

Packaging as a Cue:
Exploring Bold vs. Muted Styles in Dutch and German Snack Consumption

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ABSTRACT AND KEYWORDS

In saturated consumer markets, product packaging plays a crucial role in influencing consumer behaviour at the point of sale. While colour has long been recognized as a powerful packaging element, less is known about how broader visual packaging styles, such as bold versus muted designs, affect consumer responses, particularly across cultural contexts. This thesis examines how packaging style influences consumer evaluations of unhealthy snack products, and whether these effects vary between Dutch and German consumers, who differ in levels of uncertainty avoidance. Grounded in Cue Utilization Theory (Easterbrook, 1959), which suggests that consumers rely on extrinsic cues when intrinsic product information is unavailable, this study investigates how bold (bright, high-contrast) versus muted (soft, low-contrast) packaging styles influence four key responses: purchase intention, perceived reliability, perceived excitement, and perceived attractiveness. It also tests whether nationality and uncertainty avoidance moderate these effects, and whether consumer perceptions mediate the relationship between packaging style and purchase intention.

The study employed a 2 (packaging style: bold vs. muted) \times 2 (nationality: Dutch vs. German) between-subjects experimental design, with a total sample of 215 participants. Respondents were randomly assigned to view one packaging condition and completed a survey measuring their reactions using established Likert-type scales. The experiment included manipulation checks and was preceded by a pretest to ensure clarity of stimuli.

The results show that packaging style significantly influences consumer responses. Muted packaging leads to higher purchase intentions and perceived reliability, while bold packaging increases perceived excitement. Perceived attractiveness does not differ significantly between conditions. A mediation analysis revealed that perceived reliability partially mediates the effect of packaging style on purchase intention. However, no significant interaction effects were found for nationality or uncertainty avoidance, which suggests that these cultural factors do not moderate consumer responses to packaging.

These findings contribute to the literature by demonstrating that heuristic visual cues in packaging have a measurable impact on consumer decision-making, even when no product information is available and that these effects may be more universally shared than culturally specific. The lack of moderation by nationality and uncertainty avoidance suggests

that consumers may respond similarly to packaging styles across cultures in low-involvement product categories. However, these responses may be influenced by subjective and culturally shaped perceptions that this study did not measure.

The study provides practical insights for marketers and designers, particularly in competitive markets such as the Netherlands and Germany. It suggests that muted, minimalistic packaging may enhance perceptions of reliability and encourage healthier consumer choices by avoiding overstimulation. More broadly, the research underscores the importance of ethical and culturally aware packaging design strategies, offering valuable guidance not only for marketers but also for policymakers concerned with regulating packaging to promote responsible consumption, especially in the context of unhealthy snack products.

KEYWORDS: Packaging Style, Consumer Response, Cue Utilization Theory, Cross-Cultural Marketing, Uncertainty Avoidance

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1. Introduction

In crowded supermarket aisles where consumers make split-second decisions, packaging design acts as a silent salesperson. The impact of colour in snack packaging on consumer behaviour is a critical area of interest in marketing communications (Mohebbi, 2014, p. 93). Packaging plays a crucial role at the point of sale by influencing consumers' purchase decisions (Chitturi et al., 2021, p. 729). The packaging serves as a key communication tool and branding element, helping to differentiate products in a competitive marketplace (Chitturi et al., 2021, p. 729). The packaging style, including its colour intensity, finish and tone, is one of the most influential design elements, as it conveys the brand's identity and can evoke consumer responses that guide consumer behaviour (Kauppinen-Räsänen, 2014, p. 665). Variations in packaging styles can directly influence purchase behaviour by altering how consumers evaluate product reliability, quality, or attractiveness at the point of sale (Gil-Pérez et al., 2019, p. 69; Gupta & Dingliwal, 2023, p. 17). However, less is known about how culturally diverse consumers interpret bold versus muted packaging styles, especially in low-involvement product categories like snacks, which are often perceived as indulgent or unhealthy. Although colour psychology has received significant attention, studies often overlook the broader style of packaging and its interaction with culture-based dimensions such as uncertainty avoidance. This cultural trait shapes how consumers react to unfamiliar or ambiguous stimuli, including visual design cues like colour and layout (Hofstede et al., 2010, p. 191). If these cultural dimensions are not considered, research may overlook important differences in how consumers across countries evaluate packaging, which would lead to overly generalised conclusions. Understanding these dynamics is particularly important for marketing in culturally distinct markets like Germany and the Netherlands, where differences in consumer preferences and attitudes toward innovation can significantly influence purchasing decisions (Van Den Berg-Weitzel & Van De Laar, 2001, pp. 172-173). The central research question guiding this study is: *To what extent does packaging style affect consumer responses to unhealthy snacks among Dutch and German consumers?*

This study aims to explore how packaging style (bold vs. muted) influences consumer responses, specifically purchase intention, perceived reliability, perceived excitement, and perceived attractiveness among Dutch and German consumers. These variables capture different ways packaging can influence consumer reactions, whether it makes a product seem trustworthy, appealing, exciting, or worth buying. The research also investigates whether these responses are shaped by individual or national-level differences in

uncertainty avoidance, and whether consumer responses of the product mediate the influence of packaging style on behaviour. Although the categories of bold and muted are partly based on colour, they also include overall packaging style and visual tone. These terms refer to distinct packaging styles and will be used consistently throughout this study. Beyond academic interest, this study recognizes that packaging may influence consumer behaviour in ways that could contribute to increased unhealthy snack consumption. By examining how different packaging styles influence consumer responses, the research aims to generate insights that can help brands avoid design choices that unintentionally promote overconsumption.

To better understand how packaging style shapes these consumer responses, this study builds on Cue Utilization Theory (Easterbrook, 1959), which explains how people use visual design cues like colour and design as shortcuts to form impressions about a product (p. 183). This is especially relevant for snacks, where consumers often make quick decisions without having much product information (Magnier & Schoormans, 2017, p. 736). Cue Utilization Theory (Easterbrook, 1959) provides a useful framework for understanding how packaging design may guide consumer reactions across different cultural settings (p. 183). By grounding the study in this theoretical lens, the study aims to generate insights that can inform more ethical and balanced marketing practices, considering both commercial success and consumer well-being.

1.1 Societal Relevance

As global consumer markets become more interconnected, understanding cultural differences in consumer behaviour becomes essential for effective marketing strategies. In the food industry, especially in the snack sector, adapting packaging to local cultural values and preferences is essential for gaining consumer trust and fostering brand loyalty (Van Den Berg-Weitzel & Van De Laar, 2001, p. 172). Culture influences consumer perceptions of products, including their packaging. By aligning packaging designs with local cultural norms, brands can enhance product appeal, ensure greater market acceptance, and ultimately secure a competitive advantage (Kauppinen-Räsänen, 2014, p. 666; Van Den Berg-Weitzel & Van De Laar, 2001, p. 183).

This is particularly relevant in competitive markets like the Netherlands and Germany, where consumer preferences are diverse. In these saturated markets, where local and international snack brands compete, the strategic use of visual packaging style can strongly influence consumer choices, as packaging plays a key role in impulse purchases

(Mohebbi, 2014, p. 93). These two countries provide a valuable comparative context due to their distinct cultural profiles across multiple dimensions, which may shape consumer perceptions of packaging differently (Hofstede et al., 2010, p. 193; The Culture Factor Group, n.d.). Packaging that resonates with local cultural norms not only helps brands meet consumer expectations but also enhances memorability, which ultimately drives more effective marketing strategies and improved sales performance.

At the same time, concerns are growing about the role of packaging in encouraging the overconsumption of unhealthy snacks (Cohen & Babey, 2012, p. 766; Hyslop, 2025, para. 1). By exploring how packaging style affects consumer responses, this study aims not only to support culturally and transparent design strategies, but also to inform more ethical and health-conscious marketing practices. The research seeks to understand how visual cues in packaging may influence snack choices, with the long-term goal of helping brands avoid design strategies that unintentionally promote excessive or unhealthy consumption. In doing so, it also offers insights that could inform future policy discussions around responsible packaging and its role in shaping dietary behaviour. This study adds societal value by investigating how packaging style (colour tone, contrast, finish) affects consumer impressions in two culturally distinct but economically comparable markets. By identifying how consumer expectations differ or overlap across the Netherlands and Germany, this research can guide packaging strategies that are both locally relevant and suitable for broader regional standardization.

1.2 Academic Relevance

The academic relevance of this study lies in expanding knowledge on cultural influences on consumer behaviour, specifically in packaging design. While previous studies have focused on general packaging elements or the effects of colour in product categories (Chitturi et al., 2021; Gil-Pérez et al., 2019), only few have specifically explored how cultural values like uncertainty avoidance shape packaging preferences in the snack industry. Uncertainty avoidance, proposed by Hofstede et al. (2010), refers to the tolerance of society for ambiguity and uncertainty (pp. 190-191). In the snack industry this cultural trait is important to study because it shapes how consumers respond to packaging and helps brands stand out in competitive markets which can significantly impact consumer choices (Van den Berg-Weitzel & Van de Laar, 2001, pp. 172–173).

By focusing on uncertainty avoidance both as a country-level and individual-level moderator, this study contributes to the literature on cross-cultural consumer

behaviour, marketing communications, and branding. It integrates Cue Utilization Theory (Easterbrook, 1959) to offer valuable insights into how cultural context shapes consumer responses to visual packaging cues, with implications for both marketing effectiveness and consumer decision-making. While most packaging studies focus on intrinsic product features or isolated visual design elements (Gil-Pérez et al., 2019; Kauppinen-Räsänen, 2014), this study explores how holistic packaging styles are interpreted across cultural boundaries, and tests whether cultural traits like uncertainty avoidance meaningfully moderate these effects. In addition to its cross-cultural perspective, this study contributes to packaging design research by examining commonly used bold and muted packaging styles that combine multiple design features such as tone, intensity, and finish and reflects real-world design choices to expand the limited body of work on how full-package aesthetics influence consumer responses. This approach helps clarify how packaging acts as a quick decision-making cue in low-involvement contexts and offers relevant insights for design strategies across markets. The findings offer a more detailed view of culture's role by showing that visual packaging style influences consumer impressions even without differences in nationality or uncertainty avoidance, especially for low-involvement products like snacks

1.3 Structure of the Thesis

This thesis is structured as follows. Chapter 2 presents the Theoretical Framework, introducing Cue Utilization Theory (Easterbrook, 1959), previous research on packaging style and consumer responses, and cultural influences such as uncertainty avoidance. This chapter also includes the development of the study's hypotheses. Chapter 3 outlines the Methodology, including the experimental design, stimuli, measures, and participant recruitment. Chapter 4 reports the results of the statistical analyses, followed by Chapter 5, which combines the Discussion and Conclusion by interpreting the findings in relation to existing literature, highlighting limitations, and offering suggestions for future research.

2 Theoretical Framework

2.1 Theoretical Approach: Cue Utilization Theory (Easterbrook, 1959)

As consumers frequently rely on visual signals in fast-paced shopping environments, Cue Utilization Theory (Easterbrook, 1959) provides a useful framework for understanding how consumers interpret packaging elements such as visual style and colour in their decision-making processes (p. 183). This theory suggests that consumers rely on extrinsic cues, such as packaging design, when intrinsic product information, like taste or quality, is not immediately accessible, especially in low involvement purchasing scenarios like snack selection (Easterbrook, 1959, p. 183). According to Kauppinen-Räsänen (2014), packaging is considered an extrinsic product cue; an external characteristic that does not directly impact product performance but plays a critical role in shaping consumer perceptions, attitudes, and purchase decisions (p. 664).

Cue Utilization Theory (Easterbrook, 1959) proposes that consumers use visual elements, like packaging style, as heuristic tools to assess product quality, brand identity, and suitability (p. 188). Kauppinen-Räsänen (2014) argues that visual packaging cues, serve multiple functions: capturing attention, enhancing aesthetics, and communicating brand values, all of which influence consumer perceptions of product reliability, attractiveness, and excitement, and shape their purchase intentions and brand attitudes at the point of purchase (p. 666). For example, a consumer in a hurry may use the packaging design as a quick reference for product familiarity or perceived quality, leading to immediate purchase intentions, while those with more time might engage with detailed product information. Recent studies applying cue-based evaluation logic confirm the relevance of this theory in marketing contexts: Magnier and Schoormans (2017) show that packaging material design and colour influence brand and product evaluations when intrinsic cues are not available (p. 736), while Vermeir and Roose (2020) highlight how visual design elements function as heuristics that shape consumers' emotional and cognitive responses, particularly in low-involvement settings like snack shopping (p. 2). This theoretical approach is especially relevant in visual packaging research, where consumers often make quick judgments without engaging in deep elaboration. In contrast to dual-process models like the Elaboration Likelihood Model (Petty & Cacioppo, 1986), which emphasize analytical message processing (p. 128), Cue Utilization Theory (Easterbrook, 1959) focuses on heuristic cue reliance, e.g., visual style or colour, under conditions of limited information (p. 183).

2.2 Visual Packaging Styles and Consumer Responses

The impact of visual packaging cues, particularly colour, on consumer behaviour has been studied extensively (Kauppinen-Räsänen, 2014; Mohebbi, 2014). Colour acts as a key visual cue, influencing how consumers perceive a product and whether they choose to purchase it (Gupta & Dingliwal, 2023, pp. 11-13; Mohebbi, 2014, p. 97). Mohebbi (2014) notes that packaging colour captures attention, evokes emotional responses, and shapes expectations about product quality, with 62-90% of consumer judgments influenced by colour alone (p. 97). These responses can strongly influence consumers' purchase intention, the likelihood that consumers decide to buy a product based on its packaging appearance and the impressions it creates. Packaging elements such as colour can shape these intentions by evoking reliability, familiarity, or excitement (Mohebbi, 2014, p. 97).

In packaging research, colour functions as part of a broader set of visual design cues that help consumers evaluate products quickly and intuitively, especially when intrinsic product qualities are not accessible (Magnier & Schoormans, 2017, p. 736). This study focuses on two commonly used visual packaging styles, bold packaging versus muted packaging, which differ in their overall visual style, particularly in terms of colour intensity, contrast, and simplicity. Bold packaging styles are defined as bright, high-contrast, and attention-grabbing, while muted styles rely on softer, more familiar, and often minimalistic visual elements.

Furthermore, Mohebbi (2014) highlights that bold packaging styles, in particular, enhance visual appeal, affect perceptions of quality, and increase purchase intention (p. 99). For example, red often signals excitement and urgency, while beige conveys stability and reliability (Gupta & Dingliwal, 2023, p. 23). These associations are particularly important in product differentiation, as they directly impact consumers' initial engagement and overall evaluation of packaging. These visual cues can shape how consumers form impressions about the product and whether they intend to buy it. The emotional response to packaging is also crucial: visually stimulating packages, like bold packaging styles, can trigger excitement, a high-arousal state that increases the likelihood of impulse purchases (Vermeir & Roose, 2020, p. 20). These associations can be understood as the first layer of consumer interpretation. In addition to individual colour meanings, broader packaging styles such as bold and muted can signal different product qualities and shape how consumers emotionally respond to the design. Together, the findings of Mohebbi (2014) and Vermeir and Roose (2020) show that colour and packaging style can influence both how consumers evaluate a product and how likely they are to purchase it (Mohebbi,

2014, p. 97; Vermeir & Roose, 2020, p. 20). Bold and muted packaging styles influence consumer behaviour differently because they signal different types of product meaning. Bold designs often suggest indulgence or novelty, while muted designs evoke calmness, familiarity, or trust (Vermeir & Roose, 2020, p. 20; Chitturi et al., 2021, p. 739). These quick impressions shape how consumers judge the product and whether they intend to purchase it, especially in low-involvement contexts (Mohebbi, 2014, p. 96; Magnier & Schoormans, 2017, p. 736). While these effects appear consistent, the meanings consumers attach to packaging elements like colour and style can differ across cultural contexts, product categories, and individual preferences (Mohebbi, 2014, p. 99). In snack packaging, colour affects how people expect a food product to taste, as well as their overall perception of its quality (Gil-Pérez et al., 2019, p. 72). This is because colour acts as a communication cue for product attributes like indulgence or freshness, which shape consumers' expectations about flavour and overall quality (Kauppinen-Räsänen, 2014, p. 673).

Kauppinen-Räsänen (2014) identifies three primary functions of packaging colour: attention, aesthetics, and communication (p. 666). Colour captures involuntary and voluntary attention at the point of sale, which helps products stand out on crowded shelves (Kauppinen-Räsänen, 2014, p. 665). Many consumers today shop under higher levels of perceived time pressure and often purchase more products than intended (Silayoi & Speece, 2004, p. 611). Snack product choices in such contexts are frequently unplanned, representing a form of impulse buying (Hausman, 2000, p. 405). Therefore, a package that captures attention and communicates effectively at the point of sale can support quick decision-making and influence purchase outcomes. Bright, contrasting colours are effective in drawing attention at the point of sale and help products stand out in visually crowded environments (Kauppinen-Räsänen, 2014, p. 667). In addition to attention, colour also contributes to the aesthetic appeal of packaging. Visually pleasing packaging can enhance positive emotional reactions and make the product appear more desirable (Kauppinen-Räsänen, 2014, p. 666). These aesthetic responses help shape whether consumers decide to approach and evaluate a product.

Additionally, colour serves as a communication tool, conveying information about product attributes such as healthiness, indulgence, freshness, or sustainability (Kauppinen-Räsänen, 2014, p. 673). Mohebbi (2014) emphasizes that packaging colour plays a decisive role in shaping consumer perceptions and purchase decisions, especially when consumers rely on quick visual cues while shopping (p. 96). This reliance on packaging colour as a decision-making shortcut can vary depending on the consumer's level of product

involvement. Those with low involvement are more likely to depend on visual heuristics such as colour, while high-involvement consumers tend to process more detailed product information, like ingredients or health claims (Silayoi & Speece, 2004, p. 611). This behaviour aligns with Cue Utilization Theory (Easterbrook, 1959), which suggests that in low-involvement situations, where intrinsic attributes like taste are not directly accessible, consumers depend more heavily on extrinsic cues, such as bold or muted packaging to guide their product evaluations (Magnier & Schoormans, 2017, p. 736).

While bold and muted packaging styles may influence purchase decisions directly, they are also likely to shape intermediate responses that guide this decision-making process. Specifically, perceived attractiveness, perceived excitement, and perceived reliability can serve as mediating variables, capturing the emotional and cognitive reactions consumers have when viewing the packaging. Perceived attractiveness refers to how visually appealing the packaging appears to the consumer. It influences whether the product is noticed, liked, and approached. When packaging is perceived as attractive, it can generate positive emotional responses and increase the likelihood that a consumer engages with the product (Kauppinen-Räsänen, 2014, p. 666). Bold packaging, with its bright colours and high contrast, may enhance attractiveness by standing out on the shelf, while muted designs may appeal to those who associate minimalism with quality or naturalness. In both cases, attractiveness can increase the likelihood of purchase by making the product visually inviting (Silayoi & Speece, 2007, p. 612). Perceived excitement reflects a consumer's emotional arousal or sense of stimulation in response to packaging. Exciting packaging tends to feel lively, dynamic, or energetic, and can make a product seem fun or novel. This feeling is often triggered by bold design elements like saturated colours, sharp contrasts, or unconventional layouts (Vermeir & Roose, 2020, p. 20). In the context of snacks, where purchases are often impulsive, this emotional activation may encourage quick, spontaneous buying decisions. Thus, perceived excitement may act as a motivational link between bold packaging and purchase intention. Perceived reliability refers to the consumer's sense that a product is trustworthy, consistent, and of good quality. This impression is shaped by subtle packaging cues that suggest familiarity, calmness, or tradition which are qualities that are often signalled by muted colours (Chitturi et al., 2021, p. 739). Packaging that evokes reliability can be particularly persuasive when consumers feel uncertain or when they prefer to minimize risk. In such cases, reliability may increase confidence in the product, which in turn can lead to a higher likelihood of purchase (Chitturi et al., 2021, p. 730). Together,

these internal responses turn visual impressions into actual buying decisions, which makes them key psychological links between packaging style and consumer behaviour.

Colour is a powerful tool in packaging, influencing consumer attention, product perception, and purchase behaviour. The strategic use of colour in snack packaging, by purposefully evoking excitement and enhancing attractiveness, can effectively differentiate products, enhance brand recognition, and ultimately drive sales (Mohebbi, 2014, pp. 97-98; Kauppinen-Räsänen, 2014, pp. 665-666). Emotions such as excitement, often triggered by vivid and visually stimulating packaging, can enhance consumers' motivation to approach and purchase a product, especially in impulse-driven settings (Vermeir & Roose, 2020, p. 20). In this study, particular attention is given to how different types of packaging styles, such as bold packaging versus muted packaging, influence consumer responses in terms of their purchase intentions, and perceptions of product attractiveness, excitement and reliability in the context of snack packaging. As such, the extent to which consumers rely on such visual cues may vary across cultural contexts, particularly in relation to uncertainty avoidance.

H1: Effect of Packaging Style on Consumer Responses

The use of bold packaging in snack products will result in more positive consumer responses, specifically: (a) Higher purchase intentions (b) Higher perceived attractiveness (c) Higher perceived excitement (d) Higher perceived reliability compared to muted packaging.

Previous research suggests that packaging design can influence purchase intention through the visual impressions it creates at the point of sale (Mohebbi, 2014, p. 97; Magnier & Schoormans, 2017, p. 736). While this supports a direct effect of packaging style on consumer behaviour, the process is often shaped by intermediate responses. Consumers typically evaluate packaging based on how attractive, exciting, or reliable it appears and quickly form impressions that influence how desirable they perceive the product to be. For example, attractive packaging has been shown to generate positive emotions and increase the likelihood of purchase (Silayoi & Speece, 2007, p. 612; Kauppinen-Räsänen, 2014, p. 666). Visually stimulating designs, such as bold packaging, can also trigger excitement, which can facilitate impulse buying (Vermeir & Roose, 2020, p. 20). In contrast, muted packaging is often associated with familiarity and trust, which can enhance perceptions of product reliability and ultimately increases purchase intention (Chitturi et al., 2021, p. 739). These

perceptions serve as key mediators that translate initial visual impressions into actual consumer behaviour.

H2: Mediation of Perceptions

The effect of packaging style (bold vs. muted) on purchase intention is mediated by a) perceived attractiveness, b) perceived excitement, and c) perceived reliability.

2.3 Cultural Responses to Packaging Style: The Role of Uncertainty Avoidance

Cultural differences shape branding and packaging strategies because they affect how consumers perceive and choose products (Cayla & Arnould, 2008, p. 88). One key cultural dimension is uncertainty avoidance, which Hofstede et al. (2010) define as the extent to which individuals feel uncomfortable with uncertainty and ambiguity (p. 191). In high uncertainty avoidance cultures, consumers tend to prefer stability, structure, and predictability (Hofstede et al., 2010, p. 195). In contrast, consumers from low uncertainty avoidance cultures, are generally more comfortable with novelty, ambiguity, and innovation (Hofstede et al., 2010, p. 195). Uncertainty avoidance is especially relevant in consumer research because it shapes how people respond to risk and ambiguity in everyday decision-making; a factor especially relevant in the context of snack packaging, where purchases are often made quickly and based on limited product information (Hofstede et al, 2010, p. 206; Vermeir & Roose, 2020, p. 2). In such situations, consumers rely heavily on visual packaging cues to guide their choices (Kauppinen-Räsänen, 2014, p. 665). In line with the Cue Utilization Theory (Easterbrook, 1959), cultures from high uncertainty avoidance countries, are more likely to use packaging colour as a shortcut cue to judge product reliability and familiarity, making them more likely to choose packaging that feels traditional (Sprauve, 2024, High Uncertainty Avoidance Cultures: Embracing Safety and Structure section, para. 2). Colour preferences function as heuristic cues that consumers from different cultural backgrounds interpret through their lens of uncertainty avoidance, meaning that what one consumer sees as exciting and attention-grabbing may be perceived by another as risky or unfamiliar depending on their cultural need for certainty and their comfort with ambiguity (De Mooij & Hofstede, 2010, p. 90). This preference is closely linked to a desire for reliability, meaning that packaging should clearly signal trustworthiness, consistency, and stability (Sprauve, 2024). On the other hand, consumers from low uncertainty avoidance cultures, may see packaging colour as a way to differentiate

brands, leading to more adventurous perceptions and positive attitudes, and therefore, are more comfortable with newness and experimentation (Cayla & Arnould, 2008, p. 90).

Researchers such as Vermeir and Roose (2020) and Gil-Pérez et al. (2019) indicate that cultural preferences tied to uncertainty avoidance influence colour choices in both general perception and packaging design (Gil-Pérez et al., 2019, p. 69; Vermeir & Roose, 2020, p. 16). Consumers from high uncertainty avoidance cultures often prefer packaging that looks familiar and safe. This preference is not just about visual appeal, it reflects a deeper need to avoid ambiguity and feel more in control when making decisions (Hofstede et al., 2010, pp. 205-206). Muted colours like beige or soft green are often seen as traditional and trustworthy (Gupta & Dingliwal, 2023, p. 20; Kauppinen-Räsänen, 2014, p. 666). These colours help reduce uncertainty by suggesting that the product is reliable and consistent. In situations like snack purchases, where people cannot test the product beforehand, such visual signals become especially important (Magnier & Schoormans, 2017, p. 736). These cues make it easier for consumers to quickly judge whether a product feels reliable, which is why muted designs are often more appealing in cultures that value predictability (Gil-Pérez et al., 2019, p. 72; Vermeir & Roose, 2020, p. 6). In contrast, low uncertainty avoidance consumers are more attracted to bold, vibrant, unconventional colours that stand out, signal creativity, innovation, and excitement (Gil-Pérez et al., 2019, p. 70; Vermeir & Roose, 2020, p. 6). This preference reflects a greater openness to novelty and a lower sensitivity to risk, which allows consumers to view bold packaging not as threatening, but as playful (Hofstede et al., 2010, pp. 205-206). Bright colours and unusual designs can spark curiosity and are often processed as signals of product differentiation and modernity (Mohebbi, 2014, p. 97). In contexts like snack consumption, this visual stimulation can increase the willingness to explore unfamiliar products and engage with brands that emphasize excitement and uniqueness (Kauppinen-Räsänen, 2014, p. 666). Packaging surface finishes may also contribute to consumer perceptions: matte finishes can enhance feelings of subtlety, familiarity, and tradition, while shiny finishes can appear more modern and attention-grabbing (Marckhgott & Kamleitner, 2019, p. 175). Colour and surface finish can create different meanings across cultures, so companies must adjust their branding and product positioning to match the cultural expectations of their target markets. These aesthetic responses can be unconscious, semiconscious, or conscious, depending on cultural background and personal experience (Kauppinen-Räsänen, 2014, p. 666).

Cross-national comparisons are widely used in cultural research (De Mooij, 2019), as country-level scores reflect shared values and societal norms that shape how people think

and behave (Hofstede et al., 2010, pp. 4-5). Germany and the Netherlands differ significantly in the uncertainty avoidance dimension, as Germany scores higher in uncertainty avoidance than the Netherlands (Hofstede et al., 2010, p. 193; The Culture Factor Group, n.d), making them an appropriate contrast for exploring how high and low uncertainty avoidance shapes packaging perceptions. Research suggests that German consumers, as part of a higher uncertainty avoidance culture, are more likely to prefer packaging that signals reliability and familiarity, which are attributes often conveyed through muted design styles (Gil-Pérez et al., 2019, p. 70; Vermeir & Roose, 2020, p. 6). In contrast, Dutch consumers may be more drawn to bold and unconventional designs that convey excitement or novelty, consistent with lower levels of uncertainty avoidance (Gil-Pérez et al., 2019, p. 70; Vermeir & Roose, 2020, p. 6). These contrasting preferences at the country level allow for a cross-national test of how packaging style influences consumer responses.

H3: Country Difference – Muted Packaging More Effective for Germans

For German consumers, muted-coloured snack packaging will result in more positive responses, specifically: (a) Higher purchase intentions (b) Higher perceived attractiveness (c) Higher perceived excitement (d) Higher perceived reliability compared to Dutch consumers.

H4: Country Difference – Bold Packaging More Effective for Dutch

For Dutch consumers, bold-coloured snack packaging will result in more positive responses, specifically: (a) Higher purchase intentions (b) Higher perceived attractiveness (c) Higher perceived excitement (d) Higher perceived reliability compared to German consumers.

Although country-level cultural dimensions inform the study design, uncertainty avoidance is also measured at the individual level to capture personal variation within national groups. This dual-level approach allows for a more detailed understanding of cultural influence. Country-level scores reflect shared cultural values (Hofstede et al., 2010, pp. 4-5), but not everyone in a country thinks or behaves the same way (Fischer & Schwartz, 2010, p. 1139). People within the same culture can still differ in how much they personally try to avoid uncertainty. By looking at both levels, the study can better explain differences in consumer responses and avoids assuming that all individuals follow the average cultural pattern (Fischer & Schwartz, 2010, p. 1139).

Beyond country-level cultural norms, uncertainty avoidance can also function as an individual difference variable. Understanding these perceptual differences highlights why uncertainty avoidance is not just a cultural trait, but a psychological moderator that can vary across individuals and helps to explain how consumers respond differently even within the same culture. In consumer decision-making behaviour, uncertainty avoidance can influence how people make decisions when information is limited. For example, during snack purchases, consumers often cannot assess important product qualities like taste before buying (Magnier & Schoormans, 2017, p. 736). In such situations, they rely more on external cues, like packaging design, to form quick impressions (Vermeir & roose, 2020, p. 2). People who score high on uncertainty avoidance are especially sensitive to these visual cues because they prefer predictability and want to avoid making the wrong choice. As a result, they may respond more strongly to packaging that signals reliability or avoid packaging that appears risky. Based on the Cue Utilization Theory (Easterbrook, 1959) and prior research, it is expected that uncertainty avoidance will moderate the relationship between packaging style and consumer responses by influencing how individuals from different cultural backgrounds interpret and rely on visual cues in uncertain decision contexts.

H5: Psychological Moderator – Effect Depends on Uncertainty Avoidance

Uncertainty avoidance moderates the relationship between packaging style and purchase intention, such that the effect of packaging style is stronger among individuals with higher uncertainty avoidance.

3 Methodological Framework

3.1 Research Design

This study employed a 2 (packaging style: bold vs. muted) × 2 (nationality: Dutch vs. German) between-subjects experimental design, followed by a post-experiment survey. A between-subjects design was chosen to ensure that each participant was exposed to only one experimental packaging condition, which prevented comparison effects, learning bias, or fatigue that may occur in within-subjects designs, and made sure that responses reflected their first, unbiased impressions (Babbie, 2016, pp. 232–233). This matters especially in studies with visual designs like packaging. If participants see more than one version, they might start comparing them instead of reacting naturally. It could also make the design feel less surprising or emotionally engaging, and some participants might figure out what the study is really about (Geuens & De Pelsmacker, 2017, p. 88). This setup increased the internal validity of the study by reducing the influence of prior exposure to different stimuli. Additionally, the controlled and structured nature of an online experiment minimizes external distractions and ensures that all participants are exposed to the stimuli under the same condition, thereby supporting the internal validity of the study (Babbie, 2016, p. 250). Participants were randomly assigned to one of four conditions:

1. Dutch participants viewing bold packaging
2. Dutch participants viewing muted packaging
3. German participants viewing bold packaging
4. German participants viewing muted packaging

Random assignment minimized potential biases and ensured that any observed differences in consumer responses could be connected to the influence of cultural context rather than external factors (Creswell & Creswell, 2018, p. 207). This design allowed for the systematic manipulation of two independent factors, packaging style and nationality (Dutch vs. German), while measuring their effects on consumer responses. Moreover, the factorial structure makes it possible to test both main effects (e.g., the overall impact of packaging style) and interaction effects (e.g., whether the effect of packaging style differs between Dutch and German participants).

The use of an online experimental environment supported a high level of control over the stimulus presentation while enabling efficient and consistent data collection across both national samples (Creswell & Creswell, 2018, p. 215). The post-experiment survey captured key consumer response variables, such as purchase intention, perceived reliability, and

product attractiveness, offering a structured and reliable method for testing the proposed hypotheses.

3.2 Stimuli Design

The packaging stimuli were designed to reflect realistic and culturally meaningful applications of colour in snack branding, based on theoretical insights from research on colour perception, design and branding (Mohebbi, 2014; Gil-Pérez et al., 2019). Rather than isolating colour as a purely visual variable, the stimuli integrated colour with related design cues, such as texture, pattern, and layout, to form cohesive packaging styles that reflect bold or muted aesthetics. This approach aligned with the Cue Utilization Theory (Easterbrook, 1959), which suggests that consumers rely on bundles of visual and design-based cues to form judgments about products (Magnier & Schoormans, 2017, p. 736). The designs were created using detailed creative prompts in collaboration with ChatGPT, based on two distinct colour frameworks derived from literature (See prompts in Appendix D).

- The bold packaging condition used vibrant colours such as red, bright yellow and blue, along with high contrast accents, geometric shapes, and a glossy finish aesthetic. It was designed to evoke excitement, energy, and attention, which are qualities typically associated bold packaging styles (Kauppinen-Räsänen, 2013, p. 670).
- The muted packaging condition used soft, desaturated tones such as light green and beige, paired with subtle patterns, soft textures, and a matte finish. This minimalist and natural look was aimed to evoke calmness, familiarity, and subtle sophistication, consistent with qualities of muted packaging styles (Kauppinen-Räsänen, 2013, p. 670).

To ensure internal validity, all other elements like packaging shape, product type (cookies), layout, and font placement, were kept constant across both conditions. The only manipulated factor was the overall packaging style, varying in colour palette, texture, and visual tone, operationalized as a combination of bold or muted colour schemes and their associated design attributes. Surface finish was embedded within the overall packaging style manipulation but is not analysed as a separate factor.

The packaging images were embedded as JPEGs within the Qualtrics platform and shown randomly across participants. Stimuli visuals are included in Appendix A. Participants were stratified by nationality (Dutch vs. German) and then randomly assigned within each group to either the bold packaging condition (Stimulus 1) or the muted

packaging condition (Stimulus 2) using block randomization. This approach ensured an equal distribution of Dutch and German participants across both stimulus conditions. The distribution was nearly even, with 110 participants exposed to the bold packaging and 105 to the muted packaging. This random assignment was also balanced across nationalities: 53 Germans and 57 Dutch participants viewed the bold packaging, while 52 Germans and 53 Dutch participants saw the muted version. This ensured that neither the condition nor the nationality group was overrepresented, which allowed for strong comparisons across cultural and design dimensions.

3.3 Pre-Test Procedure

To ensure that the packaging manipulation was perceived as intended, a pretest was conducted prior to the main experiment. The pretest involved a small sample of 21 participants, split between Dutch ($n = 9$) and German ($n = 12$) respondents. The aim was to confirm whether the bold and muted packaging stimuli were visually different and appropriately interpreted by the participants.

To simulate the experience planned for the main study, the pretest used the same Qualtrics setup, stimulus images, and survey flow as intended for the main experiment. Participants were randomly shown either a bold or muted packaging design and asked to evaluate its visual intensity and attractiveness. Specifically, participants completed a colour recognition check, rated the strength of the colour intensity (1 = Very subtle, 7 = Very strong), and responded to five visual appeal items on a 7-point scale (e.g., "How visually attractive do you find the packaging?"). Basic demographic questions (e.g., age, gender, and colour vision ability) were also included to screen for potential perceptual bias. No data from the pretest were included in the final analysis.

The manipulation check confirmed that the packaging styles were perceived as intended: participants in the bold condition rated the packaging as significantly more intense ($M = 5.60$, $SD = 1.65$) compared to those in the muted condition ($M = 2.73$, $SD = 1.10$), $t(19) = 4.74$, $p < .001$, $d = 1.39$. Additionally, the five-item visual attractiveness scale showed strong internal consistency (Cronbach's $\alpha = .86$), demonstrating that it is a reliable measure for the main study. Although participants in the bold packaging condition rated the packaging slightly more attractive ($M = 4.18$, $SD = 1.09$) than those in the muted condition ($M = 3.67$, $SD = 1.75$), this difference was not statistically significant, $t(19) = 0.79$, $p = .441$, suggesting that both designs were perceived as similarly attractive overall. Based on these results, no major adjustments to the packaging designs were necessary. However, the

manipulation check question was revised: originally, participants could only choose between two colour groupings (bold: red, blue, yellow; muted: beige, light green). This was expanded into a multiple-choice format with seven individual colour options (red, blue, yellow, light green, beige, orange, purple) to more accurately assess which colours participants noticed. The final materials were judged suitable for the main experiment.

3.4 Sample and Recruitment

This study employed a non-probability snowball sampling method to recruit participants. The survey link was initially distributed online through WhatsApp group chats, Instagram stories, and LinkedIn posts, and was also shared in relevant LinkedIn groups targeting Dutch and German users, ensuring a diverse and unbiased sample. Participants were explicitly encouraged to forward the link to others who matched the inclusion criteria, and several shared it via their own WhatsApp status. In addition, the survey was posted on SurveyCircle, an online survey exchange platform, although this yielded only a small number of responses. Snowball sampling was chosen for its efficiency in reaching a broad and diverse audience, especially in cross-cultural research where national identity and language are important factors (Babbie, 2016, pp. 196–197).

To be eligible, participants had to be 18 years or older and identify as either Dutch or German. These criteria were confirmed through screening questions at the beginning of the survey which confirmed nationality, age, and snack consumption habits, ensuring that the sample aligns with the study's research objectives.

The questionnaire was offered in Dutch and German, and participants could select their preferred language through a menu in the upper right corner of the screen.

A target sample size of 200 participants (100 German and 100 Dutch) was set. The online format was particularly suitable for reaching a diverse, geographically scattered sample across both countries. Within each national group, participants were evenly distributed across the two experimental conditions (bold vs. muted packaging), resulting in 50 participants per condition. This balanced distribution allows for a direct comparison between the two cultural groups, to ensure sufficient statistical power to detect both main effects and interaction effects in a 2 (packaging style: bold vs. muted) \times 2 (nationality: Dutch vs. German) between-subjects factorial design. This sample size is consistent with previous experimental studies in consumer behaviour and advertising (Brysbaert, 2019) and meets the recommended thresholds for ANOVA and moderation analysis (Creswell & Creswell, 2018, p. 155).

3.4.1 Final Sample Characteristics

A total of 215 participants took part in the study which exceeded the target. The sample was nearly evenly split between Dutch (51.2%) and German (48.8%) respondents. Participants ranged in age from 18 to 78 years, with a mean age of $M = 37.5$ ($SD = 15.0$) and a median age of 35, indicating a diverse adult sample with a slight skew toward younger adults. The gender distribution showed a majority identifying as female (66.0%), followed by male (32.1%). A small portion identified as non-binary or third gender (0.9%), and another 0.9% selected “prefer not to say.”

In terms of educational background, the sample was highly educated. The majority of participants reported having completed a bachelor’s degree (42.1%) or a master’s degree (19.6%). Smaller proportions reported vocational education (17.8%), upper secondary education (12.6%), or a doctorate (2.3%). A few participants indicated alternative educational backgrounds in the open-text field, including qualifications such as ‘state exam’, and ‘Master craftsman’, which further reflects the cultural and educational diversity within the sample.

Only 2.8% of participants reported experiencing colour vision difficulties, and none indicated that these difficulties impacted with their daily activities. These responses were retained in the dataset, and colour vision was included as a control variable in the analysis to account for potential differences in how participants might perceive the visual packaging stimuli

3.4.2 Consumer Mindset and Familiarity

To better understand how participants usually interact with snack packaging, a few general questions were included. Participants reported a moderate level of attention to snack packaging when making purchasing decisions ($M = 3.48$, $SD = 1.49$ on a 6-point scale). This suggests that while packaging may not be a dominant factor for all, it is still a noticeable element in consumer decision-making for many individuals.

When asked about the importance of snacks in their diet, the responses were fairly distributed across the 7-point scale, with an overall mean of $M = 3.41$ ($SD = 1.62$). This spread suggests a participant pool consisting of both casual and regular snack consumers.

Regarding familiarity with similar packaging styles, participants’ exposure varied. Approximately 23.3% had never seen similar packaging before, while 34.4% reported seeing it rarely, and 20.0% occasionally. A smaller number indicated more frequent exposure, such as “sometimes” (14.4%), “frequently” (6.5%), or “often” (1.4%). This distribution suggests

that, although the packaging was newly created for the experiment and had not been seen before, its design elements may have generated a sense of familiarity among participants. This supports the assumption that the packaging was sufficiently neutral to test its effects without being confounded by strong prior brand or product associations.

3.5 Procedure

The experiment and survey were conducted using the online survey platform Qualtrics, ensuring a seamless participant experience and efficient data collection (Creswell & Creswell, 2018, p. 215). All participants completed the experiment individually on their own devices. The median of the duration of the study was 6.97 minutes.

When participants opened the survey, they were first presented with an informed consent form, explaining the general purpose of the study (i.e., consumer impressions of snack products), the voluntary nature of their participation, their right to withdraw at any time, and data confidentiality. All responses were collected anonymously. Participation was voluntary and could be terminated at any point without consequences. To maintain experimental realism, participants were told the study was about general consumer impressions of snack packaging, without revealing the specific research focus. At this stage, participants also selected their preferred language (Dutch or German) to ensure they could fully understand the materials. This choice supported accurate responses and minimized potential language-related bias in a cross-cultural context. After giving consent and selecting their language, participants were asked to indicate their nationality. Only those who identified as Dutch or German were able to continue with the survey. Participants of other nationalities were thanked and exited from the study.

Participants were each shown a high-resolution image of a cookie box that was identical in structure across conditions, with only the packaging style varying. After viewing the packaging stimuli, participants were asked to indicate their purchase intention. This direct measure offers insight into their immediate consumer reactions to the specific packaging condition they were exposed to. Participants then completed a set of mediating variable items to assess their perceived reliability, perceived excitement, and perceived attractiveness of the product. The order of the items was randomized to avoid potential order effects. Next, participants answered control questions about their snack consumption frequency and product category involvement. To ensure that participants accurately perceived the packaging distinction between the experimental conditions, participants answered a manipulation check asking them to identify the colour they primarily noticed in

the packaging. This was placed after the dependent variables to avoid any bias manipulation checks can cause (Geuens & De Pelsmacker, 2017, p. 88). Following the manipulation check, participants responded to an open-ended question asking them to describe what colour association they had with the packaging they saw. This exploratory item was included to better understand whether observed cultural differences in consumer responses might be driven by different colour associations rather than nationality alone.

Finally, participants were asked to complete a brief section on demographic and control variables, including age, gender, nationality, snack consumption frequency, product category involvement, and a colour vision screening to account for potential colour blindness. At the end of the survey, participants received a full debrief, which explained the study's true purpose of investigating the effect of packaging style and cultural background on consumer responses and the participants were reassured about the ethical handling of their data. This study was conducted in accordance with ethical guidelines for human subject's research. Participants were fully informed of their rights, and no personal identifiers were collected.

3.6 Operationalization

This study examined three key constructs: packaging style, uncertainty avoidance, and consumer responses (purchase intention, perceived reliability, perceived attractiveness, and perceived excitement), along with relevant control variables. All constructs were measured using established Likert-type scales, adapted from prior research. Since the constructs were theory-driven and based on validated scales, exploratory factor analyses were conducted separately to confirm unidimensionality for each scale.

3.6.1 Operationalization of Packaging Style

Packaging style was operationalized through carefully selected bold and muted colour schemes. Bold colours include bright, saturated tones such as red and yellow, which are commonly associated with innovation, excitement and attention-grabbing qualities (Mohebbi, 2014, p. 99). In contrast, muted colours feature softer, desaturated tones like beige and light grey, conveying subtlety, calmness and familiarity (Gil-Pérez et al., 2019, p. 72).

Although these colour associations help explain the choice of colour selection, the study does not individually assess each associated perception (e.g., familiarity, innovation, subtlety) as separate dependent variables. Instead, these associations guided the overall

design of the packaging styles to make sure that the bold and muted versions differed in appearance and in the expected feelings or impressions they were likely to evoke, based on previous research. The independent variable packaging style was manipulated using visual stimuli created in two design schemes:

- Bold packaging style: bright, saturated colours (red, yellow, blue), with a shiny finish and a dynamic layout
- Muted packaging style: desaturated tones (beige and light green) with a matte finish and more minimalistic layout

3.6.2 *Operationalization of Nationality*

Nationality served as the second independent variable in the 2 (packaging style) × 2 (nationality) between-subjects design. Nationality was included as a cultural variable to compare consumer responses across two culturally distinct but geographically close markets: the Netherlands and Germany. Participants self-identified as either Dutch or German during the screening stage and were stratified accordingly before random assignment to one of the two packaging conditions. To support valid cross-cultural comparisons and reduce language-related bias, the questionnaire was made available in both Dutch and German. Translating the survey into participants' native languages ensured full comprehension and helped produce more accurate and reliable responses.

3.6.3 *Measurement of Uncertainty Avoidance*

Uncertainty avoidance was measured using a five-item scale adapted from Hofstede et al.'s (2010) cultural dimensions framework and Yoo et al.'s (2011) CVSCALE. The scale assesses individuals' general preference for structure and predictability, and their discomfort with ambiguity or unclear situations (Yoo et al.'s, 2011, pp. 195-196). Items were rated on a 7-point Likert scale (1 = Strongly disagree, 7 = Strongly agree). Example items include:

- "I prefer clear instructions over having to work out a situation on my own."
- "I feel uncomfortable with unpredictable situations."

The scale demonstrated good internal consistency (Cronbach's $\alpha = .83$). Exploratory factor analysis (EFA) was conducted using principal component analysis to assess the dimensionality of the uncertainty avoidance scale. The Kaiser-Meyer-Olkin (KMO) measure was .78, and Bartlett's Test of Sphericity was significant ($\chi^2(10) = 427.72, p < .001$), indicating sampling adequacy and the appropriateness of factor analysis. One component

with an eigenvalue greater than 1 explained 59.5% of the variance. The scree plot also supported a one-factor solution. All five items loaded strongly on the factor (.62 to .86), confirming the scale's unidimensionality.

3.6.4 *Measurement of Consumer Responses*

Additionally, to provide a comprehensive understanding to what extent packaging style influences consumer responses, the post-experiment survey will measure:

3.6.4.1 *Purchase Intention*

Purchase intention was measured using four items adapted from Dodds et al. (1991) and Spears and Singh (2004). Participants responded on a 7-point Likert scale (1 = Very unlikely, 7 = Very likely). Example items include:

- "How likely are you to purchase this product?"
- "I would consider buying this product the next time I shop for snacks."

The scale demonstrated excellent internal consistency (Cronbach's $\alpha = .89$). Exploratory factor analysis (EFA) was conducted using principal component analysis to assess the dimensionality of the four purchase intention items. The Kaiser-Meyer-Olkin (KMO) value was .80, and Bartlett's Test of Sphericity was significant ($\chi^2(6) = 503.48, p < .001$), indicating the data were suitable for factor analysis. One component had an eigenvalue greater than 1 and explained 74.7% of the variance. The scree plot confirmed a clear one-factor solution, with all items loading strongly on the factor (.80 to .90), supporting the scale's unidimensionality. An overview of all reliability and factor analysis results is provided in Table 1.

3.6.4.2 *Perceptions and Attitudes:*

The following scales will measure consumer perceptions and attitudes toward the product:

3.6.4.2.1 *Perceived Reliability*

Adapted from Spears and Singh (2004) and Netemeyer et al. (2004), the perceived reliability scale included five items assessing consumers' trust in the product and perceptions of its quality. Responses were recorded on a 7-point Likert scale (1 = Strongly disagree, 7 = Strongly agree). Example items include:

- "I find this product reliable."
- "This product gives me a sense of trust."

The scale demonstrated excellent internal consistency (Cronbach's $\alpha = .93$). A principal components analysis was conducted on the five items measuring perceived reliability. The Kaiser-Meyer-Olkin (KMO) value was .85, and Bartlett's Test of Sphericity was significant ($\chi^2(10) = 926.06, p < .001$), indicating suitability for factor analysis. A single component had an eigenvalue greater than 1 and explained 78.5% of the total variance. The scree plot supported this one-factor solution, and all items loaded strongly on the factor (.87 to .91), confirming the scale's unidimensionality.

3.6.4.2.2 Perceived Excitement

Adapted from Spears and Singh (2004) and aligned with Richins (1997) on consumption emotions, four items were used to assess the emotional impact of the packaging, specifically how fun, energetic, trendy, and curiosity-provoking it appeared. Responses were recorded on a 7-point Likert scale (1 = Strongly disagree, 7 = Strongly agree). Example items include:

- "This product seems fun and exciting."
- "This packaging design feels energetic and appealing."

The scale showed good internal consistency (Cronbach's $\alpha = .82$). Exploratory factor analysis (EFA) was conducted using principal component analysis on the four perceived excitement items. The Kaiser-Meyer-Olkin (KMO) measure was .73, and Bartlett's Test of Sphericity was significant ($\chi^2(6) = 327.28, p < .001$), indicating sampling adequacy. One component had an eigenvalue above 1 and explained 64.6% of the total variance. The scree plot supported a one-factor solution. All items loaded strongly on the single factor (.73–.84), confirming the scale's unidimensionality.

3.6.4.2.3 Perceived Attractiveness

This construct was measured using five items adapted from Ohanian (1990) and Bloch et al- (2003), assessing participants' impressions of the packaging's visual appeal and attention-grabbing quality. Participants responded on a 7-point Likert scale (1 = Strongly disagree, 7 = Strongly agree). Example items include:

- "I find the packaging visually attractive."
- "This packaging grabs my attention."

The scale demonstrated excellent internal consistency (Cronbach's $\alpha = .89$).

A principal components analysis was conducted on the five items measuring packaging attractiveness. The Kaiser-Meyer-Olkin (KMO) measure was .80, and Bartlett's Test of Sphericity was significant ($\chi^2(10) = 706.07, p < .001$), indicating suitability for factor analysis. One factor had an eigenvalue greater than 1 and explained 69.2% of the variance. The scree plot confirmed a one-factor structure, and all items loaded strongly on the component (.69 to .92), supporting the scale's unidimensionality. One item had a slightly lower communality (.48) but was retained due to theoretical relevance.

3.6.5 Demographic and Control Variables

Demographic information, including age and gender were collected to control for potential unintended variables. Nationality serves as a key independent variable in the experimental design, representing the second factor in the 2 (packaging style) x 2 (nationality) between-subject design. Additionally, the study will measure variables that might affect purchase intentions beyond colour and cultural context. These include snack consumption frequency, product category involvements, and colour vision, to account for potential effects of colour blindness. Examples include:

- Snack Consumption Frequency: "How often do you purchase packaged cookies or similar baked snacks?" (1 = Never, 7 = Very frequently)
- Product Category Involvement: "How important are snacks in your diet?" (1 = Not important, 7 = Very important)
- Packaging Familiarity: "Have you seen packaging like this before?" (1 = Never, 7 = Very often)
- Colour Vision: A question assessing whether respondents experience difficulties distinguishing colours will be included to control for potential colour blindness effects.
 - "Do you experience any challenges in differentiating between colours?" (Yes/No)
 - "If yes, does this challenge affect your daily activities?" (Yes/No)

Table 1*Exploratory Factor Analysis Results and Reliability Statistics for Key Scale*

| Scale | # Items | α | KMO | % Variance Explained | Factor Loadings | Notes |
|-----------------------------|------------|----------|-----|-------------------------|--------------------|--|
| Uncertainty Avoidance | 5 | .83 | .78 | 59.5% | .62–.86 | - |
| Purchase Intention | 4 | .89 | .80 | 74.7% | .80–.90 | - |
| Perceived Reliability | 5 | .93 | .85 | 78.5% | .87–.91 | - |
| Perceived Excitement | 4 | .82 | .73 | 64.6% | .73–.84 | - |
| Perceived Attractiveness | 5 | .89 | .80 | 69.2% | .69–.92 | 1 item with low communality (.48) retained |

Note. All scales were tested using principal component analysis. Factor loadings reflect how strongly each item relates to the underlying construct. α = Cronbach's alpha. KMO = Kaiser-Meyer-Olkin measure of sampling adequacy. One item in the perceived attractiveness scale had a lower communality (.48) but was retained for theoretical reasons.

3.7 Manipulation Check

To assess whether the packaging style manipulation was perceived as intended, participants were asked which colours they noticed most on the packaging. As expected, participants in the bold packaging condition most frequently selected red (90%), blue (73.6%), and yellow (53.6%). In contrast, participants in the muted packaging condition predominantly selected beige (85.7%) and light green (44.8%), colours that aligned with the muted design. A small number of participants also selected orange (14% bold, 2% muted) and purple (3% bold, 1% muted), colours not used in either packaging version. These responses may be due to individual perceptual differences or colour vision deficiency, as a few participants reported experiencing difficulties in distinguishing colours. Nonetheless, the overall pattern confirms the manipulation was successful.

3.7.1 Manipulation Check – Colour Intensity and Colour Preference

Participants were also asked to rate the intensity of the packaging colours. Participants in the bold packaging condition perceived the colours as more intense ($M = 5.80$, $SD = 0.95$). In contrast, those in the muted packaging condition described the colours as notably less intense ($M = 1.89$, $SD = 0.81$). These results indicate that participants clearly perceived the intended difference in colour intensity, confirming the effectiveness of the manipulation.

Participants also indicated their general colour preference in product packaging. The distributions were relatively balanced across both groups. In the bold packaging group ($M = 3.75$, $SD = 1.18$), responses clustered around the midpoint of the scale, suggesting a moderate preference on average. Similarly, participants in the muted packaging group ($M = 3.87$, $SD = 1.26$) also leaned toward neutrality in their responses. These findings suggest that although participants clearly distinguished between the bold and muted packaging styles in terms of colour intensity, their colour preferences were generally neutral, indicating that pre-existing attitudes toward colour were unlikely to have biased their responses. Table 2 provides a summary of the measured variables and their operationalization.

Table 2

Operationalization of Key Constructs

| Construct | Sample Questionnaire Items | Reliability / Stats | Source |
|-----------------------|--|---|---|
| Packaging Condition | Bold Packaging: red, yellow, blue, glossy, geometric design Muted Packaging: beige, light green, matte, minimalist style | Manipulated variable (2-level) | Mohebbi (2014); Gil-Pérez et al. (2019) |
| Uncertainty Avoidance | “I prefer structured situations over unstructured ones.” “I get anxious when I don’t know what to expect.” “I avoid situations that are uncertain or unclear.” | $\alpha = .83$ $M = 4.55$ $SD = 1.20$ | Yoo et al. (2011); Hofstede et al. (2010) |

| Construct | Sample Questionnaire Items | Reliability / Stats | Source |
|--------------------------|--|---|--|
| Purchase Intention | <p>“I am likely to purchase this product.”</p> <p>“I would consider buying this product the next time I shop for snacks.”</p> <p>“I would recommend this product to a friend.”</p> | <p>$\alpha = .89$</p> <p>$M = 3.37$</p> <p>$SD = 1.33$</p> | Spears & Singh (2004); Dodds et al. (1991) |
| Perceived Reliability | <p>“I find this product reliable.”</p> <p>“The packaging makes this product look high quality.”</p> <p>“This product seems to come from a trustworthy brand.”</p> | <p>$\alpha = .93$</p> <p>$M = 3.89$</p> <p>$SD = 1.43$</p> | Spears & Singh (2004); Netemeyer et al. (2004) |
| Perceived Excitement | <p>“This product seems fun and exciting.”</p> <p>“This packaging design feels energetic.”</p> <p>“This packaging makes me curious to try the product.”</p> | <p>$\alpha = .82$</p> <p>$M = 3.88$</p> <p>$SD = 1.38$</p> | Spears & Singh (2004); Richins (1997) |
| Perceived Attractiveness | <p>“I find the packaging visually attractive.”</p> <p>“This packaging grabs my attention.”</p> <p>“This packaging makes me interested in the product.”</p> | <p>$\alpha = .89$</p> <p>$M = 4.16$</p> <p>$SD = 1.43$</p> | Ohanian (1990); Bloch et al. (2003) |
| Manipulation Check | <p>“Which colours did you notice most?”</p> <p>“How would you describe the intensity of the packaging colours?”</p> | <p>Most participants named colours consistent with their assigned condition.</p> | Self-developed |

| Construct | Sample Questionnaire Items | Reliability / Stats | Source |
|-------------------|---|---|----------------|
| | “Do you prefer vibrant or muted colours?” | Perceived Intensity: Bold: $M = 5.80$ $SD = 0.95$ Muted: $M = 1.89$ $SD = 0.81$ Colour preference was evenly distributed, with ~34% reporting no preference. | |
| Control Variables | Product Involvement/Snack consumption: “How often do you purchase packaged cookies?” | $M = 3.17$ $SD = 1.20$ (reported per item) | Self-developed |
| | Product involvement: “How important are snacks in your diet?” | $M = 3.41$ $SD = 1.62$ (reported per item) | |
| | Attention to Packaging: “How much attention do you typically pay to snack packaging when making a purchase?” | $M = 3.48$ $SD = 1.49$ (reported per item) | |
| | Familiarity: “Have you seen packaging like this before?” | $M = 2.51$ $SD = 1.25$ (reported per item) | |
| Demographics | Age: “What is your age?” Gender: “What is your gender?” Colour blindness: “Do you experience difficulties | Categorical/yes-no/self-report | Self-developed |

| Construct | Sample Questionnaire Items | Reliability / Stats | Source |
|-----------|--|---------------------|--------|
| | distinguishing between colours?” | | |
| | Nationality: “What is your nationality?” | | |

Note. This table summarizes the operational definitions, sample questionnaire items, reliability and descriptive statistics, and academic sources used to measure each construct in the study. *M* = mean; *SD* = standard deviation.

3.8 Validity and Reliability

To ensure the validity and reliability of this study, established methodological principles were applied throughout the research design, data collection, and measurement processes.

3.8.1 Internal Validity

Internal validity was strengthened through the use of a between-subjects experimental design with random assignment to either the bold or muted packaging condition. The manipulation was focused exclusively on packaging style, while all other elements (e.g., product type, font, size) remained constant across conditions. This ensured that any observed differences in consumer responses could be attributed specifically to the packaging manipulation rather than other unrelated design features (Creswell & Creswell, 2018, p. 224; Babbie, 2017, p. 245).

A manipulation check was included to verify that participants accurately perceived the intended packaging style. Positioned after the dependent measures, this check helped validate the effectiveness of the manipulation without introducing bias, which further supports the internal and construct validity of the study (Babbie, 2016, p. 243).

3.8.2 External Validity

To support external validity and the generalizability of findings across cultures, the study included participants from two national samples, Dutch and German consumers, which were recruited using a diverse snowball sampling strategy. Participants were screened based on nationality and snack consumption habits to ensure relevance to the study context. While snowball sampling is a form of non-probability sampling and may limit generalizability to

the broader population (Babbie, 2018, pp. 186-197), the inclusion of two culturally distinct groups enhances the cross-cultural relevance of the findings.

To strengthen external validity more, the stimulus materials were designed to look like realistic snack packaging that participants might find in a supermarket. Although the products themselves were fictional, the colour schemes and visual style of the packaging were based on real market examples, which created a natural and more relatable setting. This helped ensure that participants' responses reflected real-life consumer behaviour, which supports the ecological and external validity of the study.

3.8.3 *Reliability*

To ensure measurement reliability, all dependent variables were assessed using validated and widely used Likert-scale instruments adapted from prior literature (e.g., Spears & Singh, 2004; Netemeyer et al., 2004; Richins, 1997). These scales have demonstrated consistent results across previous consumer behaviour studies using similar methods. To use well-established measures helps ensure that the same data would likely be collected under repeated conditions (Babbie, 2017, p. 150). Furthermore, the survey was offered in both Dutch and German, using carefully translated and reviewed items to ensure they had the same meaning in both languages. This helped reduce language-related bias and supported reliable cross-cultural comparisons.

The data collection was conducted through Qualtrics, a secure online survey platform that ensures a consistent experience across participants and devices. Responses were checked for completeness and quality, and the conducted pre-testing helped identify and address potential issues with the stimuli and questionnaire flow. These steps helped to ensure that the study produces reliable results and valid insights into how packaging style and cultural background influence consumer responses.

3.9 **Data Analysis**

After data collection, the full dataset was exported from Qualtrics for statistical analysis in SPSS. The dataset was cleaned to remove incomplete or invalid responses, ensuring data quality and reliability. Items from each scale were recoded if needed and then averaged to create composite scores. The packaging style variable (bold vs. muted) was based on how the survey randomly showed the stimuli. Descriptive statistics were computed for key variables, including purchase intention, perceived reliability, perceived attractiveness, perceived excitement, uncertainty avoidance, and demographic characteristics

(e.g., age, gender, and nationality), as well as potential confounding variables such as product involvement, snack familiarity, attention to packaging, and colour blindness.

After, reliability analyses were conducted using Cronbach's alpha for all multi-item constructs. To check whether the items within each scale measured the same underlying concept, several exploratory factor analyses (EFA) were conducted using principal component extraction; a method that groups related items together. The results showed that all scales were unidimensional and matched the expected theoretical structure.

To test the main hypotheses, a series of independent-samples t-tests were conducted to examine the effects of packaging style (bold vs. muted) on consumer responses. A parallel mediation analysis (PROCESS Model 4) assessed whether perceived reliability, perceived excitement, and perceived attractiveness mediated the relationship between packaging style and purchase intention. Additionally, multiple two-way ANOVAs were conducted to test for interaction effects between packaging style and nationality. A moderation analysis (PROCESS Model 1) tested whether uncertainty avoidance moderated the effect of packaging style on purchase intention.

A manipulation check was carried out to make sure participants noticed the differences in packaging style as intended. This included checking whether they recognized their assigned packaging style, how intense they found the colours, and what colours they generally preferred. Overall, the analyses provided a strong basis for testing the hypotheses and offered valuable insights into how packaging design and cultural background shape consumer decisions.

4 Results

4.1 Preliminary Analysis: Uncertainty Avoidance by Nationality

An independent-samples t-test was conducted to examine differences in uncertainty avoidance between Dutch and German participants. The analysis revealed that German participants ($M = 4.93$, $SD = 0.96$) reported significantly higher levels of uncertainty avoidance than Dutch participants ($M = 4.20$, $SD = 1.29$), $t(201.60) = -4.70$, $p < .001$. Levene's test indicated unequal variances, $F(1, 213) = 12.78$, $p < .001$, and thus the adjusted degrees of freedom were used.

While the mean difference of 0.73 on the uncertainty avoidance scale may appear moderate in absolute terms, the effect size was large (Cohen's $d = 1.14$), indicating that the difference was substantial relative to the variability in responses. This supports the theoretical expectation that German consumers are more uncertainty-avoidant than Dutch consumers, aligning with prior cross-cultural research (Hofstede et al., 2010, p. 193).

4.2 Effects of Packaging Style on Consumer Responses (H1)

To test Hypothesis 1 (H1), a series of independent-samples t-tests were conducted to examine whether bold packaging led to more positive consumer responses, specifically, higher purchase intentions, perceived attractiveness, perceived excitement, and perceived reliability compared to muted packaging.

4.2.1 *Effect of Packaging on Purchase Intentions*

An independent-samples t-test was conducted to examine the effect of packaging style on purchase intentions. Participants exposed to muted packaging ($M = 3.75$, $SD = 1.22$) reported significantly higher purchase intentions than those exposed to bold packaging ($M = 3.00$, $SD = 1.34$), $t(213) = -4.28$, $p < .001$, as shown in Table 3. The effect size was large, Cohen's $d = 1.28$. Contrary to expectations, H1a was rejected, as muted packaging style resulted in significantly higher purchase intentions than bold packaging style.

4.2.2 *Effect of Packaging on Attractiveness*

An independent samples t-test was conducted to examine the effect of packaging style on perceived attractiveness. The analysis revealed no significant difference between the bold packaging condition ($M = 4.24$, $SD = 1.42$) and the muted packaging condition ($M =$

4.07, $SD = 1.44$), $t(213) = 0.87$, $p = .386$. The effect size was small, Cohen's $d = 0.12$. Therefore, H1b was rejected.

4.2.3 *Effect of Packaging on Excitement*

An independent-samples t-test was conducted to examine the effect of packaging style on perceived excitement. Participants in the bold packaging condition ($M = 4.15$, $SD = 1.41$) reported significantly higher excitement levels than those in the muted packaging condition ($M = 3.60$, $SD = 1.29$), $t(213) = 2.99$, $p = .003$. The effect size was large, Cohen's $d = 1.36$. Therefore, H1c was accepted.

4.2.4 *Effect of Packaging on Reliability*

An independent-samples t-test was conducted to examine the effect of packaging style on perceived reliability. Participants in the muted packaging condition ($M = 4.47$, $SD = 1.30$) rated the product as significantly more reliable than participants in the bold packaging condition ($M = 3.34$, $SD = 1.33$), $t(213) = -6.25$, $p < .001$. The effect size was large, Cohen's $d = 1.31$. H1d was rejected, as muted packaging was seen as more reliable than bold packaging, opposite to what was expected.

4.2.5 *Summary of H1 Findings*

In summary, the results revealed a mixed pattern of support for H1. While participants in the bold packaging condition reported significantly higher perceived excitement, supporting H1c, participants in the muted packaging condition reported significantly higher purchase intentions and perceived reliability, leading to the rejection of H1a and H1d. No significant difference was found in perceived attractiveness (H1b). These findings suggest that packaging style influences consumer responses differently depending on the evaluation responses. These findings will be further explored in the context of nationality in the following factorial ANOVA analyses.

Table 3

Independent-Samples t-Test Results Comparing Bold and Muted Packaging Styles on Consumer Responses

| Hypotheses | Dependent Variable | Bold Packaging | | Muted Packaging | | <i>t</i> | <i>df</i> | <i>p</i> | Cohen's <i>d</i> |
|------------|---------------------|----------------|-----------|-----------------|-----------|----------|-----------|----------|------------------|
| | | <i>M</i> | <i>SD</i> | <i>M</i> | <i>SD</i> | | | | |
| H1 | Purchase Intentions | 3.0 | 1.34 | 3.75 | 1.22 | -4.28 | 213 | <.001 | 1.28 |
| H2 | Attractiveness | 4.24 | 1.42 | 4.07 | 1.44 | 0.87 | 213 | .386 | 0.12 |
| H3 | Excitement | 4.15 | 1.41 | 3.60 | 1.29 | 2.99 | 213 | .003 | 1.36 |
| H4 | Reliability | 3.34 | 1.33 | 4.47 | 1.30 | -6.25 | 213 | <.001 | 1.31 |

Note. *M* = mean; *SD* = standard deviation; *df* = degrees of freedom; *p* = significance level; Cohen's *d* = effect size. Values are based on independent-samples t-tests comparing bold and muted packaging conditions.

4.3 Mediation Analysis: Perceived Drivers of Purchase Intention (H2a-c)

To test Hypothesis 2, a parallel mediation analysis was conducted using Hayes' PROCESS macro (Model 4) with packaging style (1 = bold, 2 = muted) as the independent variable, purchase intention as the dependent variable, and perceived reliability, perceived excitement, and perceived attractiveness as mediators.

The total effect of packaging style on purchase intention was significant, $b = 0.75$, $SE = 0.18$, $p < .001$, 95% *CI* [0.40, 1.10]. After controlling for the mediators, the direct effect remained significant, $b = 0.72$, $SE = 0.14$, $p < .001$, 95% *CI* [0.45, 0.99], suggesting partial mediation.

4.3.1 Mediation via Perceived Attractiveness (H2a)

The indirect effect of packaging style on purchase intention through perceived attractiveness was not significant ($b = -0.08$, 95% *CI* [-0.29, 0.10]), as the confidence interval included zero. Therefore, H2a was rejected.

4.3.2 Mediation via Perceived Excitement (H2b)

The indirect effect via perceived excitement was also non-significant ($b = -0.07$, 95% $CI [-0.20, 0.01]$). Since the confidence interval includes zero, H2b was rejected.

4.3.3 Mediation via Perceived Reliability (H2c)

In contrast, the indirect effect via perceived reliability was significant ($b = 0.18$, 95% $CI [0.04, 0.35]$). This indicates that perceived reliability significantly mediated the effect of packaging style on purchase intention. Therefore, H2c was supported.

These results are presented in Table 4 and 5 and visualized in Figure 1.

Table 4

Bootstrap Indirect Effects of Perceived Reliability, Perceived Excitement, and Perceived Attractiveness in the Mediation of Packaging Style on Purchase Intention

| Mediator | Indirect Effect (b) | SE | BootLLCI | BootULCI |
|-----------------|----------------------------|-----------|-----------------|-----------------|
| Reliability | 0.18 | 0.08 | 0.04 | 0.35 |
| Excitement | -0.07 | 0.06 | -0.20 | 0.01 |
| Attractiveness | -0.08 | 0.10 | -0.29 | 0.10 |

Note. Note. CI = Confidence Interval; $LLCI$ = lower-level confidence interval; $ULCI$ = upper-level confidence interval. An indirect effect is significant if the 95% bootstrap CI does not include zero.

Table 5

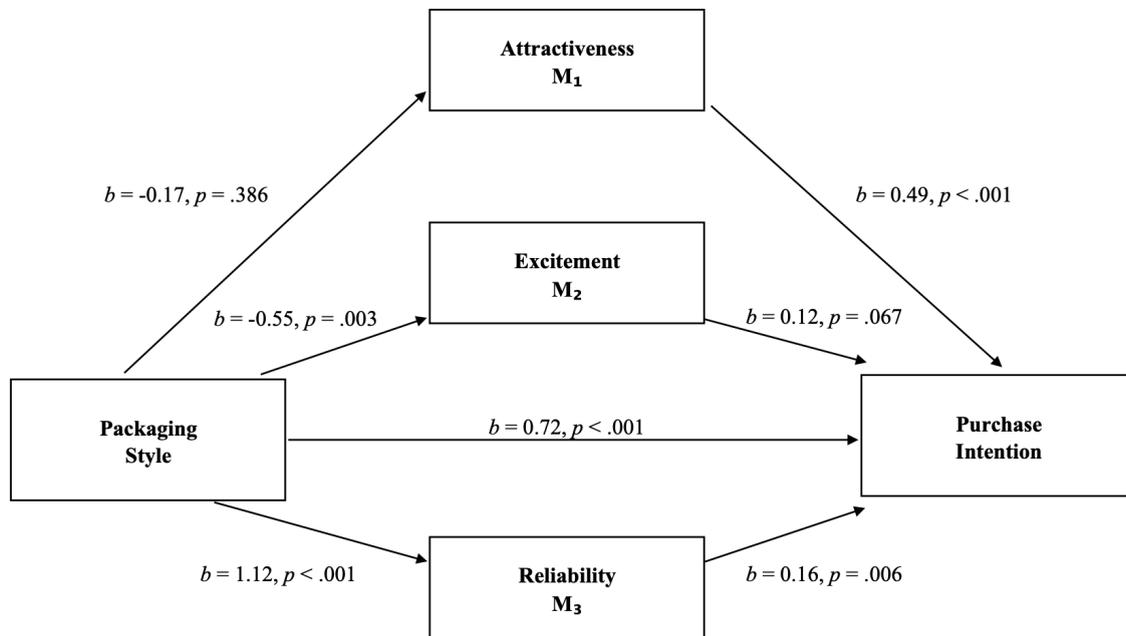
Total and Direct Effects of Packaging Style on Purchase Intention in Mediation Model

| Effect Type | Effect (b) | SE | t | p | 95% CI [LL, UL] |
|--------------------|-------------------|-----------|----------|----------|------------------------|
| Total Effect | 0.75 | 0.18 | 4.28 | <.001 | [0.40, 1.10] |
| Direct Effect | 0.72 | 0.14 | 5.26 | <.001 | [0.45, 0.99] |

Note. Packaging style was coded as 1 = bold and 2 = muted. A significant direct effect indicates that packaging style predicts purchase intention after controlling for the mediators. Effects are considered significant when the 95% confidence interval does not include zero.

Figure 1

Parallel Mediation Model of the Effect of Packaging Style on Purchase Intention via Attractiveness (M_1), Excitement (M_2), and Reliability (M_3)



Note. Coefficients (b) and p -values represent unstandardized effects from the mediation model. Paths reflect the effect of packaging style (coded as 1 = bold, 2 = muted) on each mediator and the effect of each mediator on purchase intention. The direct effect of packaging style on purchase intention is shown while controlling for all mediators.

4.4 Interaction Effects of Packaging Style and Nationality on Consumer Responses (H3 & H4)

To test Hypotheses 3 and 4, a series of two-way (2×2) factorial ANOVAs were conducted to examine whether the effect of packaging style (bold vs. muted) on consumer responses varied by nationality (Dutch vs. German).

4.4.1 Purchase Intention

A 2×2 factorial ANOVA was conducted to examine the effects of packaging style (bold vs. muted) and nationality (Dutch vs. German) on purchase intention. There was a significant main effect of packaging style, $F(1, 211) = 18.26, p < .001$, partial $\eta^2 = .08$, with muted packaging leading to higher purchase intentions. There was also a significant main effect of nationality, $F(1, 211) = 4.22, p = .041$, partial $\eta^2 = .02$, indicating that German

participants reported higher purchase intentions overall. However, the interaction between packaging style and nationality was not significant, $F(1, 211) = 0.03, p = .888$, partial $\eta^2 < .001$ (see Table 6). Therefore, H3a and H4a were not supported.

4.4.2 *Attractiveness*

A 2×2 factorial ANOVA was conducted to examine the effects of packaging style and nationality on perceived attractiveness. There was no significant main effect of packaging style, $F(1, 211) = 0.78, p = .379$, partial $\eta^2 = .004$, and no significant main effect of nationality, $F(1, 211) = 0.77, p = .383$, partial $\eta^2 = .004$. Additionally, the interaction between packaging style and nationality was not significant, $F(1, 211) = 0.03, p = .853$, partial $\eta^2 < .001$. Thus, H3b and H4b were not supported for perceived attractiveness.

4.4.3 *Excitement*

A 2×2 factorial ANOVA was conducted to examine the effects of packaging style and nationality on perceived excitement. There was a significant main effect of packaging style, $F(1, 211) = 9.07, p = .003$, partial $\eta^2 = .04$, indicating that participants rated bold packaging as more exciting than muted packaging. The main effect of nationality was not significant, $F(1, 211) = 2.99, p = .085$, partial $\eta^2 = .01$. The interaction between packaging style and nationality was also not significant, $F(1, 211) = 0.37, p = .544$, partial $\eta^2 = .002$. Thus, H3c and H4c were not supported for perceived excitement.

4.4.4 *Reliability*

A 2×2 factorial ANOVA was conducted to examine the effects of packaging style and nationality on perceived reliability. There was a significant main effect of packaging style, $F(1, 211) = 38.58, p < .001$, partial $\eta^2 = .16$, indicating that muted packaging led to significantly higher perceptions of reliability. The main effect of nationality was not significant, $F(1, 211) < .001, p = .963$, partial $\eta^2 < .001$, and the interaction between packaging style and nationality was also not significant, $F(1, 211) = 0.10, p = .754$, partial $\eta^2 < .001$. Thus, H3d and H4d were not supported for perceived reliability.

4.4.5 *Summary of H3 & H4 Findings*

To test Hypotheses 3 and 4, a series of 2×2 factorial ANOVAs were conducted with packaging style (bold vs. muted) and nationality (Dutch vs. German) as independent variables. Dependent variables included purchase intention, perceived attractiveness,

perceived excitement, and perceived reliability. Across all four analyses, no significant interaction effects were found between packaging style and nationality. While main effects of packaging style were significant for purchase intention ($p < .001$), perceived excitement ($p = .003$), and perceived reliability ($p < .001$), indicating that packaging design influenced consumer responses overall, these effects did not differ by nationality. There were no significant main or interaction effects for perceived attractiveness. Thus, none of the sub-hypotheses (H3a–H3d and H4a–H4d) were supported, as the hypothesized cultural differences in response to packaging styles were not observed.

In addition to the quantitative measures, open-ended responses were collected regarding participants' colour associations with the packaging. These responses were not formally analysed but are discussed in the following section as part of the interpretation of findings.

Table 6

Factorial ANOVA Results for Packaging Style × Nationality on Consumer Responses

| Hypotheses | Dependent Variable | Effect | <i>F</i> | <i>p</i> | η^2 |
|------------|--------------------|-------------------------|----------|----------|----------|
| H3a/H4a | Purchase Intention | Packaging Style | 18.26 | < .001 | .08 |
| | | Nationality | 4.22 | .041 | .02 |
| | | Packaging × Nationality | 0.03 | .888 | < .001 |
| H3b/H4b | Attractiveness | Packaging Style | 0.78 | .379 | .004 |
| | | Nationality | 0.77 | .383 | .004 |
| | | Packaging × Nationality | 0.03 | .853 | < .001 |
| H3c/H4c | Excitement | Packaging Style | 9.07 | .003 | .04 |
| | | Nationality | 2.99 | .085 | .01 |
| | | Packaging × Nationality | 0.37 | .544 | .002 |
| H3d/H4d | Reliability | Packaging Style | 38.58 | < .001 | .16 |
| | | Nationality | 0.00 | .963 | < .001 |
| | | Packaging × Nationality | 0.10 | .754 | < .001 |

Note. η^2 = partial eta squared. Packaging × Nationality refers to the interaction effect. An effect is considered significant at $p < .05$.

4.5 Moderation Analysis: Uncertainty Avoidance as a Moderator (H5)

To test Hypothesis 5, a moderation analysis was conducted using Hayes' PROCESS macro (Model 1). Packaging style (1 = bold, 2 = muted) was entered as the independent variable, purchase intention as the dependent variable, and uncertainty avoidance as a continuous moderator (see Figure 2).

The overall model was significant, $F(3, 211) = 10.77, p < .001, R^2 = .13$. Packaging style had a significant main effect on purchase intention, $b = 0.73, SE = 0.14, p < .001$, indicating that muted packaging was associated with higher purchase intention. However, the interaction between packaging style and uncertainty avoidance was not significant, $b = -0.03, SE = 0.14, p = .822, 95\% CI [-0.32, 0.25]$, as shown in Table 7. These results indicate that uncertainty avoidance did not significantly moderate the relationship between packaging style and purchase intention. Thus, H5 was not supported.

Table 7

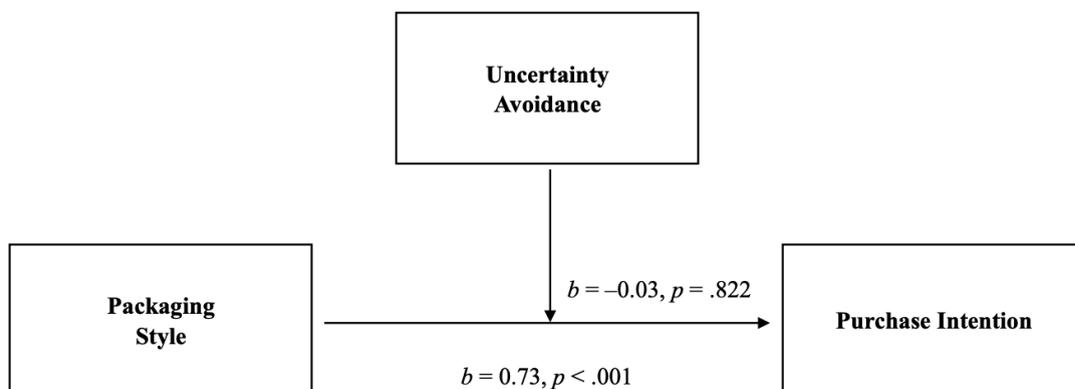
Regression Results from PROCESS Model 1 Testing the Moderating Effect of Uncertainty Avoidance on the Relationship Between Packaging Style and Purchase Intention

| Predictor | <i>b</i> | <i>SE</i> | <i>t</i> | <i>p</i> | <i>BootLLCI</i> | <i>BootULCI</i> |
|---|-----------------|------------------|-----------------|-----------------|------------------------|------------------------|
| Packaging Style (X) | 0.73 | 0.14 | 5.15 | < .001 | 0.45 | 1.01 |
| Uncertainty Avoidance (W) | 0.13 | 0.08 | 1.68 | .095 | -0.02 | 0.28 |
| Packaging Style × Uncertainty Avoidance (X×W) | -0.03 | 0.15 | -0.23 | .822 | -0.32 | 0.25 |

Note. Packaging style was coded as 1 = bold, 2 = muted. *CI* = confidence interval. An effect is considered significant if the 95% bootstrap *CI* does not include zero.

Figure 2

Moderation Model of the effect of packaging style on purchase intention, moderated by uncertainty avoidance (PROCESS Model 1)



Note. PROCESS Model 1 tests whether the effect of packaging style on purchase intention varies as a function of uncertainty avoidance. The interaction term ($X \times W$) indicates the presence of moderation.

4.6 Summary of Results

Overall, the results supported the hypothesized effect of packaging style on consumer responses (H1), with muted packaging resulting in higher purchase intentions and perceived reliability, while bold packaging was associated with higher perceived excitement. Perceived attractiveness did not significantly differ between conditions. The mediation analysis (H2) indicated that this effect was partially explained by perceived reliability, while excitement and attractiveness did not significantly mediate the relationship.

The factorial ANOVAs testing cultural group differences (H3 and H4) revealed no significant interactions between packaging style and nationality, which indicates that responses did not significantly differ between German and Dutch participants. Finally, the moderation analysis (H5) showed that uncertainty avoidance did not significantly moderate the effect of packaging style on purchase intention.

5 Discussion and Conclusion

5.1 Main Findings and Interpretations

This study explored how visual packaging style (bold vs. muted) influences consumer responses, including purchase intention, perceived reliability, perceived excitement, and perceived attractiveness. It also investigated whether these perceptions mediate the packaging–purchase relationship and whether individual differences in uncertainty avoidance or nationality moderate these effects. The findings reveal that packaging style plays a significant yet complex role in shaping consumer responses. Bold packaging increased perceived excitement as expected. However, muted packaging performed better in terms of purchase intention and perceived reliability. This suggests that consumers may care more about whether a product looks trustworthy and familiar than whether it looks fun or exciting when choosing snacks. Mediation analysis confirmed the role of perceived reliability in linking packaging style to purchase intention. In contrast, the hypothesized moderating effects of nationality and uncertainty avoidance were not supported.

5.1.1 Main Effects of Packaging Style and Consumer Responses

The analysis revealed that muted packaging significantly increased purchase intention and perceived reliability, while bold packaging led to higher levels of perceived excitement. These findings suggest that visual design cues influence consumers' perceptions differently depending on the type of consumer response. Designs that appear calm and natural tend to foster perceptions of reliability and increase purchasing motivation, whereas bold, attention-grabbing designs seem more effective at stimulating emotional reactions such as excitement. The excitement elicited by bold packaging is consistent with prior findings that high-intensity visual cues, such as saturated colours, can stimulate arousal and emotional engagement, even in low-involvement settings (Labrecque et al., 2013, p. 196). The finding that muted packaging led to higher purchase intention, however, contrasts with earlier studies by Vermeir and Roose (2020, p. 2) and Mohebbi (2014, p. 97), who found that bold packaging can increase purchase intention. In the current context muted designs were more persuasive. One possible explanation is that in fast, low-involvement decisions such as snack purchases, consumers respond more favourably to packaging that signals a sense of reliability. This adds nuance to the findings of Chitturi et al. (2021), who emphasized the importance of aligning product aesthetics with consumer goals (p. 730). Rather than evoking excitement or sensory appeal, muted designs in this study appeared to enhance perceptions

of reliability, which in turn increased purchase intention. This pattern supports the core idea of Cue Utilization Theory (Easterbrook, 1959), which argues that consumers draw assumptions about product quality based on surface-level visual cues like packaging (p. 183). This is especially relevant in low-involvement categories such as snacks, where intrinsic cues such as taste are not accessible at the point of purchase and decisions are often made quickly (Kauppinen-Räsänen, 2014, p. 664; Magnier & Schoormans, 2017, p. 736). Visual design features such as colour intensity and contrast appear to shape how reliable or exciting a product seems. The large effect sizes observed for purchase intention and perceived reliability further underscore the powerful role packaging plays in shaping consumer impressions and how influential these surface-level cues can be.

Interestingly, perceived attractiveness did not differ significantly between packaging styles. This suggests that while consumers respond differently to excitement and reliability, visual attractiveness may be more subjective or less strongly influenced by packaging in this context (Kauppinen-Räsänen, 2014, p. 666).

5.1.2 Mediation by Perceived Consumer Responses

The mediation analysis revealed that only perceived reliability significantly mediated the relationship between packaging style and purchase intention. This indicates that reliability perceptions, but not perceived excitement or perceived attractiveness, played a role in linking packaging style to purchasing behaviour.

While bold packaging triggered perceived excitement, this emotional response did not translate into actual purchasing behaviour. This finding suggests that emotional arousal alone may not be sufficient to influence purchase decisions in low-involvement product categories like snacks. While some arousal can increase curiosity (Labrecque et al., 2013, p. 196), Shukla et al. (2022) found that too much arousal, caused by very creative or unusual packaging, can reduce consumers' willingness to engage with the product (p. 345). In everyday shopping situations, where people do not spend much time thinking about their choices, packaging that is easier to process and more personally relevant tends to have a stronger effect. This highlights that arousal only works when balanced with clear and meaningful cues (Shukla et al., 2022, p. 340).

Similarly, perceived attractiveness did not mediate the relationship between packaging and purchase intention. Although attractiveness is often considered an important factor in product evaluation, its influence may be more diffuse or less central when consumers make fast decisions based on dependability cues. Recent findings support this

interpretation, showing that while visually complex and potentially more attractive packaging drew more visual attention (Labrecque et al., 2013, p. 196), it undermined consumer trust, whereas simple packaging fostered greater perceived reliability, especially in the context of fast-moving consumer goods (Ding et al., 2024, p. 2). These results emphasize that not all positive consumer perceptions equally affect behaviour and highlight the central role of perceived reliability. The current findings support and extend the work of Vermeir and Roose (2020), who emphasized the importance of trust-related cues in shaping consumer intentions (p. 20). In this study, packaging that increased perceived reliability was more likely to motivate purchase decisions, rather than excitement or attractiveness. This distinction highlights that while visual cues can influence various consumer perceptions, only some of them actually drive behaviour in low-involvement situations. When consumers make quick decisions, they often lack the motivation or time to process information in depth and instead focus on cues that are easy to understand and signal that the product is dependable (Kauppinen-Räsänen, 2014, p. 664), which makes reliability more important than brief emotional reactions.

5.1.3 Cross-National Differences and Cultural Similarity

Although prior research has suggested that consumers from high versus low uncertainty avoidance cultures may differ in their visual preferences and interpretations of design cues (Hofstede et al., 2010, p. 216; Gil-Pérez et al., 2019, p. 72), there has been limited empirical work directly comparing Germany and the Netherlands in this context. This study addressed that gap by examining whether these two culturally distinct groups, as defined by Hofstede's et al's. (2010) framework (p. 193), respond differently to bold versus muted packaging designs, considering not only national-level cultural differences but also individual-level variation in uncertainty avoidance. While Germany and the Netherlands differ theoretically in national uncertainty avoidance scores, individual consumers within each country may also vary in their cultural orientations, and national averages may not reflect this variation (De Mooij & Hofstede, 2010, p. 101; Yoo et al., 2011, p. 194). By considering both national and individual levels, this study aimed to provide a more nuanced understanding of how cultural factors might shape consumer responses to bold versus muted packaging designs.

This study found no significant interaction between nationality and packaging style for any of the four dependent variables (purchase intentions, perceived reliability, perceived attractiveness, perceived excitement). Although German participants scored significantly

higher on uncertainty avoidance (Cohen's $d = 1.14$), this cultural dimension did not lead to different evaluations of bold versus muted packaging design. This indicates that Dutch and German consumers, despite their theoretical differences in uncertainty avoidance, did not differ meaningfully in how they evaluated packaging style and may interpret visual packaging cues similarly in the context of low-risk categories like snacks. Visual packaging preferences in such categories may be more universally shared across Western European consumers than previously assumed.

Although this result may seem surprising, given the significant difference in uncertainty avoidance, neither national-level nor individual-level uncertainty avoidance moderated consumer responses to packaging style. This may suggest that uncertainty avoidance does not strongly influence quick, everyday product evaluations, where decisions are often based on easily processed visual cues rather than culturally shaped risk perceptions. Prior research indicates that in low-involvement contexts, consumers tend to rely on surface-level packaging elements like colour, contrast, and simplicity, rather than deep cultural or psychological traits (Kauppinen-Räsänen, 2014, p. 665).

Therefore, cultural traits such as uncertainty avoidance may not always manifest in fast, heuristic decision-making processes. These findings challenge the assumption, central to Hofstede's et al.'s. (2010) cultural dimensions framework, that uncertainty avoidance whether measured at the national-level or individual level, consistently shapes all types of consumer decisions (p. 22). In this study, both levels of uncertainty avoidance failed to moderate consumer responses to packaging style. One possible explanation is that cultural values like uncertainty avoidance may only influence decisions when the situation involves greater perceived risk, unfamiliarity, or uncertainty (Hassan et al., 2023, p. 12; Macpherson et al., 2024, p. 715), conditions that likely did not apply in this familiar, low-stakes product category. When products are routine and visual cues are easy to interpret (Kauppinen-Räsänen, 2014, p. 664), cultural tendencies to avoid risk may simply not play a role in this type of decision. This highlights the importance of considering when culture matters and reinforces the need to empirically test such cultural frameworks in specific product contexts, rather than applying them universally.

5.1.4 Cultural Associations and Qualitative Insights

Although the quantitative data showed no significant interaction between nationality and packaging style, responses to the open-ended questions suggest that participants in both countries attached different emotional and conceptual meanings to the packaging colours.

For muted packaging, both Dutch and German participants frequently associated beige and light green with naturalness, healthiness, and minimalism, but also described them as bland, clinical, or even unappealing in the context of cookies.

For instance, one participant remarked, “It looked clean and calm... either very good and high quality, or very plain and boring” (Dutch participant, female, age 23) while another said the colours felt more appropriate for a “bio” or “diet” product, rather than a fun snack. These insights suggest that even if packaging does not differ statistically across groups, it may still carry subtle, culturally shaped interpretations, with some praising its calmness, and others describing it as boring (De Mooij & Hofstede, 2010, p. 92).

This raises the possibility that while nationality may not have produced statistically significant differences in ratings, subjective, culturally influenced interpretations of visual cues and packaging style may still exist (De Mooij & Hofstede, 2010, p. 101). These interpretations may have influenced how participants evaluated the products, particularly in terms of naturalness, healthiness, or familiarity. These kinds of implicit associations, such as perceived healthiness, naturalness, and authenticity, although not directly measured in the study, could have acted as mediating perceptions, especially for muted packaging, which participants repeatedly linked to product quality and trust. Prior research has shown that visual packaging elements, especially colour and simplicity, can shape consumer impressions of healthiness and naturalness, which in turn affect purchase intention (Ding et al., 2024, p. 16). For instance, Wang et al. (2023) found that visually simple packaging increased perceptions of authenticity and trust (p. 2). Similarly, Huang and Lu (2016) demonstrated that cooler package colours, like green and blue, were associated with healthier evaluations and higher purchase intentions (p. 192). When participants described the packaging as “clean,” “chemical,” or “bio,” these words likely reflected more than just visual preferences. They also revealed deeper assumptions about what kind of product it was and whether it seemed suitable to buy or eat (Huang & Lu, 2015, p. 205).

In contrast, responses to the bold packaging (red, blue, yellow) often emphasized associations with intensity, playfulness, and nostalgia, but were also frequently associated with unhealthiness, artificiality, and sensory overload. Participants across both countries described the colours as “loud,” “overwhelming,” “like candy,” and even “chemically untrustworthy.” Some associated the design with retro visuals, referencing Mondrian, Pop Art, or the 1980s, while others saw it as childish or influencer driven.

For example, one German participant, a 24-year-old female, wrote, “The colours were so intense and felt unnatural / chemical, so I assumed the products would taste

chemical and not be trustworthy / good for my health,” while another commented, “Looks like something designed to manipulate children — loud and sugary.” These responses suggest that people often judge how healthy a product is based on its packaging style and tend to see muted designs as more natural or healthy, and bold designs as more sugary or artificial (Huang & Lu, 2015, pp. 205, 211).

These insights help explain why bold packaging brought out higher perceived excitement but did not lead to increased purchase intention. While visually engaging, it may have also triggered scepticism or sensory overload when consumers assumed artificiality or excess sugar from the design (Huang & Lu, 2015, p. 211; Vermeir & Roose, 2020, p. 21). This highlights the importance of exploring not only statistical interactions, but also the subjective interpretations participants assign to packaging, such as associating muted colours with health, simplicity, and calmness, or alternatively with dullness and lack of excitement.

5.1.5 Moderation by Uncertainty Avoidance

The expected moderation effect of uncertainty avoidance on the relationship between packaging style and purchase intention was not observed. While packaging style significantly predicted purchase intention, this effect did not differ based on consumers’ individual levels of uncertainty avoidance. Although uncertainty avoidance varied significantly between national groups, these differences did not translate into different behavioural responses to packaging styles.

These results suggest that uncertainty avoidance as an individual trait may have limited impact on simple consumer decisions where perceived risks are low, such as purchasing cookies. In contrast, uncertainty avoidance may play a stronger role in more complex or high-risk decision-making contexts, such as those involving financial products, health-related goods, or unfamiliar technology. Research shows that consumers with high uncertainty avoidance are more cautious when facing unfamiliar or complex choices, including financial services and technology adoption (De La Hoz-Correa & Muñoz-Leiva, 2018, pp. 206, 215; Hassan et al., 2023, p. 12). In high-stakes areas like healthcare, managing risk under uncertainty is often driven by ethical concerns and social pressures to reduce unknown outcomes. These behaviours align closely with uncertainty avoidance tendencies (Macpherson et al., 2024, p. 715).

5.2 Theoretical Contributions

The findings contribute to the literature by demonstrating how packaging style influences different consumer responses. While both perceived excitement and perceived reliability were influenced by packaging style, only perceived reliability significantly impacted purchase decisions. This suggests that, in low-involvement contexts, consumers focus more on whether a product seems reliable than on how exciting or visually attractive it appears. This supports the idea that heuristic cues related to reliability play a more decisive role than emotional or aesthetic impressions, like excitement and attractiveness, in everyday purchasing (Kauppinen-Räsänen, 2014, p. 664).

These findings offer new support for Cue Utilization Theory (Easterbrook, 1959), which argues that consumers rely on extrinsic cues, such as packaging, when intrinsic product attributes (e.g., taste) are unavailable at the point of purchase (Magnier & Schoormans, 2017, p. 736). In this study, packaging style served as such an extrinsic cue, shaping consumer responses in the absence of direct product experience. More specifically, the results extend Cue Utilization Theory (Easterbrook, 1959) by demonstrating that reliability-related perceptions, rather than emotional responses like excitement or attractiveness, are more predictive of purchase behaviour in low-involvement product categories. The findings suggest that consumers evaluating snack products rely more on familiar and reliable designs than on emotionally stimulating or eye-catching features. Design elements associated with simplicity, calmness, and naturalness, like muted packaging, may therefore be more persuasive than vibrant, attention-grabbing cues in the context of snack products. This extends earlier research that focused on the strong appeal of bold, eye-catching packaging (Vermeir & Roose, 2020, p. 20). Furthermore, the findings suggest that not all extrinsic cues function equally: practical cues like reliability may have a stronger effect than emotional cues like excitement, especially when people cannot judge the product directly. This adds a new layer to Cue Utilization Theory (Easterbrook, 1959) by clarifying which types of extrinsic information are most influential when intrinsic product attributes are unavailable.

In addition, the fact that no cultural moderation was found challenges the assumption that Hofstede et al.'s. (2010) cultural dimensions always predict everyday consumer behaviour (p. 22). While uncertainty avoidance differs theoretically between Dutch and German consumers, both groups responded similarly to the packaging cues. This suggests that cultural values such as uncertainty avoidance may play a weaker role in fast, low-involvement decisions, especially within culturally similar regions such as Western Europe.

It highlights the importance of testing cultural frameworks within specific product categories and decision-making situations, rather than assuming that everyone from the same country will react the same way.

5.3 Practical Implications

For practitioners, the results suggest that muted packaging designs may be more effective in building consumer trust and driving purchase intentions within the snack sector. Brands should also be aware that packaging can send signals about health. For example, bold designs might make snacks seem more artificial or sugary, while muted designs can come across as healthier, even if the product itself does not change (Huang & Lu, 2015, p. 211; Vermeir & Roose, 2020, p. 21). Brands aiming to attract health-conscious or authenticity-seeking consumers should consider using desaturated colour palettes and minimalistic design elements. At the same time, the ability of bold packaging to generate excitement may still be useful in branding strategies that prioritize visibility or emotional engagement over immediate purchase intent. What works best depends on how a brand wants the product to be seen, either as a reliable everyday snack or as a fun, indulgent treat.

Furthermore, the findings imply that packaging strategies may not need major adaptation between culturally similar Western European markets like Germany and the Netherlands. Standardized visual styles that emphasize reliability-related cues could offer both cost-efficiency and cross-cultural appeal, especially when targeting consumers with shared values around product reliability and naturalness (De Mooij & Hofstede, 2010, p. 102).

For consumers, these findings highlight the importance of being aware of how packaging design can shape impressions of product quality and healthfulness, sometimes without conscious awareness. Being more aware of these visual influences may help consumers make more deliberate choices in fast-paced retail environments.

For policymakers, the results suggest that clearer front-of-pack labelling and regulation around potentially misleading health cues in packaging design could help ensure that visual impressions align more closely with the product's actual nutritional value. This is especially relevant when muted or natural-looking designs are used to imply health benefits that are not reflected in the nutritional content. In particular, for products high in sugar, it may be necessary to introduce guidelines that prevent packaging from appearing overly healthy when the product is not.

5.4 Limitations and Future Research

This study has several limitations that should be acknowledged. First, while this study focused on uncertainty avoidance as the main cultural variable, other cultural dimensions, such as indulgence-restraint, could also shape how consumers respond to packaging cues. For instance, indulgent cultures may respond more positively to colourful, expressive designs, whereas restrained cultures might prefer minimalistic or conservative packaging (Hofstede et al., 2010, pp. 280-281). Future research could explore how these dimensions interact with packaging design elements to provide a more detailed understanding of cross-cultural variation in packaging perception.

Another limitation relates to perceptions that were not directly measured in the study but may have played a role in how participants responded to the packaging. While the study focused on consumer responses such as excitement, reliability, and purchase intention, open-ended responses suggested that participants associated packaging with qualities like healthiness, naturalness, and artificiality. These perceptions may have influenced the results and could act as mediators between packaging style and purchase behaviour. Future research could include such perceptions as measurable variables to better understand the psychological processes that packaging triggers.

In addition, the use of unfamiliar snack brands, was beneficial for internal validity but may limit the external validity of the findings. In real-world retail settings, snacks are typically highly promoted and often tied to familiar brands that carry pre-existing associations. A single exposure to an unknown product may not fully capture how consumers evaluate packaging in more natural shopping environments. Future research could test the role of brand familiarity and explore additional variables such as attention, brand recognition, product attitudes, or brand imagery, particularly in high-competition categories like fast-moving consumer goods (FMCGs), to build a more complete picture of the decision-making process.

Another limitation concerns the stimuli, which combined multiple design elements, such as colour schemes and surface finishes. Although this reflects realistic packaging designs, it makes it difficult to isolate which specific design element drove the observed effects. Future studies could test individual packaging elements separately to better understand their unique and combined impact. Eye-tracking could also be used to assess how visual attention varies between design types.

While the sample was designed to compare German and Dutch consumers, only self-reported nationality was used to assign participants to groups. The study did not collect

information on participants' country of residence, cultural background, or experience with the other culture. In a globalised context, especially between neighbouring countries like Germany and the Netherlands, people may live, work, or study across borders and be influenced by more than one culture. These cross-cultural influences may have shaped how participants responded to the packaging, even if they were not reflected in their nationality. Future research could improve on this by measuring both nationality and place of residence, as well as cultural orientation, to better understand how cross-cultural experiences affect consumer perceptions.

Finally, although Germany and the Netherlands differ meaningfully in uncertainty avoidance, their broader cultural and economic similarities may have contributed to the lack of significant interaction effects. Similar studies in more culturally distant markets could help test the boundaries of these findings and offer stronger insights into how culture moderates packaging responses across different levels of product involvement or familiarity. Qualitative methods may also be useful to explore how consumers interpret packaging cues across cultures in greater depth.

5.5 Conclusion

This study investigated how visual packaging styles, specifically bold versus muted designs, influence consumer responses to unhealthy snack products, focusing on purchase intention, perceived reliability, perceived excitement, and perceived attractiveness, using a cross-cultural sample of Dutch and German participants. The findings provide a nuanced answer to the research question: *To what extent does packaging style affect consumer responses to unhealthy snacks among Dutch and German consumers?*

Grounded in Cue Utilization Theory (Easterbrook, 1959), the findings demonstrate that packaging style plays a significant role in shaping consumer perceptions, especially through perceived reliability and excitement. While bold packaging increased excitement, muted designs led to higher purchase intention and reliability. These effects were consistent across both cultural groups and suggest that in low-involvement purchasing contexts like snack shopping, consumers rely more on heuristic cues like packaging style than on culturally shaped preferences. Importantly, perceived reliability was found to mediate the relationship between packaging style and purchase intention, while cultural dimensions such as nationality and individual uncertainty avoidance did not moderate these effects. Moreover, the lack of a difference in perceived attractiveness suggests that visual appeal

may be more subjective and shaped by factors that were not directly manipulated in this study, such as individual preferences, prior experiences, or culturally embedded symbolism.

The results contribute to packaging and cross-cultural marketing literature by showing that even in theoretically distinct cultural groups, consumer responses may be surprisingly similar, particularly in low-involvement decisions like snack selection. This finding highlights that reliability-related cues can outweigh emotionally stimulating visuals in shaping decisions when consumers have limited time or attention.

In summary, these findings highlight that in crowded supermarket aisles, where consumers make fast decisions, packaging design acts not just as a silent salesperson, but as a cue for perceived reliability that outweighs the influence of visually intense or emotionally stimulating design elements. These insights not only refine theoretical assumptions about culture and cue-based judgments but also offer actionable recommendations for marketers seeking to design packaging that resonates across culturally similar markets. Policymakers could also use these insights to encourage healthier food choices through clearer, more trustworthy packaging design. As packaging continues to serve as a critical touchpoint in consumer decision-making, future research should continue to test how visual cues interact with consumer expectations, cultural context, and product category to guide both consumer perception and behaviour.

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Appendix A Stimuli (Experimental Images)

Condition 1: Bold Packaging Style



Condition 2: Muted Packaging Style



Appendix B

Pre-test Questionnaire (Multilingual)

Pre-Test Master Thesis

Start of Block: Welcome & informed consent

Welcome

Dear Participant, Thank you for your interest in this study. I invite you to participate in a short online experiment and questionnaire. In this study, you will be shown different snack packaging designs and asked to evaluate them based on your personal perceptions. The goal of this research is to understand how colour in snack packaging influences consumer responses across different cultural contexts. The questionnaire will take approximately 5 minutes to complete. Please answer each question carefully and honestly, as I am sincerely interested in your opinions. There are no right or wrong answers—only your perspective matters. **Confidentiality of Data** Your participation is entirely anonymous, and all data collected will remain strictly confidential. Your responses will be used solely for academic research purposes and will not be shared with third parties. There are no foreseeable risks or discomforts associated with participation. **Voluntary Participation** Participation in this study is completely voluntary. You may withdraw at any time without providing a reason, and doing so will have no consequences. **Further Information** If you have any questions about this study before or after participating, you can contact me: Erika Thimm – Email: 709410et@student.eur.nl This study has been approved by the Ethics Committee of Erasmus University Rotterdam. If you have concerns regarding privacy, you may contact the university's Data Protection Officer at fg@eur.nl.

Welcome

Liebe Teilnehmerin, lieber Teilnehmer, vielen Dank für Ihr Interesse an dieser Studie. Ich lade Sie ein, an einem kurzen Online-Experiment mit Fragebogen teilzunehmen. In dieser Studie werden Ihnen verschiedene Snack-Verpackungsdesigns gezeigt und Sie werden gebeten, diese anhand Ihrer persönlichen Wahrnehmung zu bewerten. Ziel dieser Untersuchung ist es, zu verstehen, wie die Farbe von Snackverpackungen die Reaktionen der Verbraucher in verschiedenen kulturellen Kontexten beeinflusst. Das Ausfüllen des Fragebogens wird etwa 5 Minuten in Anspruch nehmen. Bitte beantworten Sie jede Frage sorgfältig und ehrlich, denn ich bin aufrichtig an Ihrer Meinung interessiert. Es gibt keine richtigen oder falschen Antworten - nur Ihre Perspektive zählt. **Vertraulichkeit der Daten** Ihre Teilnahme ist völlig anonym, und alle erhobenen Daten werden streng vertraulich behandelt. Ihre Antworten werden ausschließlich für wissenschaftliche Forschungszwecke verwendet und nicht an Dritte weitergegeben. Mit der Teilnahme sind keine vorhersehbaren Risiken oder Unannehmlichkeiten verbunden. **Freiwillige Teilnahme** Die Teilnahme an dieser Studie ist vollkommen freiwillig. Sie können jederzeit ohne Angabe von Gründen zurücktreten, ohne dass dies Folgen hat. **Weitere Informationen** Wenn Sie vor oder nach der Teilnahme Fragen zu dieser Studie haben, können Sie sich an mich wenden: Erika Thimm - Email: 709410et@student.eur.nl Diese Studie wurde von der Ethikkommission der Erasmus-Universität Rotterdam genehmigt. Wenn Sie Bedenken bezüglich des Datenschutzes haben, können Sie sich an den Datenschutzbeauftragten der Universität wenden: fg@eur.nl.

Welcome

Geachte deelnemer, Bedankt voor uw interesse in dit onderzoek. Ik nodig u uit om deel te nemen aan een kort online experiment en vragenlijst. In dit onderzoek krijgt u verschillende ontwerpen van snackverpakkingen te zien en wordt u gevraagd deze te beoordelen op basis van uw persoonlijke percepties. Het doel van dit onderzoek is om te begrijpen hoe kleur in snackverpakkingen de reacties van consumenten in verschillende culturele contexten beïnvloedt. Het invullen van de vragenlijst duurt ongeveer 5 minuten. Beantwoord elke vraag zorgvuldig en eerlijk, want ik ben oprecht geïnteresseerd in uw mening. Er zijn geen goede of foute antwoorden - alleen uw perspectief telt. Vertrouwelijkheid van gegevens Uw deelname is volledig anoniem en alle verzamelde gegevens blijven strikt vertrouwelijk. Uw antwoorden worden uitsluitend gebruikt voor academisch onderzoek en worden niet gedeeld met derden. Er zijn geen voorzienbare risico's of ongemakken verbonden aan deelname. Vrijwillige deelname Deelname aan dit onderzoek is geheel vrijwillig. U kunt zich op elk moment zonder opgaaf van reden terugtrekken en dit heeft geen gevolgen. Verdere informatie Als u voor of na deelname vragen heeft over dit onderzoek, kunt u met mij contact opnemen: Erika Thimm - Email: 709410et@student.eur.nl Dit onderzoek is goedgekeurd door de Ethische Commissie van de Erasmus Universiteit Rotterdam. Als u zich zorgen maakt over privacy, kunt u contact opnemen met de functionaris voor gegevensbescherming van de universiteit via fg@eur.nl.

Consent If you understand the above information and agree to participate, please click the "I agree" button below to begin.

- I consent (1)
- I do not consent (2)

Consent Wenn Sie die obigen Informationen verstanden haben und mit der Teilnahme einverstanden sind, klicken Sie bitte unten auf die Schaltfläche „Ich stimme zu“, um zu beginnen.

- Ich stimme zu. (1)
- Ich stimme nicht zu. (2)

Consent Als u de bovenstaande informatie begrijpt en akkoord gaat met deelname, klik dan op de knop "Ik geef toestemming" hieronder om te beginnen.

- Ik geef toestemming (1)
- Ik geef geen toestemming (2)

Skip To: End of Survey If If you understand the above information and agree to participate, please click the "I agree" butt... = I do not consent

End of Block: Welcome & informed consent

Start of Block: Demographic Country

Nationality What is your nationality?

- Dutch (1)
- German (2)
- Other (3)

Nationality Welche Staatsangehörigkeit besitzen Sie?

- Niederländisch (1)
- Deutsch (2)
- Andere (3)

Nationality Wat is uw nationaliteit?

- Nederlands (1)
- Duits (2)
- Andere (3)

Skip To: End of Survey If What is your nationality? = Other

End of Block: Demographic Country

Start of Block: Instructions Experiment

Instruction Next, you will see an image of a snack product with its packaging. Please view the image carefully, as you will be asked to evaluate it afterward.

Instruction Als Nächstes sehen Sie ein Bild von einer Snackverpackung. Bitte schauen Sie sich dieses Bild genau an, da Sie anschließend ein paar Fragen dazu beantworten müssen.

Instruction U krijgt straks een afbeelding te zien van een snackverpakking. Over deze afbeelding zullen vervolgens een aantal vragen worden gesteld.

End of Block: Instructions Experiment

Start of Block: Stimulus 1

Stimulus 1 Please take a moment to carefully view the snack packaging design shown below. After viewing, you will be asked a few questions about your impression of the packaging.

Stimulus 1 Bitte schauen Sie sich das folgende Snackverpackungsdesign aufmerksam an. Anschließend werden Ihnen ein paar Fragen zu Ihrem Eindruck der Verpackung gestellt.

Stimulus 1 U ziet nu het ontwerp van de snackverpakking. Bekijk deze zorgvuldig. Hierna krijgt u een aantal vragen over de indruk van de verpakking.

End of Block: Stimulus 1

Start of Block: Stimulus 2

Stimulus 2 Please take a moment to carefully view the snack packaging design shown below. After viewing, you will be asked a few questions about your impression of the packaging.

Stimulus 2 Bitte schauen Sie sich das folgende Snackverpackungsdesign aufmerksam an. Anschließend werden Ihnen ein paar Fragen zu Ihrem Eindruck der Verpackung gestellt.

Stimulus 2 U ziet nu het ontwerp van de snackverpakking. Bekijk deze zorgvuldig. Hierna krijgt u een aantal vragen over de indruk van de verpakking.

End of Block: Stimulus 2

Start of Block: Manipulation Check

Colour Recognition What colours did you primarily notice on the packaging?

- Red, Blue and Yellow (1)
- Beige and Light Green (2)

Colour Recognition Welche Farben sind Ihnen auf der Verpackung besonders aufgefallen?

- Rot, Blau und Gelb (1)
- Beige und Hellgrün (2)

Colour Recognition Welke kleuren zijn u vooral opgevallen op de verpakking?

- Rood, Blauw en Geel (1)
- Beige en Lichtgroen (2)

Colour Intensity Please rate the following statements on a scale from 1 (Very subtle) to 7 (Very Strong).

| | 1 - Very subtle (1) | 2 - Subtle (2) | 3 - Somewhat subtle (3) | 4 - Neutral (4) | 5 - Somewhat strong (5) | 6 - Strong (6) | 7 - Very strong (7) |
|---|------------------------|-----------------------|----------------------------|-----------------------|----------------------------|-----------------------|------------------------|
| How would you describe the intensity of the packaging colours that you just saw? (1) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

Colour Intensity Bitte bewerten Sie die folgenden Aussagen auf einer Skala von 1 (sehr schwach) bis 7 (sehr stark).

| | 1 - Sehr dezent (1) | 2 - Dezent (2) | 3 - Eher dezent (3) | 4 - Neutral (4) | 5 - Eher kräftig (5) | 6 - Kräftig (6) | 7 - Sehr kräftig (7) |
|--|------------------------|-----------------------|---------------------------|-----------------------|----------------------------|-----------------------|----------------------------|
| Wie würden Sie die Intensität der Farben der Verpackung beschreiben, die Sie gerade gesehen haben? (1) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

Colour Intensity Geef de volgende stellingen een cijfer op een schaal van 1 (Zeer subtiel) tot 7 (Zeer sterk).

| | 1 - Zeer subtiel (1) | 2 - Subtiel (2) | 3 - Enigszins subtiel (3) | 4 - Neutraal (4) | 5 - Enigszins sterk (5) | 6 - Sterk (6) | 7 - Zeer sterk (7) |
|---|----------------------------|-----------------------|------------------------------------|------------------------|-------------------------------|-----------------------|-----------------------------|
| Hoe zou u de intensiteit beschrijven van de verpakingskleuren die u net heeft gezien? (1) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

End of Block: Manipulation Check

Start of Block: Attractiveness

Pack Attractiveness Please rate the following statements on a scale from 1 (Not at all) to 7 (Very much).

| | 1 - Not at all (1) | 2 - Slightly (2) | 3 - Somewhat (3) | 4 - Neutral (4) | 5 - Fairly (5) | 6 - Very (6) | 7 - Very much (7) |
|---|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| How visually attractive do you find the packaging? (1) | <input type="radio"/> |
| How eye-catching do you find this packaging? (2) | <input type="radio"/> |
| How appealing does this product look to you? (3) | <input type="radio"/> |
| Does this packaging grab your attention? (4) | <input type="radio"/> |
| Does this packaging make you interested in the product? (5) | <input type="radio"/> |

Pack Attractiveness Bitte bewerten Sie die folgenden Aussagen auf einer Skala von 1 (überhaupt nicht) bis 7 (sehr stark).

| | 1 - Überhaupt nicht (1) | 2 - Geringfügig (2) | 3 - Etwas (3) | 4- Neutral (4) | 5 - Ziemlich (5) | 6 - Sehr (6) | 7 - Sehr viel (7) |
|---|-------------------------------|---------------------------|-----------------------|-----------------------|------------------------|-----------------------|-----------------------|
| Wie ansprechend finden Sie die Verpackung? (1) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Wie auffallend finden Sie diese Verpackung? (2) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Wie attraktiv finden Sie dieses Produkt? (3) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Erweckt diese Verpackung Ihre Aufmerksamkeit? (4) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Weckt diese Verpackung Ihr Interesse an dem Produkt? (5) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

Pack Attractiveness Geef de volgende uitspraken een cijfer op een schaal van 1 (helemaal niet) tot 7 (heel erg).

| | 1 - Helemaal niet (1) | 2 - Iets (2) | 3 - Enigszins (3) | 4 - Neutraal (4) | 5 - Redelijk (5) | 6 - Zeer (6) | 7 - Zeer veel (7) |
|--|-----------------------------|-----------------------|-------------------------|------------------------|------------------------|-----------------------|-----------------------|
| Hoe visueel aantrekkelijk vindt u de verpakking? (1) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Hoe opvallend vindt u deze verpakking? (2) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Hoe aantrekkelijk lijkt dit product u? (3) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Trekt deze verpakking uw aandacht? (4) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Zorgt deze verpakking ervoor dat u geïnteresseerd bent in het product? (5) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

End of Block: Attractiveness

Start of Block: Demographics



Age What is your age?

Age Wie alt sind Sie?

Age Wat is uw leeftijd?

Gender What is your gender?

- Male (1)
- Female (2)
- Non-binary / third gender (3)
- Prefer not to say (4)

Gender Welches Geschlecht haben Sie?

- Männlich (1)
- Weiblich (2)
- Nicht-binär / drittes Geschlecht (3)
- Möchte ich nicht sagen (4)

Gender Wat is uw geslacht?

- Man (1)
- Vrouw (2)
- Non-binaire / derde gender (3)
- Liever niet zeggen (4)

Colour Blindness Do you experience difficulties distinguishing between colours?

- Yes (1)
- No (2)

Colour Blindness Haben Sie Schwierigkeiten, zwischen Farben zu unterscheiden?

- Ja (1)
- Nein (2)

Colour Blindness Heeft u moeite met het onderscheiden van kleuren?

- Ja (1)
- Nee (2)

Display this question:

If Do you experience difficulties distinguishing between colours? = Yes

Effect on daily life Does this difficulty affect your daily activities?

- Yes (1)
 No (2)

Effect on daily life Beeinträchtigt diese Schwierigkeit Ihre täglichen Aktivitäten?

- Ja (1)
 Nein (2)

Effect on daily life Heeft dit probleem invloed op u dagelijkse activiteiten?

- Ja (1)
 Nee (2)

End of Block: Demographics

Start of Block: Debrief

Debrief

Thank you for taking part in this pre-test. This preliminary study was conducted to ensure that the snack packaging stimuli used in the main study are correctly perceived. Your feedback will help refine the materials before the final research phase. During this pre-test, you were randomly shown one of two snack packaging designs with different colour schemes and asked to evaluate it. The goal is to understand how consumers from different cultural backgrounds (Dutch and German) perceive these designs. Your responses will help verify whether the stimuli effectively represent differences in colour perception and attractiveness. Why Is This Pre-Test Important? Before conducting the main study, it is essential to confirm that the packaging variations (e.g., colour differences) are correctly noticed and interpreted by participants. Your input helps ensure that the study materials are valid and capable of measuring consumer responses accurately. Your Data and Privacy Your participation was completely anonymous, and your data will be kept confidential. The results will be used exclusively for academic purposes. If you wish to withdraw your data from the study, please contact me at 709410et@student.eur.nl within 3 days after completing the questionnaire. Further Questions? If you have any questions or are interested in the findings of this research, feel free to contact me: Erika Thimm – Email: 709410et@student.eur.nl Thank you again for your time and participation! Your feedback is invaluable in improving this research.

Debrief

Diese Vorstudie wurde durchgeführt, um sicherzustellen, dass die in der Hauptstudie verwendeten Stimuli für Snackverpackungen richtig wahrgenommen werden. Ihr Feedback wird dazu beitragen, die Materialien vor der endgültigen Forschungsphase zu verbessern.

Während dieses Vortests wurde Ihnen zufällig eines von zwei Snackverpackungsdesigns mit unterschiedlichen Farbschemata gezeigt und Sie wurden gebeten, es zu bewerten. Ziel ist es, zu verstehen, wie Verbraucher mit unterschiedlichem kulturellem Hintergrund (Niederländer und Deutsche) diese Designs wahrnehmen. Ihre Antworten werden dazu beitragen, zu überprüfen, ob die Stimuli tatsächlich Unterschiede in der Farbwahrnehmung und Attraktivität darstellen.

Warum ist dieser Pre-Test wichtig?

Vor der Durchführung der Hauptstudie ist es wichtig, zu bestätigen, dass die Verpackungsvariationen (z.B. Farbunterschiede) von den Teilnehmern richtig wahrgenommen und interpretiert werden. Ihr Beitrag trägt dazu bei, dass das Studienmaterial valide ist und die Reaktionen der Verbraucher genau gemessen werden können.

Ihre Daten und Datenschutz

Ihre Teilnahme war völlig anonym, und Ihre Daten werden vertraulich behandelt. Die Ergebnisse

werden ausschließlich für wissenschaftliche Zwecke verwendet. Wenn Sie Ihre Daten aus der Studie zurückziehen möchten, kontaktieren Sie mich bitte innerhalb von 3 Tagen nach Ausfüllen des Fragebogens unter 709410et@student.eur.nl.

Weitere Fragen?

Wenn Sie Fragen haben oder an den Ergebnissen dieser Studie interessiert sind, können Sie mich gerne kontaktieren: Erika Thimm - Email: 709410et@student.eur.nl

Vielen Dank für Ihre Zeit und Ihre Teilnahme! Ihr Feedback ist für die Verbesserung dieser Untersuchung sehr bedeutsam.

Debrief

Dit vooronderzoek is uitgevoerd om ervoor te zorgen dat de snackverpakkingstimuli die in het hoofdonderzoek worden gebruikt, correct worden waargenomen. Uw feedback zal helpen om de materialen te verfijnen voor de definitieve onderzoeksfase. Tijdens deze pre-test kreeg u willekeurig een van de twee verpakkingontwerpen van snacks met verschillende kleurschema's te zien en werd u gevraagd deze te beoordelen. Het doel is om te begrijpen hoe consumenten met verschillende culturele achtergronden (Nederlands en Duits) deze ontwerpen waarnemen. Uw antwoorden zullen helpen om te verifiëren of de stimuli effectief verschillen in kleurwaarneming en aantrekkelijkheid weergeven. Waarom is dit vooronderzoek belangrijk? Voordat het hoofdonderzoek wordt uitgevoerd, is het essentieel om te bevestigen dat de verpakkingvarianties (bijv. kleurverschillen) correct worden opgemerkt en geïnterpreteerd door de deelnemers. Uw input helpt ervoor te zorgen dat het studiemateriaal geldig is en in staat is om de reacties van de consument nauwkeurig te meten. Uw gegevens en privacy Uw deelname is volledig anoniem en uw gegevens worden vertrouwelijk behandeld. De resultaten worden uitsluitend voor academische doeleinden gebruikt. Als u uw gegevens uit het onderzoek wilt verwijderen, neem dan binnen 3 dagen na het invullen van de vragenlijst contact met mij op via 709410et@student.eur.nl. Heeft u nog vragen? Als u vragen heeft of geïnteresseerd bent in de resultaten van dit onderzoek, neem dan gerust contact met mij op: Erika Thimm - Email: 709410et@student.eur.nl Hartelijk dank voor uw tijd en deelname! Uw feedback is van onschatbare waarde voor het verbeteren van dit onderzoek.

End of Block: Debrief

Appendix C

Experiment - Full Questionnaire (Multilingual)

This appendix contains the complete questionnaire used in the online experiment. The survey was available in two languages: Dutch, and German, and participants selected their preferred language for completion.

The questionnaire was originally developed in English and then translated into Dutch and German to make participation easier for all respondents and to reduce potential language bias. The translations aimed to ensure clarity, and cultural appropriateness.

The questionnaire includes:

- Informed consent and introduction
- Experimental instructions and stimuli
- Consumer response scales (purchase intention, perceived reliability, perceived attractiveness, perceived excitement)
- Cultural scale (uncertainty avoidance)
- Manipulation checks
- Control variables (e.g., snack involvement, colour blindness)
- Open-ended questions on colour associations
- Demographics
- Debriefing statement

All questions are listed in the order in which they appeared in the survey, except for the scales on perceived reliability, perceived attractiveness, and perceived excitement, which were presented in randomized order to the participants. The questionnaire output is now presented with their English, Dutch, and German translations side per side per item, as exported from Qualtrics.

Block: Welcome & Consent (2 Questions)
Standard: Demographic Country (2 Questions)
Standard: Instructions Experiment (1 Question)

Branch: New Branch

If

If What is your nationality? German Is Selected

BlockRandomizer: 1 - Evenly Present Elements

Block: Stimulus 1 (1 Question)

Block: Stimulus 2 (1 Question)

Branch: New Branch

If

If What is your nationality? Dutch Is Selected

BlockRandomizer: 1 - Evenly Present Elements

Block: Stimulus 1 (1 Question)

Block: Stimulus 2 (1 Question)

Standard: Purchase Intentions (1 Question)

BlockRandomizer: 3 -

Block: Perceived Reliability (1 Question)

Block: Perceived Attractiveness (1 Question)

Block: Perceived Excitement (1 Question)

Standard: Uncertainty Avoidance (1 Question)

Standard: Potential Confounds (4 Questions)

Standard: Manipulation Check (3 Questions)

Branch: New Branch

If

**If Please take a moment to carefully view the snack packaging design shown below.
After viewing, you... Is Displayed**

Block: MutedColourAssociation (1 Question)

Branch: New Branch

If

**If Please take a moment to carefully view the snack packaging design shown below.
After viewing, you... Is Displayed**

Block: BoldColourAssociation (1 Question)

Standard: Demographics (4 Questions)

Standard: Debrief (2 Questions)

EndSurvey:

Start of Block: Welcome & Consent

Welcome

Dear Participant,

Thank you for your interest in this study, which is part of my Master's thesis at Erasmus University. I invite you to take part in a short online experiment and questionnaire. In this study, you will be shown a snack packaging design and asked to evaluate it based on your personal impressions. The purpose of this study is to explore how people form first impressions of new snack products. To participate in this study, you must be at least 18 years old. The questionnaire will take approximately 7–10 minutes to complete. Please answer each question carefully and honestly—there are no right or wrong answers. Your individual perspective is what matters most. **Confidentiality of Data** Your participation is entirely anonymous, and all data collected will remain strictly confidential. Your responses will be used solely for academic research purposes and will not be shared with third parties. The data will be stored securely and retained for a minimum of 5 years in accordance with Erasmus University research guidelines. There are no foreseeable risks or discomforts associated with participation. **Voluntary Participation** Participation in this study is completely voluntary. You may withdraw at any time without providing a reason, and doing so will have no consequences. **Further Information** If you have any questions about this study before or after participating, you can contact me: Erika Thimm – Email: 709410et@student.eur.nl If you have concerns about your privacy, you may contact the Dutch Data Protection Authority (Autoriteit Persoonsgegevens): Website: www.autoriteitpersoonsgegevens.nl | Phone: 088 - 1805250

Welcome

Liebe Teilnehmerin, lieber Teilnehmer, Vielen Dank für Ihr Interesse an dieser Studie, die Teil meiner Masterarbeit an der Erasmus-Universität ist. Ich lade Sie ein, an einem kurzen Online-Experiment mit Fragebogen teilzunehmen. In dieser Studie wird Ihnen eine Snack-Verpackung gezeigt und Sie werden gebeten, diese anhand Ihrer persönlichen Eindrücke zu bewerten. Ziel dieser Studie ist es, zu erforschen, wie Menschen erste Eindrücke von neuen Snackprodukten gewinnen. Um an dieser Studie teilzunehmen, müssen Sie mindestens 18 Jahre alt sein. Das Ausfüllen des Fragebogens wird etwa 7-10 Minuten dauern. Bitte beantworten Sie jede Frage sorgfältig und ehrlich - es gibt keine richtigen oder falschen Antworten. Ihre individuelle Perspektive ist das Wichtigste. **Vertraulichkeit der Daten** Ihre Teilnahme ist völlig anonym, und alle erhobenen Daten werden streng vertraulich behandelt. Ihre Antworten werden ausschließlich für akademische Forschungszwecke verwendet und nicht an Dritte weitergegeben. Die Daten werden sicher gespeichert und gemäß den Forschungsrichtlinien der Erasmus-Universität für mindestens 5 Jahre aufbewahrt. Es gibt keine vorhersehbaren Risiken oder Unannehmlichkeiten, die mit der Teilnahme verbunden sind. **Freiwillige Teilnahme** Die Teilnahme an dieser Studie ist völlig freiwillig. Sie können jederzeit ohne Angabe von Gründen zurücktreten, ohne dass dies Folgen hat. **Weitere Informationen** Wenn Sie vor oder nach der Teilnahme Fragen zu dieser Studie haben, können Sie sich an mich wenden: Erika Thimm - Email: 709410et@student.eur.nl Wenn Sie Bedenken hinsichtlich Ihrer Privatsphäre haben, können Sie sich an die niederländische Datenschutzbehörde (Autoriteit Persoonsgegevens) wenden: Website: www.autoriteitpersoonsgegevens.nl | Telefon: 088 - 1805250

Welcome

Geachte deelnemer, Bedankt voor uw interesse in dit onderzoek, dat deel uitmaakt van mijn masterscriptie aan de Erasmus Universiteit. Ik nodig u uit om deel te nemen aan een kort online experiment en vragenlijst. In dit onderzoek krijgt u een snackverpakking te zien en wordt u gevraagd deze te beoordelen op basis van uw persoonlijke indrukken. Het doel van dit onderzoek is om te onderzoeken hoe mensen hun eerste indrukken vormen van nieuwe snackproducten. Om deel te nemen aan dit onderzoek moet u minimaal 18 jaar oud zijn. Het invullen van de vragenlijst duurt ongeveer 7-10 minuten. Beantwoord elke vraag zorgvuldig en eerlijk - er zijn geen goede of foute antwoorden. Jouw individuele perspectief is het belangrijkste. **Vertrouwelijkheid van gegevens** Uw deelname is volledig anoniem en alle verzamelde gegevens blijven strikt vertrouwelijk. Uw antwoorden worden uitsluitend gebruikt voor academisch onderzoek en worden niet gedeeld met derden. De gegevens worden veilig opgeslagen en minimaal 5 jaar bewaard in overeenstemming met de onderzoeksrichtlijnen van de Erasmus Universiteit. Er zijn geen voorzienbare risico's of

ongemakken verbonden aan deelname. **Vrijwillige deelname** Deelname aan dit onderzoek is volledig vrijwillig. U kunt zich op elk moment zonder opgave van reden terugtrekken en dit heeft geen gevolgen. **Verdere informatie** Als je voor of na deelname vragen hebt over dit onderzoek, kun je contact met mij opnemen: **Erika Thimm** - Email: 709410et@student.eur.nl Als u zich zorgen maakt over uw privacy, kunt u contact opnemen met de Autoriteit Persoonsgegevens: Website: www.autoriteitpersoonsgegevens.nl | Telefoon: 088 - 1805250

Consent If you understand the above information and agree to participate, please click the "I consent" button below to begin.

- I consent (1)
- I do not consent (2)

Consent Wenn Sie die obigen Informationen verstanden haben und mit der Teilnahme einverstanden sind, klicken Sie bitte unten auf die Schaltfläche "Ich stimme zu", um zu beginnen.

- Ich stimme zu. (1)
- Ich stimme nicht zu. (2)

Consent Als u de bovenstaande informatie begrijpt en akkoord gaat met deelname, klik dan op de knop "Ik geef toestemming" hieronder om te beginnen.

- Ik geef toestemming (1)
- Ik geef geen toestemming (2)

Skip To: End of Survey If If you understand the above information and agree to participate, please click the "I consent" bu... = I do not consent

End of Block: Welcome & Consent

Start of Block: Demographic Country

Nationality What is your nationality?

- Dutch (1)
- German (2)
- Other (3)

Nationality Welche Staatsangehörigkeit haben Sie?

- Niederländisch (1)
- Deutsch (2)
- Andere (3)

Nationality Wat is uw nationaliteit?

- Nederlands (1)
- Duits (2)
- Andere (3)

Skip To: End of Survey If What is your nationality? = Other



Age What is your age? (must be above 18)

Age Wie alt sind Sie? (muss über 18 sein)

Age Wat is uw leeftijd? (18 jaar en ouder)

End of Block: Demographic Country

Start of Block: Instructions Experiment

Instruction Next, you will see an image of a snack product with its packaging. Please view the image carefully, as you will be asked to evaluate it afterwards.

Instruction Als Nächstes sehen Sie ein Bild von einer Snackverpackung. Bitte schauen Sie sich dieses Bild genau an, da Sie anschließend ein paar Fragen dazu beantworten müssen.

Instruction U krijgt straks een afbeelding te zien van een snackverpakking. Over deze afbeelding zullen vervolgens een aantal vragen worden gesteld.

End of Block: Instructions Experiment

Start of Block: Stimulus 1

Stimulus 1 Please take a moment to carefully view the snack packaging design shown below. After viewing, you will be asked a few questions about your impression of the packaging.

Stimulus 1 Bitte schauen Sie sich die folgende Snackverpackung aufmerksam an. Anschließend werden Ihnen ein paar Fragen zu Ihrem Eindruck des Verpackungsdesigns gestellt.

Stimulus 1 U ziet nu het ontwerp van de snackverpakking. Bekijk deze zorgvuldig. Hierna krijgt u een aantal vragen over de indruk van de verpakking.

End of Block: Stimulus 1

Start of Block: Stimulus 2

Stimulus 2 Please take a moment to carefully view the snack packaging design shown below. After viewing, you will be asked a few questions about your impression of the packaging.

Stimulus 2 Bitte schauen Sie sich die folgende Snackverpackung aufmerksam an. Anschließend werden Ihnen ein paar Fragen zu Ihrem Eindruck des Verpackungsdesigns gestellt.

Stimulus 2 U ziet nu het ontwerp van de snackverpakking. Bekijk deze zorgvuldig. Hierna krijgt u een aantal vragen over de indruk van de verpakking.

End of Block: Stimulus 2

Start of Block: Purchase Intentions

Purchase Intentions Please indicate how likely you are to agree with the following statements:

| | Extremely unlikely (1) | Unlikely (2) | Slightly unlikely (3) | Neither likely nor unlikely (4) | Slightly likely (5) | Likely (6) | Extremely likely (7) |
|--|------------------------------|-----------------------|-----------------------------|---|------------------------|-----------------------|-------------------------|
| I am likely to purchase this product. (1) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| I would consider buying this product the next time I shop for snacks. (2) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| If available, I would prefer this product over other similar products. (3) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| I would recommend this product to a friend or family member. (4) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

Purchase Intentions Bitte geben Sie an, wie wahrscheinlich es ist, dass sie den folgenden Aussagen zustimmen:

| | Äußerst unwahrscheinlich (1) | Unwahrscheinlich (2) | Eher unwahrscheinlich (3) | Weder wahrscheinlich noch unwahrscheinlich (4) | Eher wahrscheinlich (5) | Wahrscheinlich (6) | Äußerst wahrscheinlich (7) |
|--|------------------------------------|-------------------------|---------------------------------|---|-------------------------------|-----------------------|----------------------------------|
| Ich würde dieses Produkt wahrscheinlich kaufen. (1) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Wenn ich das nächste Mal Snacks einkaufe, würde ich mir überlegen, dieses Produkt zu kaufen. (2) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Falls verfügbar, würde ich dieses Produkt anderen ähnlichen Produkten vorziehen. (3) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Ich würde dieses Produkt einem Freund oder Familienmitglied empfehlen. (4) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

Purchase Intentions Geef alstublieft aan hoe waarschijnlijk het is dat u het eens bent met de volgende stellingen.

| | Ze er onwaarsch ijnlijk (1) | Onwaarsc hijnlijk (2) | Een beetje onwaarsch ijnlijk (3) | Noch waarschij nlijk, noch onwaarsch ijnlijk (4) | Een beetje waarschi ijnlijk (5) | Waarschi ijnlijk (6) | Ze er waarschi ijnlijk (7) |
|---|--------------------------------------|--------------------------|--|--|--|-------------------------|-------------------------------------|
| Ik zal dit product waarschijnlijk kopen. (1) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| De volgende keer dat ik snacks ga kopen, zou ik overwegen om dit product te kopen. (2) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Indien beschikbaar, zou ik dit product verkiezen boven andere, vergelijkbare producten. (3) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Ik zou dit product aanraden aan een vriend of familielid. (4) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

End of Block: Purchase Intentions

Start of Block: Perceived Reliability

PerceivedReliability Please indicate how much you agree or disagree with the following statements.

| | Strongly disagree (1) | Disagree (2) | Somewhat disagree (3) | Neither agree nor disagree (4) | Somewhat agree (5) | Agree (6) | Strongly agree (7) |
|--|--------------------------|-----------------------|--------------------------|-----------------------------------|-----------------------|-----------------------|-----------------------|
| I find this product reliable. (1) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| This product gives me a sense of trust. (2) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| The packaging makes this product look high quality. (3) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| This product seems to come from a trustworthy brand. (4) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| This packaging makes the product appear safe and high quality. (5) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

PerceivedReliability Bitte geben sie an, inwieweit Sie den folgenden Aussagen zustimmen oder nicht zustimmen.

| | Stimme überhaupt nicht zu (1) | Stimme nicht zu (2) | Stimme eher nicht zu (3) | Stimme weder zu noch lehne ich ab (4) | Stimme eher zu (5) | Stimme zu (6) | Stimme voll und ganz zu (7) |
|---|--|---------------------------|-----------------------------------|--|--------------------------|-----------------------|--------------------------------------|
| Ich finde dieses Produkt zuverlässig. (1) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Dieses Produkt gibt mir ein Gefühl des Vertrauens. (2) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Die Verpackung lässt das Produkt sehr hochwertig aussehen. (3) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Dieses Produkt scheint von einer vertrauenswürdigen Marke zu stammen. (4) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Diese Verpackung lässt das Produkt sicher und hochwertig erscheinen. (5) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

PerceivedReliability Geef aan hoe sterk u het eens of oneens bent met de volgende uitspraken.

| | Helemaal mee oneens (1) | Mee oneens (2) | Enigszins mee oneens (3) | Niet mee eens, niet mee oneens (4) | Enigszins mee eens (5) | Mee eens (6) | Helemaal mee eens (7) |
|--|----------------------------------|-----------------------|-----------------------------------|--|------------------------------|-----------------------|-----------------------------|
| Ik vind dit product betrouwbaar uitzien. (1) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Dit product geeft me een gevoel van vertrouwen. (2) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Door de verpakking ziet dit product er hoogwaardig uit. (3) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Dit product lijkt van een betrouwbaar merk te komen. (4) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Door deze verpakking lijkt het product veilig en van hoge kwaliteit. (5) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

End of Block: Perceived Reliability

Start of Block: Perceived Attractiveness

Perceived Attractive Please indicate the extent to which you agree with the following statements.

| | Strongly disagree (8) | Disagree (9) | Somewhat disagree (10) | Neither agree nor disagree (11) | Somewhat agree (12) | Agree (13) | Strongly agree (14) |
|---|--------------------------|-----------------------|---------------------------|------------------------------------|------------------------|-----------------------|------------------------|
| I find the packaging visually attractive. (1) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| This packaging grabs my attention. (2) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| This packaging makes me interested in the product. (3) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| The product looks appealing to me. (4) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| This packaging stands out well compared to other snack products. (5) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

Perceived Attractive Bitte geben sie an, inwieweit Sie den folgenden Aussagen zustimmen oder nicht zustimmen.

| | Stimme überhaupt nicht zu (8) | Stimme nicht zu (9) | Stimme eher nicht zu (10) | Stimme weder zu noch lehne ich ab (11) | Stimme eher zu (12) | Stimme zu (13) | Stimme voll und ganz zu (14) |
|---|--|---------------------------|------------------------------------|---|---------------------------|-----------------------|---------------------------------------|
| Ich finde die Verpackung visuell ansprechend. (1) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Diese Verpackung erregt meine Aufmerksamkeit. (2) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Diese Verpackung macht mich neugierig auf das Produkt. (3) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Das Produkt sieht für mich ansprechend aus. (4) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Diese Verpackung hebt sich gut von anderen Snackprodukten ab. (5) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

Perceived Attractive Geef aan hoe sterk u het eens of oneens bent met de volgende uitspraken.

| | Helemaal mee oneens (8) | Mee oneens (9) | Enigszins mee oneens (10) | Niet mee eens, niet mee oneens (11) | Enigszins mee eens (12) | Mee eens (13) | Helemaal mee eens (14) |
|---|----------------------------------|-----------------------|------------------------------------|---|-------------------------------|-----------------------|------------------------------|
| Ik vind de verpakking visueel aantrekkelijk. (1) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Deze verpakking trekt mijn aandacht. (2) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Deze verpakking maakt me nieuwsgierig naar het product. (3) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Het product ziet er aantrekkelijk uit voor mij. (4) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Deze verpakking valt goed op in vergelijking met andere snackproducten. (5) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

End of Block: Perceived Attractiveness

Start of Block: Perceived Excitement

Perceived Excitement Please indicate how much you agree or disagree with the following statements.

| | Strongly disagree (1) | Disagree (2) | Somewhat disagree (3) | Neither agree nor disagree (4) | Somewhat agree (5) | Agree (6) | Strongly agree (7) |
|---|--------------------------|-----------------------|--------------------------|-----------------------------------|-----------------------|-----------------------|-----------------------|
| This product seems fun and exciting. (1) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| This packaging design feels energetic. (2) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| This packaging makes me curious to try the product. (3) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| This product's packaging looks trendy. (4) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

Perceived Excitement Bitte geben sie an, inwieweit Sie den folgenden Aussagen zustimmen oder nicht zustimmen.

| | Stimme überhaupt nicht zu (1) | Stimme nicht zu (2) | Stimme eher nicht zu (3) | Stimme weder zu noch lehne ich ab (4) | Stimme eher zu (5) | Stimme zu (6) | Stimme voll und ganz zu (7) |
|--|--|---------------------------|-----------------------------------|--|--------------------------|-----------------------|--------------------------------------|
| Dieses Produkt wirkt unterhaltsam und spannend. (1) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Dieses Verpackungsdesign strahlt Energie aus. (2) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Diese Verpackung macht mich neugierig, das Produkt auszuprobieren. (3) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Die Verpackung dieses Produkts sieht modern und im Trend aus. (4) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

Perceived Excitement Geef aan hoe sterk u het eens of oneens bent met de volgende uitspraken.

| | Helemaal mee oneens (1) | Mee oneens (2) | Enigszins mee oneens (3) | Niet mee eens, niet mee oneens (4) | Enigszins mee eens (5) | Mee eens (6) | Helemaal mee eens (7) |
|--|----------------------------------|-----------------------|-----------------------------------|--|------------------------------|-----------------------|-----------------------------|
| Dit product komt leuk en spannend over. (1) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Het ontwerp van deze verpakking voelt energiek aan. (2) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Deze verpakking maakt me nieuwsgierig om het product te proberen. (3) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| De verpakking van dit product ziet er trendy uit. (4) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

End of Block: Perceived Excitement

Start of Block: Uncertainty Avoidance

Uncertainty Avoidance Please indicate how much you agree or disagree with the following

statements.

| | Strongly disagree (1) | Disagree (2) | Somewhat disagree (3) | Neither agree nor disagree (4) | Somewhat agree (5) | Agree (6) | Strongly agree (7) |
|--|--------------------------|-----------------------|--------------------------|-----------------------------------|-----------------------|-----------------------|-----------------------|
| I prefer structured situations over unstructured ones. (1) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| I get anxious when I don't know what to expect. (2) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| I feel uncomfortable with unpredictable situations. (3) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| I prefer clear instructions over having to work out a situation on my own. (4) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| I avoid situations that are uncertain or unclear. (5) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

Uncertainty Avoidance. Die folgenden fünf Aussagen beziehen sich auf persönliche Situationen im Alltag. Bitte geben sie an, inwieweit Sie den folgenden Aussagen zustimmen oder nicht zustimmen.

| | Stimme überhaupt nicht zu (1) | Stimme nicht zu (2) | Stimme eher nicht zu (3) | Stimme weder zu noch lehne ich ab (4) | Stimme eher zu (5) | Stimme zu (6) | Stimme voll und ganz zu (7) |
|---|--|---------------------------|-----------------------------------|--|--------------------------|-----------------------|--------------------------------------|
| Ich bevorzuge strukturierte Situationen gegenüber unstrukturierten Situationen. (1) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Ich werde unruhig, wenn ich nicht weiß, was mich erwartet. (2) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Ich fühle mich unwohl in unvorhersehbaren Situationen. (3) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Ich ziehe klare Anweisungen dem eigenständigen Erarbeiten einer Situation vor. (4) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Ich vermeide Situationen, die unsicher oder unklar sind. (5) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

Uncertainty Avoidance De volgende 5 stellingen gaan over persoonlijke situaties in het dagelijks leven. Geef aan hoe sterk u het eens of oneens bent met de volgende uitspraken.

| | Helemaal mee oneens (1) | Mee oneens (2) | Enigszins mee oneens (3) | Niet mee eens, niet mee oneens (4) | Enigszins mee eens (5) | Mee eens (6) | Helemaal mee eens (7) |
|--|----------------------------------|-----------------------|-----------------------------------|--|------------------------------|-----------------------|-----------------------------|
| Ik geef de voorkeur aan gestructureerde situaties boven ongestructureerde. (1) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Ik word angstig wanneer ik niet weet wat ik kan verwachten. (2) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Ik voel me ongemakkelijk in onvoorspelbare situaties. (3) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Ik geef de voorkeur aan duidelijke instructies boven het zelf moeten uitzoeken van een situatie. (4) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Ik vermijd situaties die onzeker of onduidelijk zijn. (5) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

End of Block: Uncertainty Avoidance

Start of Block: Potential Confounds

Product Involvement How often do you purchase packaged cookies or similar baked snacks?

- Never (1)
- Less than once a month (2)
- Once a month (3)
- 2-3 times a month (4)
- Once a week (5)
- A few times a week (6)
- Everyday or almost everyday (7)

Product Involvement Wie oft kaufen Sie verpackte Kekse oder ähnliche gebackene Snacks?

- Nie (1)
- Seltener als einmal im Monat (2)
- Einmal im Monat (3)
- 2-3 Mal im Monat (4)
- Einmal die Woche (5)
- Ein paar Mal pro Woche (6)
- Täglich oder fast täglich (7)

Product Involvement Hoe vaak koopt u verpakte koekjes of vergelijkbare gebakken snacks?

- Nooit (1)
 - Minder dan één keer per maand (2)
 - Eén keer per maand (3)
 - 2-3 keer per maand (4)
 - Eén keer per week (5)
 - Een paar keer per week (6)
 - Dagelijks of bijna dagelijks (7)
-

Product Involvement2 How important are snacks in your diet?

- Not at all important (1)
- Slightly important (2)
- Somewhat important (3)
- Moderately important (4)
- Quite important (5)
- Important (6)
- Very important (7)

Product Involvement2 Wie wichtig sind Snacks in Ihrer Ernährung?

- Überhaupt nicht wichtig (1)
- Kaum wichtig (2)
- Eher unwichtig (3)
- Weder wichtig noch unwichtig (4)
- Eher wichtig (5)
- Wichtig (6)
- Sehr wichtig (7)

Product Involvement2 Hoe belangrijk zijn snacks in uw dieet?

- Helemaal niet belangrijk (1)
 - Een beetje belangrijk (2)
 - Enigszins belangrijk (3)
 - Gemiddeld belangrijk (4)
 - Best belangrijk (5)
 - Belangrijk (6)
 - Zeer belangrijk (7)
-

AttentiontoPackaging How much attention do you typically pay to snack packaging when making a purchase?

- None at all (1)
- Slightly (2)
- Somewhat (3)
- Moderately (4)
- Quite a bit (5)
- A lot (6)
- Very much (7)

AttentiontoPackaging Wie sehr achten Sie beim Kauf von Snacks normalerweise auf die Verpackung?

- Überhaupt nicht (1)
- Kaum (2)
- Ein wenig (3)
- Mittelmäßig (4)
- Ziemlich (5)
- Stark (6)
- Sehr stark (7)

AttentiontoPackaging Hoeveel aandacht besteedt u gewoonlijk aan de verpakking van snacks bij het doen van een aankoop?

- Helemaal niet (1)
 - Een beetje (2)
 - Enigszins (3)
 - Gemiddeld (4)
 - Redelijk veel (5)
 - Veel (6)
 - Heel veel (7)
-

PackagingFamiliarity Have you seen packaging like this before?

- Never (1)
- Rarely (2)
- Occasionally (3)
- Sometimes (4)
- Frequently (5)
- Often (6)
- Very often (7)

PackagingFamiliarity Haben Sie schon einmal eine Verpackung wie diese gesehen?

- Nie (1)
- Selten (2)
- Gelegentlich (3)
- Manchmal (4)
- Häufig (5)
- Oft (6)
- Sehr oft (7)

PackagingFamiliarity Heeft u eerder een verpakking zoals deze gezien?

- Nooit (1)
- Zelden (2)
- Af en toe (3)
- Soms (4)
- Regelmatig (5)
- Vaak (6)
- Zeer vaak (7)

End of Block: Potential Confounds

Start of Block: Manipulation Check

Colours Which colours did you notice most on the packaging you just viewed? (You may select more than one)

- Red (1)
- Beige (2)
- Orange (3)
- Blue (4)
- Light green (5)
- Yellow (6)
- Purple (7)

Colours Welche Farben sind Ihnen auf der Verpackung, die Sie gerade gesehen haben, am meisten aufgefallen? (Sie können mehr als eine Farbe auswählen)

- Rot (1)
- Beige (2)
- Orange (3)
- Blau (4)
- Hellgrün (5)
- Gelb (6)
- Lila (7)

Colours Welke kleuren zijn u het meest opgevallen op de verpakking die u zojuist heeft bekeken? (U mag meerdere kleuren selecteren)

- Rood (1)
 - Beige (2)
 - Oranje (3)
 - Blauw (4)
 - Lichtgroen (5)
 - Geel (6)
 - Paars (7)
-

Colour Intensity How would you describe the intensity of the packaging colours that you saw?

- Very soft (1)
- Soft (2)
- Somewhat soft (3)
- Moderate (4)
- Somewhat intense (5)
- Intense (6)
- Very intense (7)

Colour Intensity Wie würden Sie die Intensität der Farben der Verpackung beschreiben, die Sie gerade gesehen haben?

- Sehr dezent (1)
- Dezent (2)
- Eher dezent (3)
- Neutral (4)
- Eher kräftig (5)
- Kräftig (6)
- Sehr kräftig (7)

Colour Intensity Hoe zou u de intensiteit beschrijven van de verpakkingskleuren die u net heeft gezien?

- Zeer zacht (1)
 - Zacht (2)
 - Enigszins zacht (3)
 - Neutraal (4)
 - Enigszins intens (5)
 - Intens (6)
 - Zeer intens (7)
-

Colour Preference Do you generally prefer vibrant or muted colours in product packaging?

- Strongly prefer muted colours (1)
- Prefer muted colours (2)
- Slightly prefer muted colours (3)
- No preference (4)
- Slightly prefer vibrant colours (5)
- Prefer vibrant colours (6)
- Strongly prefer vibrant colours (7)

Colour Preference Bevorzugen Sie generell kräftige oder dezente Farben bei Produktverpackungen?

- Meine Präferenz liegt klar bei dezenten Farben (1)
- Ich bevorzuge dezente Farben (2)
- Ich tendiere zu dezenten Farben (3)
- Keine Präferenz (4)
- Ich tendiere zu kräftigen Farben (5)
- Ich bevorzuge kräftige Farben (6)
- Meine Präferenz liegt klar bei kräftigen Farben (7)

Colour Preference Heeft u over het algemeen een voorkeur voor zachte of juist intense kleuren in productverpakkingen?

- Sterke voorkeur voor zachte kleuren (1)
- Voorkeur voor zachte kleuren (2)
- Lichte voorkeur voor zachte kleuren (3)
- Geen voorkeur (4)
- Lichte voorkeur voor intense kleuren (5)
- Voorkeur voor intense kleuren (6)
- Sterke voorkeur voor intense kleuren (7)

End of Block: Manipulation Check

Start of Block: MutedColourAssociation

MutedColourAssociati What thoughts or associations came to mind when you saw the colours used in the packaging — light green and beige? (Feel free to describe any feelings, ideas, or impressions the colours gave you.)

MutedColourAssociati Welche Gedanken oder Assoziationen kamen Ihnen in den Sinn, als Sie die Farben Hellgrün und Beige auf der Verpackung gesehen haben? (Sie können gerne Gefühle, Eindrücke oder Ideen beschreiben, die die Farben bei Ihnen ausgelöst haben.)

MutedColourAssociati Welke gedachten of associaties kwamen bij u op toen u de kleuren licht in de verpakking zag? (Voel u vrij om gevoelens, ideeën of indrukken te beschrijven die de kleuren bij u opriepen.)

End of Block: MutedColourAssociation

Start of Block: BoldColourAssociation

BoldColourAssociatio What thoughts or associations came to mind when you saw the colours used in the packaging — red, blue, and yellow? (Feel free to describe any feelings, ideas, or impressions the colours gave you.)

BoldColourAssociatio Welche Gedanken oder Assoziationen kamen Ihnen in den Sinn, als Sie die Farben Rot, Blau und Gelb auf der Verpackung gesehen haben? (Sie können gerne Gefühle, Eindrücke oder Ideen beschreiben, die die Farben bei Ihnen ausgelöst haben.)

BoldColourAssociatio Welke gedachten of associaties kwamen bij u op toen u de kleuren rood, blauw en geel in de verpakking zag? (Voel u vrij om gevoelens, ideeën of indrukken te beschrijven die de kleuren bij u opriepen.)

End of Block: BoldColourAssociation

Start of Block: Demographics

Gender What is your gender?

- Male (1)
- Female (2)
- Non-binary / third gender (3)
- Prefer not to say (4)

Gender Welches Geschlecht haben Sie?

- Männlich (1)
- Weiblich (2)
- Nicht-binär / drittes Geschlecht (3)
- Möchte ich nicht sagen (4)

Gender Wat is uw geslacht?

- Man (1)
 - Vrouw (2)
 - Non-binaire / derde gender (3)
 - Liever niet zeggen (4)
-

Education level What is your highest completed level of education? (Please select one)

- Less than high school (12)
- Lower secondary / general high school (13)
- Upper secondary / pre-university education (14)
- Vocational education (e.g., MBO) (15)
- Bachelor's degree (16)
- Master's degree (17)
- Doctorate (PhD) (18)
- Other (19) _____

Education level Was ist Ihr höchster abgeschlossener Bildungsabschluss? (Bitte wählen Sie eine Option aus)

- Kein Schulabschluss / kein Hauptschulabschluss (12)
- Sekundarstufe I (z. B. Hauptschule, Realschule) (13)
- Abitur / Fachhochschulreife (14)
- Berufsausbildung (15)
- Bachelorabschluss (16)
- Masterabschluss (17)
- Promotion / Dokortitel (18)
- Sonstiges (19) _____

Education level Wat is uw hoogst voltooide opleidingsniveau? (Selecteer één optie)

- Geen diploma voortgezet onderwijs (12)
- Middelbaar onderwijs (VMBO) (13)
- Middelbaar onderwijs (HAVO / VWO) (14)
- MBO (middelbaar beroepsonderwijs) (15)
- HBO / Bachelor (16)
- WO / Master (17)
- Doctoraat / PhD (18)
- Anders (19) _____

ColourBlindness Do you experience difficulties distinguishing between colours?

- Yes (1)
 No (2)

ColourBlindness Haben Sie Schwierigkeiten, zwischen Farben zu unterscheiden?

- Ja (1)
 Nein (2)

ColourBlindness Heeft u moeite met het onderscheiden van kleuren?

- Ja (1)
 Nee (2)

Display this question:

If Do you experience difficulties distinguishing between colours? = Yes

AffectDailyLife Does this challenge affect your daily activities?

- Yes (1)
 No (2)

AffectDailyLife Beeinträchtigt diese Schwierigkeit Ihre täglichen Aktivitäten?

- Ja (1)
 Nein (2)

AffectDailyLife Heeft dit probleem invloed op u dagelijkse activiteiten?

- Ja (1)
 Nee (2)

End of Block: Demographics

Start of Block: Debrief

Please read the information below and click the button at the bottom of the page to complete the study and submit your responses. Your answers will not be recorded unless you click the arrow in the bottom right corner.

Bitte lesen Sie die nachstehenden Informationen und klicken Sie auf die Schaltfläche unten auf der Seite, um die Studie auszufüllen und Ihre Antworten zu übermitteln. Ihre Antworten werden erst gespeichert, wenn Sie auf den Pfeil unten rechts klicken.

Lees alstublieft de onderstaande informatie en klik op de knop onderaan de pagina om het onderzoek af te ronden en uw antwoorden in te dienen. Uw antwoorden worden pas opgeslagen zodra u op de pijl rechtsonder in beeld klikt om door te gaan.

Debrief

Dear Participant, The purpose of this research was to investigate how snack packaging colours influence consumer responses, particularly in a cross-cultural context between Dutch and German consumers. During the experiment, you were shown one of two packaging designs with different colour schemes and asked to evaluate the product based on your impressions. This study also explored how personal preferences and decision-making styles may influence how individuals react to different packaging colours. Your responses will help me better understand how visual design, cultural background, and individual traits interact in shaping consumer perceptions. Please note that the full purpose of the study was not disclosed at the beginning in order to avoid influencing your responses. While you were told the study examined general impressions of snack products, the actual focus was on how colour and cultural background affect consumer evaluations. **Why Is This Study Important?** Packaging plays a crucial role in consumer decision-making. By analysing responses from people in different cultural groups and with different preferences, this research contributes to a deeper understanding of how visual cues in packaging design can influence product appeal. These insights can help brands develop more inclusive, effective, and ethically informed marketing strategies. **Your Data and Privacy** Your participation was completely anonymous, and your data will be kept confidential. The results will be used exclusively for academic purposes. If you wish to withdraw your data, you may contact me at 709410et@student.eur.nl within 3 days of completing the questionnaire. **Further Questions?** If you have any questions about this research or are interested in the results, feel free to contact me: Erika Thimm – Email: 709410et@student.eur.nl Thank you for your time and participation — your input is truly appreciated!

Debrief

Liebe Teilnehmerin, lieber Teilnehmer, Ziel dieser Studie war es, zu untersuchen, wie die Farben von Snackverpackungen die Reaktionen von Konsumentinnen und Konsumenten beeinflussen – insbesondere im interkulturellen Vergleich zwischen niederländischen und deutschen Teilnehmenden. Während des Experiments wurde Ihnen eines von zwei Verpackungsdesigns mit unterschiedlichen Farbschemata gezeigt, und Sie wurden gebeten, das Produkt auf Basis Ihrer Eindrücke zu bewerten. Darüber hinaus wurde untersucht, inwiefern persönliche Vorlieben und Entscheidungsstile beeinflussen, wie Personen auf verschiedene Verpackungsfarben reagieren. Ihre Antworten helfen mir dabei, besser zu verstehen, wie visuelles Design, kultureller Hintergrund und individuelle Merkmale zusammenwirken und die Wahrnehmung von Konsumgütern prägen. Bitte beachten Sie, dass der vollständige Zweck der Studie zu Beginn nicht offengelegt wurde, um Ihre Antworten nicht zu beeinflussen. Zwar wurde Ihnen mitgeteilt, dass die Studie allgemeine Eindrücke von Snackprodukten untersucht – tatsächlich lag der Fokus jedoch darauf, wie Farbe und kultureller Hintergrund die Bewertung von Produkten beeinflussen. **Warum ist diese Studie wichtig?** Verpackungen spielen eine entscheidende Rolle bei Kaufentscheidungen. Durch die Analyse von Reaktionen aus unterschiedlichen kulturellen Gruppen und mit verschiedenen Präferenzen trägt diese Forschung zu einem tieferen Verständnis bei, wie visuelle Reize in Verpackungsdesigns die Produktwahrnehmung beeinflussen können. Diese Erkenntnisse können Marken dabei helfen, inklusivere, effektivere und ethisch reflektierte Marketingstrategien zu entwickeln. **Ihre Daten und Privatsphäre** Ihre Teilnahme war vollständig anonym, und Ihre Daten werden vertraulich behandelt. Die Ergebnisse werden ausschließlich zu wissenschaftlichen Zwecken verwendet. Sollten Sie wünschen, dass Ihre Daten gelöscht werden, können Sie mich innerhalb von drei Tagen nach Ausfüllen des Fragebogens unter folgender E-Mail-Adresse kontaktieren: 709410et@student.eur.nl **Fragen?** Wenn Sie Fragen zu dieser Forschung haben oder sich für die Ergebnisse interessieren, können Sie sich gerne an mich wenden: Erika Thimm – E-Mail: 709410et@student.eur.nl Vielen Dank für Ihre Zeit und Teilnahme – Ihr Beitrag wird sehr geschätzt!

Debrief

Beste deelnemer, Het doel van dit onderzoek was om te onderzoeken hoe de kleuren van snackverpakkingen consumentenreacties beïnvloeden, in het bijzonder in een crossculturele context tussen Nederlandse en Duitse consumenten. Tijdens het experiment kreeg u één van twee verpakkingontwerpen met verschillende kleurenschema's te zien, en werd u gevraagd het product te evalueren op basis van uw indrukken. Deze studie onderzocht ook in hoeverre persoonlijke voorkeuren en besluitvormingsstijlen invloed hebben op hoe mensen reageren op verschillende

verpakkingskleuren. Uw antwoorden helpen mij beter te begrijpen hoe visueel ontwerp, culturele achtergrond en individuele eigenschappen samen consumentenpercepties vormgeven. Let op: het volledige doel van de studie werd aan het begin niet gedeeld om te voorkomen dat uw antwoorden beïnvloed zouden worden. U werd verteld dat het onderzoek ging over algemene indrukken van snackproducten, maar de daadwerkelijke focus lag op het effect van kleur en culturele achtergrond op productbeoordelingen. **Waarom is dit onderzoek belangrijk?** Verpakkingen spelen een cruciale rol in het aankoopgedrag van consumenten. Door reacties te analyseren van mensen uit verschillende culturele groepen en met uiteenlopende voorkeuren, draagt dit onderzoek bij aan een dieper inzicht in hoe visuele signalen in verpakkingsontwerp de aantrekkelijkheid van producten beïnvloeden. Deze inzichten kunnen merken helpen bij het ontwikkelen van inclusievere, effectievere en ethisch verantwoorde marketingstrategieën. **Uw gegevens en privacy** Uw deelname was volledig anoniem en uw gegevens worden vertrouwelijk behandeld. De resultaten worden uitsluitend gebruikt voor academische doeleinden. Als u uw gegevens wilt laten verwijderen, kunt u binnen drie dagen na het invullen van de vragenlijst contact met mij opnemen via: 709410et@student.eur.nl **Heeft u nog vragen?** Als u vragen heeft over dit onderzoek of interesse heeft in de resultaten, kunt u contact met mij opnemen: Erika Thimm – E-mail: 709410et@student.eur.nl Hartelijk dank voor uw tijd en deelname – uw bijdrage wordt zeer gewaardeerd!

End of Block: Debrief

Appendix D

Declaration Page: Use of Generative AI Tools in Thesis

Student Information

Name: Erika Thimm

Student ID: 709410

Course Name: Master Thesis CM5000

Supervisor Name: Freya de Keyzer

Date: 26.06.2025

Declaration:

Acknowledgment of Generative AI Tools

I acknowledge that I am aware of the existence and functionality of generative artificial intelligence (AI) tools, which are capable of producing content such as text, images, and other creative works autonomously.

GenAI use would include, but not limited to:

- Generated content (e.g., ChatGPT, Quillbot) limited strictly to content that is not assessed (e.g., thesis title).
- ~~Writing improvements, including~~ grammar and spelling corrections (e.g., Grammarly)
- Language translation (e.g., DeepL), without generative AI alterations/improvements.
- Research task assistance (e.g., finding survey scales, qualitative coding verification, debugging code)
- Using GenAI as a search engine tool to find academic articles or books (e.g.,

I declare that I have used generative AI tools, specifically [Name of the AI Tool(s) or Framework(s) Used], in the process of creating parts or components of my thesis. The purpose of using these tools was to aid in generating content or assisting with specific aspects of thesis work.

I declare that I have NOT used any generative AI tools and that the assignment concerned is my original work.

Signature: [digital signature]

Date of Signature: [Date of Submission]

Extent of AI Usage

I confirm that while I utilized generative AI tools to aid in content creation, the majority of the intellectual effort, creative input, and decision-making involved in completing the thesis were undertaken by me. I have enclosed the prompts/logging of the GenAI tool use in an

appendix.

Ethical and Academic Integrity

I understand the ethical implications and academic integrity concerns related to the use of AI tools in coursework. I assure that the AI-generated content was used responsibly, and any content derived from these tools has been appropriately cited and attributed according to the guidelines provided by the instructor and the course. I have taken necessary steps to distinguish between my original work and the AI-generated contributions. Any direct quotations, paraphrased content, or other forms of AI-generated material have been properly referenced in accordance with academic conventions.

By signing this declaration, I affirm that this declaration is accurate and truthful. I take full responsibility for the integrity of my assignment and am prepared to discuss and explain the role of generative AI tools in my creative process if required by the instructor or the Examination Board. I further affirm that I have used generative AI tools in accordance with ethical standards and academic integrity expectations.

Signature:



Date of Signature: 26.06.2025

Used of DeepL:

- Translations of English survey into German and Dutch

Use of ChatGPT:

- **To understand the concepts of cultural dimensions better and decide which one fits best for my study**
 - “Can you explain the cultural dimensions uncertainty avoidance and indulgence vs. restraint in easy language?”
 - “Can you explain the Cue Utilization Theory, easy, for me to quickly

understand”

- **To check my Dutch translations, next to asking Dutch people**
 - o “Would a Dutch person say it this way?”

- **AI Prompt Descriptions for Stimuli Creation**

The following text prompts, inspired by literature about colour psychology, were used to generate the visual stimuli (snack packaging) shown to participants in the experiment. Each prompt was entered into Chat GPT’s image creator, to create a consistent style across experimental conditions.

Bold Packaging Style:

create a snack packaging with bold colours, doesn't need text, e.g. Snack Packaging: Bold

Design 1. Overall Aesthetic: Vibrancy and Energy: The packaging should exude a sense of excitement and dynamism. It's meant to grab attention immediately. Modern and Bold: The design will prioritize contemporary styles with a strong, confident feel.

2. Colour Palette: Primary Colours: A deep, saturated primary colour will dominate the packaging. Consider a vibrant red, a rich royal blue, or a striking emerald green. These colours are universally eye-catching. Secondary Colours: High-contrast secondary colours will be used to create visual impact. For example: If the primary is blue, consider a bright yellow or a sharp white for accents. If the primary is red, consider a strong black or a bright yellow. These colours will be used for text, or graphic elements. Glossy Finish: If possible, a glossy finish to the packaging will enhance the vibrancy of the colours and give it a premium look.

3. Typography: Font Style: A bold font will be used for the product name and key information. This font should be large and easily readable from a distance. Consider fonts with strong, geometric shapes. Text Placement: The product name will be prominently displayed in a large, eye-catching font. The font colour will highly contrast the background.

4. Graphic Elements: Dynamic Imagery: If applicable, the snack imagery (e.g., a close-up of cookies) will be presented in a high-resolution, appetizing manner. The image will be vibrant and well lit. Abstract Shapes: Consider incorporating bold, abstract shapes or patterns to add visual interest. These shapes should complement the overall colour scheme. Geometric patterns, or dynamic lines can add to the feeling of energy. Iconography: Simple,

bold icons can be used to highlight key features of the snack (e.g., "100% natural," "spicy," "crunchy").

Muted Packaging Style:

create a snack packaging with muted colours, doesn't need text, e.g., Snack Packaging:

Muted Design 1. Overall Aesthetic: Subtlety and Refinement: The packaging should convey a sense of understated elegance and sophistication. It's designed to appeal to consumers who prefer a calmer, more refined look. **Minimalist and Natural:** The design will prioritize simplicity and a natural, organic feel.

2. Colour Palette: **Primary colours:** Use soft, desaturated, or pastel colours. Consider muted greens, light blues, beige, or soft greys. These colours evoke a sense of calm and naturalness. **Secondary colours:** Use low-contrast secondary colours that complement the primary colours. For example: If the primary is a muted green, consider a light beige or a soft cream. If the primary is a light blue, consider a pale grey or a very light brown. These colours will be used for text, or subtle graphic elements. **Matte Finish:** A matte finish to the packaging will enhance the muted colours and give it a natural, tactile feel.

3. Typography: **Font Style:** A clean, simple or a subtle font will be used for the product name and key information. The font should be legible but not overly dominant. Consider fonts with thin or medium weights. **Text Placement:** The product name will be displayed in a moderate size, allowing other design elements to share the focus. Key information will be presented in a clear and concise manner, using a smaller font size. The font colour will have a low contrast to the background.

4. Graphic Elements: **Natural Imagery:** If applicable, the snack imagery will be presented in a natural, soft-lit manner. Avoid overly vibrant or saturated images. Images can be presented with a slight blurring or focus on natural textures. **Simple Patterns:** Consider incorporating subtle, minimalist patterns or textures to add visual interest. These patterns should complement the overall colour scheme. Examples include subtle geometric patterns, or natural textures such as paper or wood grain. **Delicate Iconography:** Use simple, delicate icons to highlight key features of the snack (e.g., "organic," "light," "natural").