van Osselaer, 2011). The translations were done using back to back translation.

The product packages were designed as follows (see Table 1). The first product was ‘paprika chips’, with the packaging colours red (congruent for Germany), blue (congruent for the Netherlands), and green (incongruent for both countries). The second product was ‘sweet popcorn’ with the colour variations red (congruent for the Netherlands), pink (congruent for Germany), and blue (incongruent for both). The third product was ‘sparkling water’ (unflavoured), with red packaging (congruent product for the Netherlands), blue (congruent for Germany), and green (incongruent for both). The final product was ‘sour, fruit flavoured gummies’ with the packaging colours yellow (congruent for the Netherlands), green (congruent for Germany), and purple (incongruent colour for both).

<table>
<thead>
<tr>
<th>Product items</th>
<th>Paprika chips</th>
<th>Sweet popcorn</th>
<th>Sour sweets</th>
<th>Sparkling water</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dutch congruent</td>
<td>blue</td>
<td>red</td>
<td>yellow</td>
<td>red</td>
</tr>
<tr>
<td>Germany congruent</td>
<td>red</td>
<td>pink</td>
<td>green</td>
<td>blue</td>
</tr>
<tr>
<td>Both incongruent</td>
<td>green</td>
<td>blue</td>
<td>purple</td>
<td>green</td>
</tr>
</tbody>
</table>

**Participants**

A total of 207 participants took part in this experiment, of which 8 were excluded because they were 17 or younger. Of the remaining 199 participants, 99 (49.7%) were Dutch and 100 (50.3%) German. A total of 81 (40.7%) men and 116 (58.3%) women took part; two participants (1%) did not want to specify their gender. For the Dutch sample, 40 (40.4%) participants were male and 59 (59.6%) were female. For the German sample, 41 (41.0%) participants were male and 57 (57.0%) were female. The ages of the participants varied between 18 and 77 for the Dutch sample and between 18 and 71 for the German sample.
A Chi-square test showed no significant relation between age and nationality ($X^2(2) = 45.40, p = .455$). Another Chi-square test also showed no significant relation between gender and nationality ($X^2(2) = 2.04, p = .360$). This means that the likelihood that the observed association occurred by chance increases.

**Design**

The design of this study was a mixed design. The within-subject factor ‘packaging colour’ had three levels: (1) congruent packaging colour for the Netherlands, (2) congruent packaging colour for Germany, and (3) incongruent packaging colour for both countries for four different food and beverage products. The between-subject factor was nationality: German and Dutch. The dependent variables for this experiment were purchase intention, product attitude, and perceived tastiness.

There are two moderators (openness to new products and personal colour preference) which were expected to possibly affect the dependent variables. Firstly, based on personal colour preferences some participants could show positive attitudes and purchase intentions towards packaging colours which are not ‘typical’ for their country (Westland & Shin, 2015; Yu et al., 2018). Secondly, a person’s openness to new products could also positively affect product attitudes and purchase intention towards packaging colours which are supposed to be ‘incongruent’ (Yaveroglu & Donthu, 2002; Yenihurt & Townsend, 2003).

**Instruments**

The three dependent variables (tastiness, purchase intention & product attitude) were measured using 7-point Likert scales. For the reliability checks, the averages across all 12 manipulations were taken.

Familiarity was added as a manipulation check, to see whether the assumptions made based on existing products are indeed correct in terms of congruence and incongruence. Familiarity was measured with two items on a 7-point Likert scale. The first statement was ‘I see this product on a regular basis’, followed by ‘1: completely agree – 7: completely disagree’ and ‘I believe this product looks: familiar’, followed by ‘1: completely agree – 7: completely disagree’ (Shehryar & Hunt, 2005). The reliability of ‘familiarity’ comprising two items was good: $\alpha = .89$.

The dependent variable ‘product attitude’ was measured with three 7-point Likert scales. With the statement ‘I believe this product looks’, followed by: ‘1: very attractive – 7: 
very unattractive’, ‘1: very appealing – 7: not appealing at all’, and ‘1: of very high quality – 7: of very poor quality’ (Huang & Wan, 2019). The reliability of ‘product attitude’ comprising three items was good: α = .94.

Purchase intention was measured using three 7-point Likert scales. The three statements were ‘I would buy this product in the future’, ‘This product is something for me’, and ‘I would trade my regular/go-to product for this item’: all followed by ‘1: strongly agree – 7: strongly disagree’ (Thøgersen, Haugaard, & Olesen, 2010). The reliability of ‘purchase intention’ comprising three items was good: α = .94.

The final dependent variable was perceived product tastiness, which was measured with three 7-point Likert scales. The first statement was ‘I think this product looks’, followed by: ‘1: very tasty – 7: not tasty at all’ (Turnwald & Crum, 2019) and ‘1: very delicious – 7: not delicious at all’. The statement ‘the packaging colour corresponds to the taste of this product’, followed by: ‘strongly agree – 7: strongly disagree’ were added to see whether the product packaging is congruent with the mentioned flavour. The reliability of ‘product tastiness’ comprising three items was good: α = .86.

Novelty was measured to check the assumption that Dutch are more open to new products. To evaluate the claim that cultural profiles could predict whether a product is perceived as innovative and whether someone is a ‘novelty seeker’ the following statements were added: ‘I believe this product looks’: ‘1: very innovative – 7: not innovative at all’, ‘In general, I am among the first in my cycle of friends to try new products’, ‘I am generally aware of new products that come onto the market’ ‘When I spot a new interesting product, I often purchase is’, and ‘I tend to buy products I am already familiar with’, followed by: ‘1: completely agree – 7: completely disagree’ (Cowart, Fox & Wilson, 2008; Huang & Wan, 2019). The reliability of ‘attitude to novelty’ comprising five items was acceptable: α = .71.

To check for potential colour biases, the participants’ colour preferences were assessed by showing various colour blocks, which were the same to the colours used for the manipulations (yellow, red, blue, green, orange, pink, & purple). The respondents had to indicate how much they liked the colour: ‘this is my favourite colour’ and ‘I like this colour’ followed by: ‘1: completely agree – 7: completely disagree’ (Yu et al., 2018). The reliability of ‘colour preference’, comprising two items, was reasonable: α = .67. Finally, the demographic questions were ‘what is your age?’, ‘what is your gender’, and ‘what is your nationality?’ An overview of all the questions in survey format can be seen in Appendix 3.
Analytical model

The independent variables packaging colour and nationality were expected to positively or negatively affect the dependent variables product attitude, tastiness perception and purchase intention.

Procedure

The survey was created in Qualtrics, which was then sent around electronically via WhatsApp, Facebook and Instagram until at least 180 people participated. The survey was structured as follows; the participants were exposed to a (randomized) set of product pictures. After each picture they were asked to rate the items in relation to familiarity, perceived tastiness, purchase intention, and product attitude. Then, the participants were asked to reflect on their own personality in relation to openness to new products. After that, the participants were shown six different (randomized) colour blocks. After each colour the participants were asked to rate the colours in terms of likeability. Finally, the participants were asked to specify their age, gender, and nationality. The procedure took approximately 10 minutes.

Statistical treatment

In order to make the data more legible, all variables were recoded. In the survey, 7-point Likert scales were used for all dependent variables. Of these Likert scales, 1 represented positive, and 7 represented negative, which have been recoded to 1 being negative and 7 being
positive. The reliability of the scales was checked through Cronbach’s Alpha, and Chi-square tests were conducted to check the relations between age, gender and nationality.

A mixed ANOVA with the within subject variable (packaging colour) and between-subject factor (nationality) was conducted for each dependent variable. When significant interactions occurred, pairwise comparisons (Bonferroni-corrections) were conducted separately for each consumer group (German & Dutch).

For the potential moderator ‘colour preference’, independent samples t-tests were conducted for each colour used for the manipulations to check whether the German and/or Dutch consumers would have a colour preference. These ratings were further included in an ANCOVA (controlling for this data), answering the question: over and above people’s colour preferences, is there an effect of the congruency? For openness to ‘novelty’ products another independent samples t-test was conducted which tested whether there was a difference between Dutch and Germans.

**Results**

*Colour preference*

Independent samples t-tests did not show a significant difference between German and Dutch consumers with regard to the preference for the colours green (t (197) = 1.20, p = .230), blue (t (197) = 0.59, p = .553), purple (t (197) = 0.62, p = .539), red (t (197) = 1.39, p = .167), and yellow (t (197) = 0.67, p = .506). However, there was a significant difference for the colour pink (t (197) = 2.28, p = .024). The Dutch sample (M = 3.93, SD = 1.49) had a higher preference for the colour pink in comparison to the German sample (M = 3.42, SD = 1.65). Because pink is one of the packaging colours used for the popcorn product (congruent for Germany), separate ANCOVAs for popcorn for each dependent variable will be conducted to control for this preference.

**Familiarity**

In order to assess whether the chosen packaging colours are in line with the familiarity for each product, separate one-way ANOVAs were conducted for each product. Table 2 shows the means and standard deviations for the familiarity for all manipulations.

**Sweets.** A mixed ANOVA for familiarity with sweets packaging colour as within-subjects factor and nationality as between-subjects factor showed a significant main effect for packaging colour (F (2, 394) = 12.17, p < .001), but not for nationality (F (1, 197) = 1.74, p =
the different coloured sweets packaging was found for both the Dutch ($F(2, 196) = 8.49, p < .001$) and German sample ($F(2, 198) = 10.33, p < .001$). For the Dutch sample, the familiarity was greater for the packaging colour congruent for the Netherlands ($M = 3.60, SD = .12$) than for the packaging colour incongruent for both ($p < .001$, Bonferroni-correction; $M = 3.10, SD = .11$) but not more familiar than the packaging congruent for Germany ($p = .269$, Bonferroni-correction; $M = 3.36, SD = .11$). For the German sample, the familiarity was greater for the packaging colour congruent for Germany ($M = 3.54, SD = .13$) than for the packaging colour incongruent for both ($p < .001$, Bonferroni-correction; $M = 2.91, SD = .13$) and the Netherlands ($p = .005$, Bonferroni-correction; $M = 3.07, SD = .12$). There was no significant difference between the packaging colour congruent for the Netherlands ($M = 3.07, SD = .12$) and the packaging incongruent for both ($p = .743$, Bonferroni-correction; $M = 2.91, SD = .13$).

**Sparkling water.** A mixed ANOVA for familiarity with packaging colour as within-subjects factor and nationality as between-subjects factor showed a significant main effect for packaging colour ($F(2, 394) = 8.14, p < .001$), but not for nationality ($F(1, 197) = 2.85, p = .093$). The main effect was qualified by a significant interaction effect between packaging colour and nationality ($F(4, 394) = 27.51, p < .001$). The difference between the different packaging colours was found for both the Dutch (sphericity not met: $p = .002$) ($F(1.78, 174) = 18.81, p < .001$) and German sample ($F(2, 198) = 18.28, p < .001$). For the Dutch sample, the packaging colour congruent for the Netherlands ($M = 4.60, SD = .11$) was more familiar than both the packaging colour congruent for Germany ($p = .003$, Bonferroni-correction; $M = 4.08, SD = .12$) and incongruent for both ($p < .001$, Bonferroni-correction; $M = 3.75, SD = .12$). Furthermore, the packaging colour congruent for Germany ($M = 4.08, SD = .12$) was more familiar than the packaging with the colour incongruent for both ($p = .011$, Bonferroni-correction; $M = 3.75, SD = .12$). For the German sample, the packaging colour congruent for Germany ($M = 4.35, SD = .15$) was more familiar than both the packaging colour incongruent for both ($p = .007$, Bonferroni-correction; $M = 3.85, SD = .15$) and the packaging congruent for the Netherlands ($p < .001$, Bonferroni-correction; $M = 3.50, SD = .15$). Finally, the German participants thought the packaging incongruent for both ($M = 3.85, SD = .15$) was more familiar than the colour congruent for the Netherlands ($p = .045$, Bonferroni-correction; $M = 3.50, SD = .15$).
Sweet popcorn. A mixed ANOVA for familiarity with popcorn packaging colour as within-subjects factor and nationality as between-subjects factor showed a significant main effect for packaging colour \( (F(2, 394) = 7.53, p = .001) \) and for nationality \( (F(1, 197) = 26.95, p < .001) \). This main effect was qualified by a significant interaction effect between packaging colour, and nationality (sphericity not met: \( p < .001 \)) \( (F(1.74, 196) = 3.30, p = .046) \). The difference between the different coloured popcorn bags was found for both the Dutch (sphericity not met: \( p = .001 \)) \( (F(1.77, 196) = 7.87, p = .001) \) and German sample \( (F(2, 214) = 4.43, p = .013) \). For the Dutch sample, the packaging colour congruent for the Netherlands \( (M = 4.68, SD = .12) \) was more familiar than both the packaging colour congruent for Germany \( (p = .003, \text{Bonferroni-corr}; M = 4.14, SD = .14) \) and incongruent for both \( (p = .018, \text{Bonferroni-corr}; M = 4.25, SD = .13) \). There was no significant difference between the packaging colour congruent for Germany \( (M = 4.14, SD = .14) \) and the product packaging incongruent for both \( (p = 1.00, \text{Bonferroni-corr}; M = 4.25, SD = .13) \). For the German sample, the packaging colour congruent for the Netherlands \( (M = 3.76, SD = .14) \) was more familiar than the packaging colour incongruent for both \( (p = .012, \text{Bonferroni-corr}; M = 3.39, SD = .13) \), but not more familiar than the packaging colour congruent for Germany \( (p = 1.00, \text{Bonferroni-corr}; M = 3.71, SD = .14) \). Furthermore, the packaging colour congruent for Germany \( (M = 3.71, SD = .14) \) was not significantly more familiar than the packaging colour incongruent for both \( (p = .150, \text{Bonferroni-corr}; M = 3.39, SD = .13) \).

As mentioned before, there was a preference for the colour pink by Dutch participants. An ANCOVA was conducted to determine whether there is a difference between German and Dutch consumers on the familiarity of the three different popcorn packages controlling for the preference for the colour pink. The ANCOVA showed an insignificant interaction effect of nationality and the preference for the colour pink for the popcorn products \( (F(1, 195) = .108, p = .743) \). Furthermore, after controlling for the preference for the colour pink, the ANCOVA for familiarity with popcorn packaging colour as within-subjects factor and nationality as between subjects factor almost showed a significant main effect for packaging colour (sphericity not met: \( p = .004 \)) \( (F(1.90, 372) = 3.02, p = .053) \) and a significant effect for nationality \( (F(1, 196) = 23.70, p < .001) \). This main effect was qualified by a significant interaction effect between packaging colour and nationality \( (F(1.90, 372) = 3.90, p = .025) \). The difference between the different coloured packages was not found for the Dutch (sphericity not met: \( p = .001 \)) \( (F(1.76, 171) = 2.10, p = .131) \), nor the German sample \( (F(1.74, 171) = .935, p = .383) \). These results would suggest that colour preference (pink) did affect the results for familiarity.
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for the popcorn packages. When not controlling for this preference, there were significant
differences in familiarity between the three popcorn packages for both consumer groups, which
were not there after controlling for the preference for the colour pink.

**Paprika chips.** A mixed ANOVA for familiarity with chips packaging colour as within-subjects factor and nationality as between-subjects factor showed a significant main effect for packaging colour ($F (2, 394) = 60.15, p < .001$) but not for nationality ($F (1, 197) = .030, p = .862$). The main effect was qualified by a significant interaction effect between packaging colour and nationality ($F (2, 394) = 34.75, p < .001$). The difference between the different coloured packages was found for both the Dutch ($F (2, 196) = 12.70, p < .001$) and German sample ($F (2, 198) = 68.35, p < .001$). For the Dutch sample, the packaging colour congruent for the Netherlands ($M = 4.28, SD = .14$) was significantly more familiar than the packaging colour incongruent for both ($p < .001$, Bonferroni-correction; $M = 3.72, SD = .13$) but not more familiar than the packaging colour congruent for Germany ($p = 1.00$, Bonferroni-correction; $M = 4.23, SD = .13$). Having said that, the means for the congruent packaging for the Netherlands were higher than for Germany. Furthermore, the packaging colour incongruent for both ($M = 3.72, SD = .13$) was less familiar than both the packaging colour congruent for the Netherlands ($p < .001$, Bonferroni-correction; $M = 4.28, SD = .14$) and Germany ($p < .001$, Bonferroni-correction; $M = 4.23, SD = .13$). For the German sample, the packaging colour congruent for Germany ($M = 5.12, SD = .14$) was more familiar than both the packaging colours congruent for the Netherlands ($p < .001$, Bonferroni-correction; $M = 3.54, SD = .17$) and incongruent for both ($p < .001$, Bonferroni-correction; $M = 3.49, SD = .16$). There was no significant difference between the packaging colour congruent for the Netherlands ($M = 3.54, SD = .17$) and incongruent for both ($p = 1.00$, Bonferroni-correction; $M = 3.49, SD = .16$).

Table 2. The means and standard deviations for familiarity for the congruent NL, congruent DE and incongruent for all products, on a scale of 1 (Completely disagree) to 7 (Completely agree).

<table>
<thead>
<tr>
<th></th>
<th>Germany</th>
<th>The Netherlands</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sweets</td>
<td>3.54 (.13)</td>
<td>3.01 (.12)</td>
</tr>
<tr>
<td>Water</td>
<td>4.35 (.15)</td>
<td>3.50 (.15)</td>
</tr>
<tr>
<td>Popcorn</td>
<td>3.71 (.14)</td>
<td>3.74 (.14)</td>
</tr>
<tr>
<td>Chips</td>
<td>5.12 (.14)</td>
<td>3.54 (.17)</td>
</tr>
</tbody>
</table>
The results for familiarity showed that the manipulations were not completely consistent with the described congruent colours for Germany and the Netherlands, and incongruent for both as described in Table 1. The sparkling water manipulations were consistent. However, for the sweet popcorn product, the manipulation was confirmed for the Dutch sample, but not for the German sample. Instead, both the Dutch and German sample found the colour congruent for the Netherlands most familiar. It seems there was a colour bias for pink, because after controlling for this preference there were no differences found for both groups. Furthermore, for the sour sweets products, the manipulation was correct for the German sample but not for the Dutch sample. For the Dutch participants, there was no significant difference found between the packaging colours congruent for the Netherlands and Germany. Finally, for the paprika chips packages, the manipulation was correct for the German sample but not completely for the Dutch sample. The Dutch sample found the packaging incongruent for both least familiar, but there was not a big enough difference in ratings for the congruent packages for the Netherlands and Germany to be significant. For this experiment, the independent variables based on the market research conducted was used. This because the manipulation of the products was in all cases correct for either the Dutch and/or German sample.

**Perceived Tastiness**

A mixed ANOVA for perceived tastiness with packaging colours as within-subjects factor and nationality as between-subjects factor showed a significant main effect for packaging colour \(F(2, 394) = 25.50, p < .001\) and for nationality \(F(1, 197) = 8.35, p = .004\). The main effect was qualified by a significant interaction effect between packaging colour and nationality \(F(2, 394) = 24.95, p < .001\). The difference between the packaging colours was found for both the Dutch (sphericity not met: \(p < .001\)) \(F(1.4, 137) = 15.10, p < .001\) and German sample \(F(2, 198) = 33.68, p < .001\). For the Dutch sample, the perceived tastiness of colours congruent for the Netherlands \((M = 4.23, SD = .74)\) was higher than for colours incongruent for both \((p < .001, \text{Bonferroni-correction}; M = 3.70, SD = .09)\) and for colours congruent for Germany \((p = .040, \text{Bonferroni-correction}; M = 3.95, SD = .09)\). Furthermore, the perceived tastiness was higher for the packaging colours congruent for Germany \((M = 3.95, SD = .09)\) than for the packaging colours incongruent for both \((p < .001, \text{Bonferroni-correction}; M = 3.70, SD = .09)\). For the German sample, the perceived tastiness of colours congruent for Germany \((M = 4.18, SD = .10)\) was higher than for colours congruent for the Netherlands \((p < .001, \text{Bonferroni-correction}; M = 3.95, SD = .09)\).
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Bonferroni-correction; \( M = 3.45, SD = .09 \) and for colours incongruent for both \( (p < .001, \) Bonferroni-correction; \( M = 3.41, SD = .11 \)). There was no significant difference between colours congruent for the Netherlands \( (M = 3.45, SD = .09) \) and colours incongruent for both \( (p = .417, \) Bonferroni-correction; \( M = 2.41, SD = .11) \). Table 3 shows the means and standard deviations for perceived tastiness, together with the results for purchase intention and product attitude which will be discussed later.

As mentioned before, there was a preference for the colour pink by Dutch participants. An ANCOVA was conducted to determine whether there is a difference between German and Dutch consumers on the perceived tastiness of the three different popcorn packages controlling for the preference for the colour pink. The ANCOVA showed an insignificant interaction effect of nationality and the preference for the colour pink for the popcorn products \( (F(1, 195) = .493, p = .483) \). Furthermore, after controlling for the preference for the colour pink, the ANCOVA for perceived tastiness with popcorn packaging colour as within-subjects factor and nationality as between subjects factor showed a significant main effect for packaging colour \( (F(2, 392) = 3.43, p = .033) \) but not for nationality \( (F(1, 196) = 6.81, p = .010) \). There was no significant interaction effect between packaging colour and nationality \( (F(2, 392) = .600, p = .549) \).

In order to really check whether the preference for the colour pink made a difference in perceived tastiness for the popcorn packaging, another analyses was conducted without controlling for the colour pink. The mixed ANOVA for perceived tastiness with the popcorn packaging colours as within-subjects factor and nationality as between-subjects factor showed a significant main effect for packaging colour \( (F(2, 394) = 17.11, p < .001) \) and for nationality \( (F(1, 197) = 8.85, p = .003) \). There was, again, no significant interaction effect between packaging colour and nationality \( (F(2, 394) = .197, p = .821) \).

These results would suggest that the Dutch preference for the colour pink does not make a significant difference in the measure of perceived tastiness.

**Purchase Intention**

A mixed ANOVA for purchase intention with packaging colours as within-subjects factor and nationality as between-subjects factor showed a significant main effect for packaging colour \( (\text{sphericity not met: } p = .003) \) \( (F(18.9, 372) = 28.56, p < .001) \) and nationality \( (F(1,197) = 35.05, p < .001) \). The main effect was qualified by a significant interaction effect between packaging colour and nationality \( (F(1.89, 372) = 23.50, p < .001) \). The difference between the different packaging colours was found for both the Dutch \( (F(1.53, 150) = 20.98, p <.001) \) and
German sample \(F(1.56, 155) = 29.91, p <.001\). For the Dutch sample, the purchase intention was higher for product packages congruent for the Netherlands \((M = 3.66, SD = .09)\) than for both packaging colours congruent for Germany \((p = .007, \text{Bonferroni-correction}; M = 3.39, SD = .09)\) and incongruent for both \((p < .001, \text{Bonferroni-correction}; M = 3.18, SD = .08)\). Furthermore, the purchase intention was higher for the packaging colours congruent for Germany \((M = 3.39, SD = .09)\) than packaging colours incongruent for both \((p < .001, \text{Bonferroni-correction}; M = 3.18, SD = .08)\). For the German sample, purchase intention was higher for packaging colours congruent for Germany \((M = 3.15, SD = .10)\) than for colours congruent for the Netherlands \((p < .001, \text{Bonferroni-correction}; M = 2.63, SD = .09)\) and incongruent for both \((p < .001, \text{Bonferroni-correction}; M = 2.52, SD = .09)\). There was no significant difference between colours congruent for the Netherlands \((M = 2.62, SD = .09)\) and colours incongruent for both \((p = .224, \text{Bonferroni-correction}; M = 2.52, SD = .09)\). Table 3 shows the means and standard deviations for purchase intention, together with the results for perceived tastiness and product attitude (which will be discussed later).

As mentioned before, there was a preference for the colour pink by Dutch participants. An ANCOVA was conducted to determine whether there is a difference between German and Dutch consumers on the purchase intention of the three different popcorn packages controlling for the preference for the colour pink. The ANCOVA showed an insignificant interaction effect of nationality and the preference for the colour pink for the popcorn products \((F(1, 195) = .044, p = .833)\). Furthermore, after controlling for the preference for the colour pink, the ANCOVA for purchase intention with popcorn packaging colour as within-subjects factor and nationality as between subjects factor showed a significant main effect for packaging colour (sphericity not met: \(p < .001\)) \((F(1.86, 362) = 4.30, p = .016)\) and nationality \((F(1, 196) = 28.57, p < .001)\). There was no significant interaction effect between packaging colour and nationality \((F(1.85, 364) = 2.88, p = .071)\).

In order to really check whether the preference for the colour pink made a difference in purchase intention for the popcorn packaging, another analyses was conducted without controlling for the colour pink. A mixed ANOVA for purchase intention with the popcorn packaging colours as within-subjects factor and nationality as between-subjects factor showed a significant main effect for packaging colour (Sphericity not met: \(p < .001\)) \((F(1.85, 364) = 4.98, p < .001)\) and nationality \((F(1, 197) = 32.83, p < .001)\). Again, there was no significant interaction effect between packaging colour and nationality \(F(1.85, 364) = 1.74, p = .179\).
These results would suggest that the Dutch preference for the colour pink does not make a significant difference in the measure of purchase intention.

Product Attitude

A mixed ANOVA for product attitude with packaging colours as within-subjects factor and nationality as between-subjects factor showed a significant main effect for packaging colour \((F(2, 394) = 14.21, p < .001)\), but not for nationality \((F(1, 197) = .86, p = .354)\). The main effect was qualified by a significant interaction effect between packaging colour and nationality \((F(2, 394) = 14.63, p < .001)\). The difference between the different packaging colours was found for both the Dutch (sphericity not met: \(p < .001\)) \((F(1.44, 141) = 7.79, p = .001)\) and German sample \((F(1.65, 163) = 19.51, p < .001)\). For the Dutch sample, the product attitude was higher for packaging colours congruent for the Netherlands \((M = 3.70, SD = .09)\) than for packaging colours incongruent for both \((p = .005, \text{Bonferroni-correction}; M = 3.42, SD = .09)\), but not more than the packaging colours congruent for Germany \((p = .080, \text{Bonferroni-correction}; M = 3.53, SD = .08)\). There was no difference found between packaging colours congruent for Germany \((M = 3.53, SD = .08)\) and packaging colours incongruent for both \((p = .052, \text{Bonferroni-correction}; M = 3.42, SD = .09)\). For the German sample, product attitude was higher for packaging colours congruent for Germany \((M = 3.94, SD = .08)\) than for both packaging colours congruent for the Netherlands \((p < .001, \text{Bonferroni-correction}; M = 3.53, SD = .08)\) and incongruent for both \((p < .001, \text{Bonferroni-correction}; M = 3.47, SD = .10)\). There was no significant difference found between the product attitude towards packaging colours congruent for the Netherlands \((M = 3.53, SD = .08)\) and packaging colours incongruent for both \((p = 1.00, \text{Bonferroni-correction}; M = 3.45, SD = .10)\). Table 3 shows the means and standard deviations for product attitude, together with the previously discussed results for perceived tastiness and purchase intention.

As mentioned before, there was a preference for the colour pink by Dutch participants. An ANCOVA was conducted to determine whether there is a difference between German and Dutch consumers on the product attitude for the three different popcorn packages controlling for the preference for the colour pink. The ANCOVA showed an insignificant interaction effect of nationality and the preference for the colour pink for the popcorn products \((F(1, 195) = .493, p = .483)\). Furthermore, after controlling for the preference for the colour pink, the ANCOVA for purchase intention with popcorn packaging colour as within-subjects factor and nationality as between subjects factor showed a significant main effect for packaging colour \((F(2, 392) =\)
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3.43, \( p = .033 \) and for nationality \((F (1, 196) = 6.81, p = .010)\). There was no significant interaction effect between packaging colour and nationality \((F (2, 391) = .600, p = .549)\).

In order to really check whether the preference for the colour pink made a difference in product attitude for the popcorn packaging, another analyses was conducted without controlling for the colour pink. This time, a mixed ANOVA for product attitude with the popcorn packaging colours as within-subjects factor and nationality as between-subjects factor did show a significant main effect for packaging colour (Sphericity not met: \( p < .001 \)) \((F (1.83, 361) = 3.84, p = .022)\), but not a significant effect for nationality \((F (1, 197) < .001, p = .996)\). Again, there was no significant interaction effect between packaging colour and nationality \((F (1.84, 361) = .337, p = .695)\).

These results would suggest that the Dutch preference for the colour pink does not make a significant difference in the measure of product attitude.

Table 3. Means and standard deviations for product tastiness, product attitude and purchase intention for the packaging colours for the German \((N = 108)\) and Dutch \((N = 99)\) sample, on a scale of 1 (Completely disagree) to 7 (Completely agree).

<table>
<thead>
<tr>
<th>Colour</th>
<th>Germany</th>
<th>The Netherlands</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Congr.DE ( M (SD) )</td>
<td>Congr.NL ( M (SD) )</td>
</tr>
<tr>
<td>Product</td>
<td>4.18 (.10)</td>
<td>3.45 (.09)</td>
</tr>
<tr>
<td>Tastiness</td>
<td>3.15 (.10)</td>
<td>2.63 (.09)</td>
</tr>
<tr>
<td>Purchase intention</td>
<td>3.94 (.08)</td>
<td>3.53 (.08)</td>
</tr>
</tbody>
</table>

**Novelty**

An independent samples t-test showed almost a significant difference between German and Dutch consumers with regard to openness to novelty \((t (197) = 1.92, p = .056)\). Numerically, the Dutch sample \((M = 4.37, SD = 1.00)\) was more open to novelty in comparison to the German sample \((M = 4.09, SD = 1.06)\).
Conclusion

In terms of the first (control) variable ‘familiarity’, it can be concluded that some of the manipulations for this experiment were not consistent with the predictions described in Table 1. For the sweet popcorn product, the manipulation was confirmed for the Dutch sample, but not for the German sample. Instead, both the Dutch and German sample found the red popcorn bag (congruent for the Netherlands) most familiar. Furthermore, for the sour sweets products, the manipulation was correct for the German sample but not for the Dutch participants. For the Dutch participants, there was not a large enough difference found between the colouring congruent for the Netherlands and Germany to be significant. Finally, in terms of the paprika chips packages, the manipulation was correct for the German sample but not completely for the Dutch sample. The Dutch sample found the packaging incongruent for both to be least familiar, but there was not a large enough difference found between the packages congruent for the Netherlands and Germany to be significant.

For the three main variables (perceived tastiness, purchase intention & product attitude), the results showed that the German sample liked the packages with colours congruent for Germany more than both the packages with colours congruent for the Netherlands and incongruent for both. Similarly, the results showed that, overall, the Dutch sample liked the products with packaging colours congruent for the Netherlands more than both the packages with colours congruent for Germany and incongruent for both. However, in terms of product attitude for the Dutch sample, there was no significant difference found between the packaging colours congruent for the Netherlands and Germany.

For the first control variable, the results showed that there was a preference for the colour pink for the Dutch sample. This preference led to additional ANCOVA analyses for the popcorn product as one of the manipulation colours was pink. These analyses showed that the preference for the colour pink could have affected the results for the popcorn manipulation in terms of the familiarity, but not for the three main variables (perceived tastiness, purchase intention and product attitude).

Finally, it was expected that the Dutch consumers would be more open to ‘novelty’ products in comparison to the German sample. The results for ‘novelty’ almost showed a significant difference between the Dutch and German consumers; numerically, the Dutch sample showed to be more open to ‘novelty’ products. Notably, in terms of the perceived tastiness and purchase intention, the Dutch sample preferred the product packages congruent
for Germany over the packages incongruent for both, whereas for German sample only had positive attitudes towards packaging colours congruent for Germany.

**Discussion**

Past research shows that, generally speaking, people link packaging colours to an expected product flavour (also called cross-modal correspondence) (Piqueras-Fiszman & Spence, 2011; Schoormans & Rubben, 1997). In the context of consumer behaviour, this results in people liking a product more when the packaging colour is typical (congruent) for their country (Huang & Wan, 2019; Kauppinen-Räisänen, 2014; Piqueras-Fiszman & Spence, 2011). What past studies failed to acknowledge was that these links are often (semi-consciously) learned through culture, resulting in there being potentially various colour-product associations across cultures and countries (Valesco et al., 2016; Wan et al., 2014). Therefore, this study attempted to fill this gap by answering the question whether there is a difference between German and Dutch consumers in terms of product attitude, product tastiness and purchase intention for incongruent and congruent product packaging. Furthermore, it was tested whether the assumption that Dutch consumers would be more open to ‘novelty’ products is true, as the results could influence product evaluations (Yaveroglu & Donthu, 2003; Yeniyurt & Townsend, 2003). Finally, the personal preferences for the colours used for the manipulations were controlled for (yellow, pink, red, blue, green, & purple), as existing literature suggest that colour preferences might lead consumers to colour-product biases (Westland & Shin, 2015; Yu et al., 2018).

In terms of familiarity, past studies argued that people often have well-established conventions (cross-modal correspondence) about colours and the extent to which they ‘fit’ a product category (Huang & Lu, 2015; Piqueras-Fiszman & Spence, 2011; Spence, 2010). This linking process occurs when people group information based on the perceived resemblance and similarity (Schoormans & Rubben, 1997). Most often this occurs through statistical cross-modal correspondence, which means that the conventions are made due to prior exposure or ‘learning’ (Huang & Lu, 2015; Piqueras-Fiszman & Spence, 2011). In order to mimic this effect, research was done to find the most typical packaging colours for four different products in both Germany and the Netherlands, which eventually led to the products and packaging colours used for this study. However, as was shown in the results, some of the manipulations were incorrect (Dutch sample and sour sweets, German sample and sweet popcorn, and Dutch sample with paprika chips).
There could be several explanations for why some manipulations came out as incorrect. First of all, the participants could have been influenced by the way the survey was set up. The packages were shown in a randomized order and after each picture they were asked to rate the items. Early exposure to a packaging with the same colour might have affected the results. Furthermore, as Germany and the Netherlands are in close proximity, it could be that participants had existing links between the use of packaging colours for a certain product. For instance, there were no differences found between the sweets packaging congruent for the Netherlands (yellow) and Germany (green) for the Dutch sample. Furthermore, when it comes to the Dutch sample rating the paprika chips bag congruent for Germany (red) as more familiar than the paprika chips bag congruent for the Netherlands (blue) could be explained by there existing a well known chips flavour with red packaging in the Netherlands: ‘natural’ flavour. Additionally, given that a ‘paprika’ is red too, the Dutch group possibly linked the red ‘paprika chips’ bag to the actual colour of the vegetable. Which would support the study by Valesco et al. (2016) who found that product-colour associations for crisps corresponding to natural pairings (e.g. tomato to red and cucumber to green) was equal across cultures. Thus, the Dutch sample could already have a flavour association for the colour ‘red’ with either ‘natural chips’ or ‘paprika’.

In regard to the popcorn manipulations, in first instance it seemed just the manipulation for the German samples was incorrect, as they rated the packaging colour congruent for the Netherlands as more familiar instead. However, as there was a preference for the colour pink by the Dutch sample, separate ANCOVAs were conducted throughout the analyses, which showed that not only did the colour preference (negatively) affect familiarity, the popcorn manipulations showed not to elicit any differences between the packaging colours (both with and without controlling for the colour preference) for the three main variables. Thus, the manipulation for the sweet popcorn product deviated from the other three products, in that it might have been an incorrect manipulation overall.

The main hypothesis of this study was that pre-established colour-product associations could determine the perceived tastiness, purchase intention and product attitudes towards products due to the packaging colour. It was predicted that products with incongruent (atypical) packaging colours would be liked less in comparison to products with packaging colours congruent (typical) for a certain country (Huang & Wan, 2019; Kauppinen-Raisanen, 2014; Piqueras-Fiszman & Spence, 2011). This because packaging colours automatically set expectations in the mind of consumers about the taste of the product (Huang & Wan, 2019;
Matthews et al., 2019; Piqueras-Fiszman & Spence, 2011; Spence, 2018). This hypothesis was supported as the current study showed that for both samples, the packaging colour congruent for the consumer’s country looked tastier in comparison to packaging colours congruent for the other country and the colouring that was incongruent for both. Whether the colours used could affect the actual ‘taste’ of the products was beyond the scope of this study (as will be discussed in the limitations). However, it can be concluded that colour can determine if the products ‘looks’ tasty.

For purchase intention, the results of this study again were in agreement with existing literature (Huang & Wan, 2019; Kauppinen-Raisanen, 2014; Piqueras-Fiszman & Spence, 2011). The participants from the German sample were more inclined to buy products with packaging colours congruent for Germany than products with packaging colours typical for the Netherlands and atypical for both. The same effect occurred for the Dutch sample; packaging colours congruent for the Netherlands had a higher purchase intention than the other two. As mentioned above, it is argued that perceived tastiness could affect purchase intention in the sense that a packages with colouring typical for the consumer highlight pre-establish product-colour associations (Huang & Lu, 2015; Piqueras-Fiszman & Spence, 2011; Spence, 2010). As the results for perceived tastiness and purchase intention are relatively the same, it could be concluded that there is a definite link between the two variables, and the effect ‘tastiness’ has on the degree to which consumers are likely to buy a specific product, even though the participants did not actually taste any physical products.

In terms of product attitude, the results did not fully comply with the assumption that both consumer groups would have a more positive attitude towards products with packaging colours typical for their country in comparison to products with non-typical packaging colours (Huang & Wan, 2019; Kauppinen-Raisanen, 2014; Piqueras-Fiszman & Spence, 2011). The results for the German sample were in agreement with past research. However, for the Dutch sample, the results showed no difference between the packaging colours congruent for the Netherlands and Germany, while having the least attitude towards packaging colours incongruent for both.

The result for the Dutch sample when it comes to product attitude could be explained by the next supported hypothesis. Evidence was found for a positive relationship between novelty and preference (Barto et al., 2013). Fleck and Quester (2007) found that incongruence can create an unexpectedness which can increase positive evaluations. Furthermore, Labrecque and Milne (2013) and Pechmann and Ratneshwar (1991) argue that, for novelty seekers,
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incongruent product packaging could actually be more appealing than congruent product packaging. This is mostly the case for unfamiliar brands (as would be the case in this study), because for brand exemplary for a product category, there are often colour conventions in place (Labrecque & Milne, 2013; Pechmann & Ratneshwar, 1991). Based on the fact that the Netherlands is low in uncertainty avoidance, it was expected that as ‘novelty’ goes up, the effect of product congruence would be smaller in the Dutch sample. More specifically, the differences in product attitude and purchase intention between the congruent and incongruent product packaging would be smaller in for the Dutch sample in comparison to the German sample (Yaveroglu & Donthu, 2003; Yeniyurt & Townsend, 2003). This hypothesis was supported; Dutch consumers are more open to new and innovative products than German consumers. As mentioned for the results for product attitude, the Dutch sample had similar attitudes towards the three colour manipulations, whereas the German sample only had a positive attitude towards the products with packaging colours typical for Germany. This also showed in the results for perceived tastiness and purchase intention: The German sample solely rated the packages congruent for Germany favourably, whereas the Dutch sample kept an open mind towards the packages congruent for Germany as well.

The next hypothesis was that some individuals were expected to rate products with colours similar to their favourite colour higher, regardless of whether the colour fits the taste expectations (Westland & Shin, 2015; Yu et al., 2018). In order to test this theory, the survey included question about the attitudes towards all the different packaging colours used for the stimuli (red, blue, purple, pink, yellow, green) to control for a potential bias. In turned out that there was a preference for the colour pink for the Dutch sample. Separate ANCOVAs were conducted for popcorn packages (as it was the only product which included the colour pink) which showed that this colour preference did affect the results for familiarity, but not for perceived tastiness and purchase intention and product attitude.

These results are contradicting the results by Westland and Shin (2015) and Yu et al. (2018) who argued that consumers would be more drawn to products with packaging colours the same as their favourite colour. This cannot be concluded from the current study: colour preference was expected to affect purchase intention and product attitude. Instead, just familiarity was affected. There could be several explanations for these results. Firstly, there is some evidence for the relationship between packaging colour and brand recognition/familiarity: the younger the children are, the more a positive influence colour has on brand recognition (de Faultrier & Zeghache, 2014). Whether this is also the case for adults is unclear. Secondly, there
was only a preference for one colour (pink) which corresponded to just one manipulation (sweet popcorn). As previously mentioned, the manipulation for ‘sweet popcorn’ might have been incorrect overall, which might have affected the evaluation for ‘colour preference’ as well. Finally, it could be that this study was not set up properly to test this (as will be discussed in the limitations).

To summarize, the majority of the hypotheses were supported by the results from this study. Generally speaking, the products with congruent packaging colours are liked best by both consumer groups. With the exception for the Dutch group in regard to product attitude. Having said that, it could be argued that there is the potential for colour bias for familiarity and the extend to which a product ‘looks’ tasty. Finally, Dutch consumers were indeed more open towards ‘novel’ products.

This study is that it adds insights to the field of cross-modal correspondence: country and cultural specific packaging colour-flavour links exist through prior exposure to country specific packaging colour-product combinations. For German and Dutch consumers, country specific packaging colour-flavour combinations have become ‘typical’ for snack, sweets, and water products, which makes that consumers link certain colours to product flavours. When this expectation is met, consumers tend to like the products more than when the colour does not correspond with the expected flavour. This study essentially filled the gap between two knowledge streams: different effects congruent and incongruent packaging colours can have on product evaluation, as well as the premise that cross-cultural differences exist in terms of colour-taste associations (Huang & Lu, 2015; Piquerias-Fiszman & Spence, 2011; Piquerias-Fiszman et al., 2012; Spence, 2010; Valesco et al., 2016; Wan et al., 2014). Furthermore, the present study showed new evidence for the moderating effect openness to ‘novelty’ has in relation to country-specific packaging colour-product taste associations: Dutch consumers were more open to unconventional packaging colours (Yaveroglu & Donthu, 2003). Having said that, this study does not contribute new knowledge about the effects of colour preference as discussed by Westland and Shin (2015) and Yu et al. (2018). Rather, the question remains whether personal colour preference could be a moderating effect. This was potentially due to the shortcomings of the present study in regards to the colour evaluations and the popcorn manipulations.
Limitations and future research

This study has several limitations. Firstly, only Dutch and German participants were surveyed; these two countries are close in proximity and have similar cultural profiles (Hofstede, 1991). Given that colour-taste associations are often learned through prior experience and culture, future studies may find other results when more ‘distant’ countries are being studied. The Netherlands and Germany only vary in their cultural profiles for individualism, masculinity, and uncertainty avoidance (Appendix 1). Other country combinations, such as Norway and China, actually differ in all six cultural dimensions. (Hofstede-Insights, 2020; Hofstede, 1996; Kauppinen-Räisänen, 2014). When using more distance countries, more evidence might be found for the influence of culture on the openness towards ‘novelty’ products. Especially when the countries differ in all three dimensions which could predict positive attitudes towards novelty (individualism, low power distance & low uncertainty avoidance) (Yaveroglu & Donthu, 2003; Yeniyurt & Townsend, 2003).

The second limitation is that this experiment focused on three product categories (sweets, snacks and water), which means that the results cannot be generalized across all product categories. Future studies could consider to add evidence for the effects of congruent and incongruent packaging colour-product combinations for other categories as well (e.g. confectionary, dairy, seasoning, etc.) Thirdly, the results for familiarity suggest that the manipulations used might not be completely correct. As mentioned before, this could be because of the way the survey was set up; participants could have been influenced by previous images. Future studies might decide to use different measures to check familiarity, product attitude and purchase intention, such as eye tracking techniques or Virtual Reality (VR) (Huang & Wan, 2019; Kauppinen-Räisänen, 2014). As Huang and Wan (2019) found, people tend to scan supermarket isles until their eyes land on either (1) what they were searching for (something familiar) or (2) something unfamiliar that cached their attention (Huang & Wan, 2019; Kauppinen-Räisänen, 2014). Fourth, throughout the study there were barely any differences found between the different popcorn manipulations. Which could mean that the manipulations for sweet popcorn was incorrect to begin with. The current study did not conduct a pre-test to verify whether the manipulations were correct; future studies could decide to do so.

Fifth, the context of the experiment might be a limitation; participants were just shown pictures on a screen instead of physical goods. Future studies might decide to have physical products instead, to further assess product tastiness (instead of whether the product looks tasty)
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(Piqueras-Fiszman & Spence, 2011; Spence, 2018). However, the results of this study can still be of value as increasing numbers of food shopping happens online, where consumers base their purchase solely on product pictures (Velasco et al., 2016). Sixth, to check for colour biases, this study only corrected preference for colours used in the experiment. To check whether personal colour preferences really have an effect, future studies should include all colours (Westland & Shin, 2015; Yu et al., 2018). Finally, it was beyond the scope of the current study to evaluate the differences in product attitudes between well-known brands and unfamiliar brands. Labrecque and Milne (2013) and Pechmann and Ratneshwar (1991) describe how the use of incongruent product packages could be harmful for market leaders, but could actually be beneficial for upcoming brands. This study focuses solely on unfamiliar (non-existing) brands, and the effect of incongruent packaging colours on German and Dutch consumers. Future research could extend the scope by focusing on well-known brands as well.

Managerial implications

Regardless of the studies’ limitations and additional questions, this study is still a good addition to the field of marketing and advertising. This experiment could be a starting point for further studies, and marketers could use the results of this study when creating food advertisements for the Dutch and German market. Brands constantly try to find new ways to grab the consumers’ attention, to persuade them to purchase their product and to establish a favourable position in the mind of the consumer in the long run (Marques da Rosa, Spence & Miletto Tonetto, 2019). This current study found that consumers tend to have a more favourable attitude towards products with packaging colours which are in agreement with existing colour-flavour associations (Huang & Wan, 2019; Kauppinen-Raisanen, 2014; Piqueras-Fiszman & Spence, 2011). This study also revealed that the use of incongruent packaging colours can have a negative effect on product evaluations, which is also what Garber et al. (2000) and Huang and Wan (2019) previously suggested. Having said that, for some countries (e.g. the Netherlands) it seems less risky to use atypical packaging colours as those products may be considered innovative. Past research suggested that, for market leaders, it is beneficial to keep loyal to existing colour norms, whereas new brands could use colour choices that deviate from the mainstream brands (Labrecque & Milne, 2013; Pechmann & Ratneshwar, 1991). Given the results of this study, young brands could differentiate themselves from the market leaders by highlighting their innovativeness and newness through their packaging colour.
Having said that, brands should keep in mind that the reactions consumers have on incongruent packaging colours may vary across cultures (Yaveroglu & Donthu, 2003; Yeniyurt & Townsend, 2003). As this study concluded as well, Dutch consumers seem to be more open to new products than their German neighbours. As Yaveroglu and Donthu (2003) and Yeniyurt and Townsend (2003) found, collectivistic cultures high in power distance and low uncertainty avoidance tend to be less open to new ideas and products. It might be wise for new brands to conduct a consumer research prior to their product launch in an unfamiliar country.

References


### Appendices

Appendix 1: Cultural profiles of Germany and The Netherlands (Hofstede-Insights, 2020)

<table>
<thead>
<tr>
<th>Dimensions</th>
<th>Germany</th>
<th>The Netherlands</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power Distance</td>
<td>35</td>
<td>38</td>
</tr>
<tr>
<td>Individualism</td>
<td>67</td>
<td>80</td>
</tr>
<tr>
<td>Uncertainty avoidance</td>
<td>65</td>
<td>53</td>
</tr>
<tr>
<td>Masculinity</td>
<td>66</td>
<td>14</td>
</tr>
<tr>
<td>Long Term Orientation</td>
<td>83</td>
<td>67</td>
</tr>
<tr>
<td>Indulgence</td>
<td>40</td>
<td>68</td>
</tr>
</tbody>
</table>

Appendix 2: Newly created product packages

Chips German and Dutch sample in order: congruent NL, congruent DE, incongruent
Effects of colour-product congruence and incongruence on product evaluation

Popcorn German sample in order: congruent NL, congruent DE, incongruent

Popcorn Dutch sample in order: congruent NL, congruent DE, incongruent

Sour sweets German sample in order: congruent NL, congruent DE, incongruent
Effects of colour-product congruence and incongruence on product evaluation

Sour sweets Dutch sample in order: congruent NL, congruent DE, incongruent

Sparkling water German sample in order: congruent NL, congruent DE, incongruent

Sparkling water Dutch sample in order: congruent NL, congruent DE, incongruent

Appendix 3: the basis for the congruent and incongruent packaging colours

<table>
<thead>
<tr>
<th>Product category</th>
<th>Flavour</th>
<th>The Netherlands</th>
<th>Germany</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Savoury</td>
<td>Paprika</td>
<td>Savoury</td>
<td>Sweet</td>
</tr>
<tr>
<td>--------</td>
<td>--------------------------</td>
<td>---------</td>
<td>------------------------</td>
</tr>
<tr>
<td></td>
<td><img src="image1.png" alt="Blue Lays Paprika Chip" /></td>
<td></td>
<td><img src="image2.png" alt="Red Lays Paprika Popcorn" /></td>
</tr>
<tr>
<td></td>
<td><img src="image3.png" alt="Blue CRISPS Paprika Chip" /></td>
<td></td>
<td><img src="image4.png" alt="Red Naturals Paprika Popcorn" /></td>
</tr>
<tr>
<td></td>
<td><img src="image5.png" alt="Red Lays Paprika Bugles" /></td>
<td></td>
<td><img src="image6.png" alt="Pink Helmatgut Popcorn" /></td>
</tr>
</tbody>
</table>
## Appendix 4: Questions in survey format

### Questions for each product packaging

1. **I see this product on a regular basis**

<p>| | | | | | | |</p>
<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
</tbody>
</table>

   Completely agree | Completely disagree

2. **I believe this product looks**

   Attractive |   |   |   |   |   |   |
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
</tbody>
</table>
Effects of colour-product congruence and incongruence on product evaluation

Appealing 1 2 3 4 5 6 7
Tasty 1 2 3 4 5 6 7
Delicious 1 2 3 4 5 6 7
New 1 2 3 4 5 6 7
Of high quality 1 2 3 4 5 6 7
Familiar 1 2 3 4 5 6 7
Innovative 1 2 3 4 5 6 7

Completely agree Completely disagree

3. I would buy this product in the future
4. I see this product on a regular basis
5. This product is something for me
6. I would trade my go to product for this item
7. The packaging colour corresponds to the taste of this product

Completely agree Completely disagree

General questions shown one time
1. In general, I am among the first in my cycle of friends to try new products
2. I am generally aware of new products that come onto the market
3. When I spot a new interesting product, I often purchase it
4. I tend to buy products I am already familiar with

Completely agree Completely disagree

1. This is my favourite colour
2. I like this colour
   (red, orange, yellow, green, blue, purple, pink)
3. What is your age?
4. What is your gender?
5. What is your nationality

Appendix 5: Timeline

| 30 March | Hand in research proposal |
Effects of colour-product congruence and incongruence on product evaluation

<table>
<thead>
<tr>
<th>Date</th>
<th>Task Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>+/- 7-13 April</td>
<td>Results assessment research proposal</td>
</tr>
<tr>
<td>7-13 April</td>
<td>Hand in Qualtrics survey for feedback (depending on feedback on RP)</td>
</tr>
<tr>
<td>+/-17 April</td>
<td>Feedback on Qualtrics survey</td>
</tr>
<tr>
<td>4 May</td>
<td>Data collection completed</td>
</tr>
<tr>
<td>15 May</td>
<td>Hand in results</td>
</tr>
<tr>
<td>+/-22 May</td>
<td>Feedback results</td>
</tr>
<tr>
<td>+/- 15 June</td>
<td>Hand in draft version</td>
</tr>
<tr>
<td>3 July</td>
<td>Hand in final version</td>
</tr>
</tbody>
</table>

Appendix 6: Survey in Dutch

U wordt uitgenodigd om mee te doen aan een onderzoek naar het effect van verpakkingskleuren van levensmiddelen. Dit onderzoek wordt uitgevoerd door Eva Snyders, student aan de Radboud Universiteit.

Meedoen aan het onderzoek houdt in dat u een online vragenlijst gaat invullen. Het invullen van de vragenlijst duurt ongeveer 8 minuten.

U doet vrijwillig mee aan dit onderzoek. Daarom kunt u op elk moment tijdens het onderzoek uw deelname stopzetten en uw toestemming intrekken. U hoeft niet aan te geven waarom u stopt.

De onderzoeksggegevens die verzameld worden zullen door wetenschappers gebruikt worden voor datasets, artikelen en presentaties. De gegevens worden bewaard op beveiligde wijze volgens de richtlijnen van de Radboud Universiteit.

Als u meer informatie over het onderzoek wilt hebben, kunt u contact opnemen met Eva Snyders, eva.snyders@student.ru.nl

Toestemming:
Door te klikken op de knop 'ik ga akkoord' geeft u aan dat u:
- bovenstaande informatie heeft gelezen
- vrijwillig meedoet aan het onderzoek
- 16 jaar of ouder bent

Als u niet mee wilt doen aan het onderzoek, kunt u op de knop 'ik wil niet meedoen' klikken

Deze vragenlijst bestaat uit drie delen.
In het eerste deel van de vragenlijst krijgt u 12 producten te zien met ieder een paar korte vragen.

Als ik het product bekijk, ziet het er … uit

Aantrekkelijk
Aanlokend
Smakelijk
Heerlijk
Bekend
Vernieuwend

In hoeverre bent u het eens/oneens met de volgende stellingen?

Ik zou dit product in de toekomst kopen
Ik zie regelmatig vergelijkbare producten in de supermarkt
Dit product is iets voor mij
Ik zou mijn standaard keuze hiervoor inruilen
De verpakkingskleur komt overeen met de smaak van …
  - paprika chips
  - zoete popcorn
  - dit product
  - zure snoepjes

U bent aangekomen bij het tweede deel van de vragenlijst met (1) vragen over uw openheid jegens nieuwe producten en (2) kleur voorkeuren.

In hoeverre bent u het eens/oneens met de volgende stellingen?

Ik ben vaak de eerste in mijn omgeving die nieuwe producten probeert
Ik ben op de hoogte van nieuwe producten in de winkel
Zodra ik een nieuw product zie, koop ik het
Ik koop graag producten waar ik al bekend mee ben

In hoeverre bent u het eens/oneens met de volgende stellingen?

Dit is mijn favoriete kleur
Ik vind dit een mooie kleur
U bent aangekomen bij het derde en laatste deel van deze vragenlijst, met drie korte vragen over uw leeftijd, geslacht en nationaliteit.

Wat is uw leeftijd?
Wat is uw geslacht?
   Man
   Vrouw
   Neutraal
Wat is uw nationaliteit?
   Nederlands
   Duits
   Anders

Appendix 7: Survey in German


Wenn Sie an der Umfrage teilnehmen, füllen Sie einen Online-Fragebogen aus. Das Ausfüllen des Fragebogens dauert ca. 8 Minuten.

Sie nehmen freiwillig an dieser Studie teil. Daher können Sie Ihre Teilnahme jederzeit beenden und Ihre Einwilligung widerrufen. Sie müssen nicht angeben, warum Sie die Teilnahme zwischenzeitlich stoppen.


Wenn Sie weitere Informationen zur Studie wünschen, wenden Sie sich bitte an Eva Snyders, eva.snyders@student.ru.nl

Zustimmung:
Durch Klicken auf die Schaltfläche "Ich stimme zu" geben Sie an, dass Sie:
   - die obigen Informationen gelesen haben
   - Freiwillig an der Studie teilnehmen
   - 16 oder älter sind

Wenn Sie nicht an der Umfrage teilnehmen möchten, können Sie auf die Schaltfläche "Ich möchte nicht teilnehmen" klicken

Dieser Fragebogen besteht aus drei Teilen.
Im ersten Teil des Fragebogens sehen Sie 12 Produkte mit jeweils ein paar kurzen Fragen.
Effects of colour-product congruence and incongruence on product evaluation

Wenn ich mir das Produkt ansehe, sieht es ... aus

Attraktiv
Verlockend
Köstlich
Lecker
Bekannt
Innovativ

Inwieweit stimmen Sie den folgenden Aussagen zu / nicht zu?

Ich würde dieses Produkt in Zukunft kaufen
Ich sehe regelmäßig ähnliche Produkte im Supermarkt
Dieses Produkt ist etwas für mich
Ich würde meine Standardauswahl dafür eintauschen
Die Verpackungsfarbe entspricht dem Geschmack von ...
-Paprikachips
-süße Popcorn
-dieses Produkt
-saure Süßigkeiten

Sie sind im zweiten Teil des Fragebogens mit (1) Fragen zu Ihrer Akzeptanz von neuen Produkten und (2) Farbpräferenzen angekommen.

Inwieweit stimmen Sie den folgenden Aussagen zu / nicht zu?

Ich bin oft der erste in meiner Region, der neue Produkte ausprobiert
Mir sind neue Produkte im Laden bekannt
Sobald ich ein neues Produkt sehe, kaufe ich es
Ich kaufe gerne Produkte, mit denen ich bereits vertraut bin

Inwieweit stimmen Sie den folgenden Aussagen zu / nicht zu?

Das ist meine Lieblingsfarbe
Ich denke das ist eine schöne Farbe

Sie haben den dritten und letzten Teil dieses Fragebogens mit drei kurzen Fragen zu Ihrem Alter, Geschlecht und Ihrer Nationalität erreicht.

Wie alt sind Sie?

Was ist Ihr Geschlecht?
Mann
Frau
Neutral

Was ist Ihre Nationalität?
Niederländisch
Deutsch
Ansonsten