

# Design and Packaging - An Important Factor in Consumer Behavior When Buying Juices

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## ABSTRACT

The primary purpose of this research is to investigate the consumers' implicit taste associations (sweetness, freshness, and naturalness) towards the color of product packaging in the context of the non-alcoholic beverage product category – orange juice. Moreover, the current research aims to assess how incongruity, as opposed to congruity, between the color package and product color-code/norm may shape a consumer's evaluation (liking/disliking) of a product. The findings indicate that green appears to be the color that would lead to the highest perception of freshness and naturalness. In contrast, grey is the color implicitly associated with artificial flavors and perceived to be stale. The results of this study do not provide evidence for the existence of color/taste correspondences in terms of perceived sweetness. Also, findings suggest that incongruent (atypical) color package – white, might lead to more favorable consumer attitudinal responses than the product's color-code package – orange. The current research offers relevant insights for both researchers and practitioners.

**Key words:** *package color, taste, cross-modal correspondences, orange juice*

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## INTRODUCTION

In the modern market, consumers are faced with a mélange of products and advertising messages, making the entire buying process highly complex. Even though many factors have a bearing on what and why consumers buy, when consumers purchase day-to-day products such as snacks, candies, or soft drinks, they tend to make quick choices among available product alternatives based on visual cues (Spence & Velasco, 2018). Although consumers can rely on other sensory cues (e.g., auditory cues, haptic cues) to make their product judgments, the use of visual cues seems to dominate over other single-sensory signals. Bearing this in mind, marketers and product designers are trying to create compelling visual cues to lure the consumers' attention and influence consumers' evaluation of products or brands (Kauppinen-Räsänen & Jauffret, 2018). Considering that the color is the first visible feature of a product noticed by the consumer, the

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color of a product packing is regarded as the vital visual cue (e.g., Piqueras-Fiszman & Spence, 2011; Spence & Velasco, 2018). Hence, the choice of color of product packing plays a significant role at every stage of the buying process and drives the consumer along the marketing funnel, i.e., attention-interest-desire-action (Beneke et al., 2015). The fundamental premise is that the color package almost instantly creates the sensory and high-order expectations of the product (e.g., freshness, sweetness, crispiness). This is particularly true for low-involvement and low-cost products such as food and beverages (Beneke et al., 2015; Lyons & Wien, 2018). However, it is necessary to highlight that using the color package in evoking the favorable first impression of the product and eliciting positive consumers' responses at different stages of the buying process is a challenging task.

In some cases, by changing the color package, the company may succeed at the first stage of the buying process, i.e., grabbing consumers' attention and encouraging them to buy on impulse (Spence & Velasco, 2018). However, the same company may experience failure at the second moment of truth by discovering that the consumers are experiencing post-purchase dissonance or buyer's remorse (Garber et al., 2000; Spence & Velasco, 2018). The story of Crystal Pepsi shows what happens when the change in the color of a product package does not meet consumers' expectations about the product's sensory attributes (e.g., taste). Pepsi Co. introduced Crystal Pepsi in 1992 as a caffeine-free version of traditional Pepsi Cola. To underline the characteristics of the new soda drink and as well as to attract consumer's attention, Pepsi Co. replaced the typical color (dark brown) with an atypical one (transparent color). Crystal Pepsi was advertised with the slogan "You've never seen a taste like this", pointing out the change of color packing and introducing the new taste. However, when Crystal Pepsi was released, the consumer reaction was less than enthusiastic. One year after the launch, Pepsi Co. discontinued the production and sale of Crystal Pepsi. It has been argued that the drastic change in color package (transparent color) has contributed to the failure of Crystal Pepsi. More precisely, based on the transparent-colored package of Crystal Pepsi, consumers had created expectations that new soda drinks would have different tastes compared to regular Coke. They were displeased when the new product tasted almost the same (Krishna et al., 2017).

The case of Crystal Pepsi demonstrates that a color package can induce consumers' sensory expectations (taste/ flavor) and affect the consumers' positive or negative evaluation (liking/disliking) of a product or a brand. The phenomenon of cross-modal correspondences can explain the color-induced expectations of the sensory properties of a product. Previous research has shown that consumers express consistent cross-modal correspondences across the different types of sensory stimuli (e.g., Spence & Deroy, 2014; Velasco et al., 2016). Several studies demonstrated that consumers tend to match specific tastes with product package's particular visual attributes, including the color, shape, and graphics (e.g., Velsco et al. 2016; Piqueras-Fiszman et al., 2012). One of these cross-modal correspondences that have particularly attracted the attention of both scholars and practitioners is the color-taste/ flavor correspondences (e.g., Barnett & Spence, 2016; Carvalho et al., 2017). Cross-modal correspondences of the color package and taste can be explained by the fact that people are inclined to associate basic tastes (e.g., bitter, sweet, sour, salty) with a particular color of product/ brand packaging (Spence et al., 2015). For instance, black and brown packages are associated with bitter tastes, yellow packages with sour flavors, and red and orange packages with sweet tastes (Spence et al., 2015).

Moreover, extant literature implies that consumers are also prone to associate a specific package color with a particular product category. For instance, consumers usually expect to find different milk brands in white boxes, water in blue containers, and dark chocolate in red packages. These specific expectations regarding the match (congruency) between the color of a particular product and the typical package color traditionally associated with its product category are known as color codes/ norms (Garaus & Halkias, 2019). Previous research reveals that consumer's perception of congruity/ incongruity of the color package with color code/ norm can influence consumer responses.

Although the color-taste correspondences have been explored across a range of food and beverage products, the associations between the color package and expectations about the taste of orange juice remain unexplored. Orange juice is an appealing product choice for this research since it is the most popular fruit juice flavor, well-known for its health benefits (Kim et al., 2013). Albeit the study's findings published by Deliza et al. (2003) suggest that orange juice is very likely to be a product where color/taste correspondences exist, additional research is required to validate this claim. In terms of congruity/incongruity of product package with product category color norm, extant research suggests that orange is a typical color associated with orange juice (Garaus & Halkias, 2019). However, there is a lack of research exploring the effect of the atypical color of orange juice package on consumer responses (liking/disliking). Given that schema incongruity theory postulates that moderate deviations from consumers' expectations may lead to positive responses, it is lucrative to investigate the consumers' preferences toward typical color packages of orange juice.

The present study aims to: (1) examine consumers' implicit taste associations (sweetness, freshness, and naturalness) toward the color packages of orange juice; (2) assess consumer evaluation (liking/disliking) toward the color of orange juice package by including both typical and atypical product category colors.

## **THEORY AND HYPOTHESES**

### **Color-taste correspondences**

The fundamental premise of crossmodal correspondences is that individuals tend to match a "consistently sensory feature, or attribute, in one modality—either physically present or merely imagined—with a sensory feature in another modality" (Deroy & Spence, 2013, p. 644). According to Spence (2011), three different mechanisms can trigger crossmodal correspondences: structural, statistical, and semantic. Structural correspondence refers to the innate tendency of the human brain to assign more profound meaning to the stimulus using the neural mapping of sensory stimuli. Statistical correspondence is the result of perceptual learning, and it reflects the learned correlation between attributes of different sensory stimuli. Semantic correspondence occurs when standard linguistic terms are used to describe different stimuli. Although the theory of crossmodal correspondences is deeply rooted in cognitive psychology, it has also been applied in packing design research. In terms of food and beverage packing design, most researchers have focused on how visual stimuli (e.g., shape, color) can influence basic tastes.

Regarding the shape, it has been established that angular package shape is associated with bitter, sour, and salty tastes while rounded package shape is related to sweet and rich/creamy tastes (Chen et al., 2018; Spence & Ngo 2012). Moreover, previous research suggests that manipulating the package shape itself may influence the intensity of taste. For instance, Becker et al. (2011) examined how the shape of the lemon yogurt package (angular vs. rounded) affects the taste intensity. They found that an angular, as opposed to a rounded, package shape is related to the higher level of taste intensity. Also, it has been demonstrated that glass/cup shape may influence the taste/aroma of wine, beer, and coffee (Delwiche & Pelchat, 2002; Mirabito et al., 2017; Van Doorne et al., 2017). For instance, Van Doorne et al. (2017) confirmed the existence of shape-taste symbolism in the case of milk-based coffee drinks (cappuccino). More precisely, their study revealed that shape influences the expected liking, bitterness, and the rated quality of the cappuccino. Also, they found that angular shape, compared with a rounded shape, is associated with a higher level of likeability, bitterness, and the drink's quality.

Previous research has also confirmed the existence of color-taste symbolism. Koch and Koch (2003) explored the associations between ten colors (red, green, yellow, blue, brown, orange, purple, black, grey, and white) and eight tastes (sweet, sour, bitter, salty, citrusy, syrupy, fruity, and bubbly) in the context of soft drinks. They found that five out of ten colors are associated with basic tastes, namely red and orange, related to sweet tastes, green and yellow to sour tastes, and

white to bitter and salty tastes. The colour/taste correspondences have been also validated in other studies (e.g., Ares & Deliza, 2010; Piqueras-Fiszman & Spence, 2011; Piqueras-Fiszman et al., 2012; Rebollar et al., 2012). Moreover, it has been suggested that color saturation, i.e., the intensity of color, may affect the intensity of the product taste. For instance, Becker et al. (2011) found that highly saturated color is associated with more intense taste sensations by manipulating the saturation level of lemon-greenish-colored yogurt package. Tijssen et al. (2017) showed how the manipulation of color attributes (hue, brightness, and saturation) affects the consumer's expectations about the taste of a product as well as the evaluation of a product. By using the Implicit Association Tests (IATs), they demonstrated that red package is associated with the highest expectations for sweetness, creaminess (dairy milk), fattiness (sausage), and flavor intensity (dairy milk and sausage). Also, the study's findings of Tijssen et al. (2017) confirmed that the expected intensity of taste could be manipulated by changing two attributes of color, namely the brightness and the saturation. Overall, previous research indicates that color package attributes (hue, brightness, saturation) are likely to be transferred to the consumer's evaluation of the product itself (see Table 1. for a review of selected studies published in this area).

**Table 1.** Review of studies that have investigated the association between the color package and sensory properties of a product

Author(s) (Year)	Product	Package color studied	Main findings
Ares and Deliza (2010)	Milk dessert	Yellow Black White	Milk dessert in the yellow package was perceived to be sweet, delicious, vanilla flavor, and <i>dulce de leche</i> . Milk dessert in the black package was perceived to be bitter with chocolate flavor. Milk dessert in the white package was perceived to be sour and tasteless.
Becker <i>et al.</i> (2011)	Yogurt	Yellow-greenish	Yogurt from the high saturated yellow-greenish package was perceived to have more intense taste than yogurt from the low saturated yellow-greenish package.
Rebollar <i>et al.</i> (2012)	Chewing gum	Warm colors Cold colors Grey	Chewing gums from warm-colored packages were judged to be fruity, sweet, and acidic. Chewing gums from cold and grey-colored packages were judged to be spicy and with menthol flavor.
Piqueras-Fiszman <i>et al.</i> (2012)	Strawberry mousse	White Black	Mousse served at a white plate, compared to the same mouse served at a black plate, was perceived to be more intense and sweeter.
Piqueras-Fiszman and Spence (2012)	Hot chocolate	White Cream Red Reddish orange	Hot chocolate served in orange (with a white interior), and dark-cream colored cups increased the chocolate flavor of the drink and, thereby, improved acceptance of the beverage. Hot chocolate served in the dark-cream cup was perceived as sweeter and with a more intense aroma.
Beneke <i>et al.</i> (2015)	Bottled water	Warm colors Neutral colors Cold colors	Consumers preferred the neutral-colored package as opposed to neutral and cold-colored packages.

Author(s) (Year)	Product	Package color studied	Main findings
Huang and Lu (2015)	Breakfast cereal Ice-cream Iced tea Yogurt	Red Blue Green	The majority of respondents associated the red packaged products with a sweet taste, whereas the green and blue-colored packaged products are associated with healthiness.
Tijssen et al. (2017)	Dairy drink Sausage	Blue (both products) Purple (dairy milk) Red (both products) Green (sausage)	Dairy milk from the red-colored package was perceived to be more taste intense and sweeter. Sausage milk from the red-colored package was perceived to taste more intense and high-fat. The relationship between color brightness expected the intensity of taste depends on the product category (positive relationship of dairy drink but negative for sausage). The relationship between color saturation and the intensity of taste was found to be positive for both products (dairy milk and sausage).
da Rosa et al. (2019)	Cookies (buttery vs. cereal)	Grey Blue-to-green Red-to-yellow	Cookies from red-to-yellow and blue-to-green colored packages were preferred over the cookies from the grey-colored package.
Ares and Deliza (2010)	Milk dessert	Yellow Black White	Milk dessert in the yellow package was perceived to be sweet, delicious, vanilla flavor, and <i>dulce de leche</i> . Milk dessert in the black package was perceived to be bitter with chocolate flavor. Milk dessert in the white package was perceived to be sour and tasteless.

Based on this backdrop, we formulated the following hypotheses:

H1: Orange juice from the warm-colored package is perceived to be sweeter than orange juice from cold-colored and neutral-colored packages (white and grey).

H2: Orange juice from cold-colored packages is perceived to be fresher than orange juice from warm-colored and neutral-colored packages.

H3: Orange juice from cold-colored packages is perceived to be more natural than orange juice from warm-colored and neutral-colored packages.

### Typicality in color packing

Marketing scholars argue that consumers tend to organize products within their corresponding product category based on the level of perceived typicality (Celhay & Trinquencoste, 2014). In the case of the color package, the typicality refers to the degree to which the color of the product package conforms the generic color code/norm of its category (van Ooijen *et al.*, 2016; Garaus & Halkias, 2019). For instance, a color code typically used for ketchup is red, mayonnaise yellow, and organic food green. The rationale behind the choice of color codes in packing is that such stimuli are processed more fluently than other stimuli (Winkielman *et al.*, 2006). Also, they are positively related to the consumer emotional and attitudinal responses (Garaus & Halkias, 2019). However, incongruity theory suggests that using an atypical color package may attract consumer attention and lead to more positive responses (van Ooijen *et al.*, 2016; Schoormans & Robben, 1997). Spence and Velasco (2018) pointed out how Nabisco' breakfast cereal brand Alpen moved

away from predominantly bright color code and embraced the black product packing to stand out from other breakfast cereal brands.

Against this backdrop, we formulate the following hypothesis:

H4: Atypical package color, compared to the typical package color, will lead to a more favorable attitude (liking) toward a product.

## **METHODOLOGY**

### **Stimulus development**

Considering that color associations differ among cultures, a pre-study was conducted to identify a standard package design for a selected product (orange juice) in the country where research was performed - Bosnia and Herzegovina. The findings of the pre-study were used as a framework for developing mock packages for a fictional brand of orange juice named Orange Splash. We created mock packages and a fictional brand to avoid potential bias in consumer responses (e.g., familiarity with existing brands and consumers' habits). Also, the findings of our pre-study allowed us to select realistic typical and atypical package colors for orange juice. Using Google's image search, we found that orange is a typical package color for orange juice, while white can be qualified as potential atypical color. To examine the presence of color-taste symbolism, we selected five colors, namely orange (corresponding to the warm-colored package), black and green (corresponding to the cold-colored packages), and grey and white (corresponding to the neutral-colored packages). In line with previous studies, we manipulated only the hue, holding other attributes of color (value and saturation) constant.

Furthermore, we did not include other visual and verbal packing elements (shape, size, graphics, country of origin, etc.) in mock packages to avoid potential interaction effects between the package color and other package attributes. The visual design of the mock package was created in Adobe Photoshop by a professional designer.

### **Participants and procedure**

Two hundred fifty-five undergraduate students from the largest university in Bosnia and Herzegovina participated in the experiment. Participants were randomly assigned to five experimental groups, and each group was exposed to a different stimulus. Considering the treatment design, each participant had the opportunity to see and rate only one out of five images of mock packages. Participants were asked to evaluate taste properties of orange juice using the three semantic differential scales, namely sweet/sour, fresh//stale, and natural/artificial. Each of these scales had seven categories, represented by numbers ranging from -3 to +3. For instance, sweetness scale had 7 categories, namely "very sweet" (-3), "sweet" (-2), "slightly sweet" (-1), "neither sweet nor sour" (0), "slightly sour" (+1), "sour" (+2), and "very sour" (+3). At the end of the experiment, respondents were exposed to all stimuli (five different mock packages), and they were asked to rate the liking of each package, using the 5-point Likert scale (1 - "most preferred" to 5 - "the least preferred").

## **ANALYSIS AND RESEARCH FINDINGS**

Table 2. describes the respondents' demographic characteristics. Out of 255 respondents, 63.5 percent were female and 36.5 percent male. All respondents were young consumers, and the majority of them were 18-20 years old. In terms of frequency of purchase, 13 percent of respondents have purchased orange juice daily. More than one third of respondents (37.2 percent) are heavy buyers of orange juice since they are buying orange juice on daily or weekly basis. One-third of the respondents (27.8 percent) are light buyers as they have purchased orange juice at least once in a month. The most preferred orange juice brands are *Cappy*, *Juicy*, and *Fructal*.

**Table 2.** Demographic profile of respondent

Variables	Categories	Frequency (%)
Gender	Female	63.5
	Male	36.5
Age	18 – 20 years old	69.9
	21 – 24 years old	30.1
Frequency of orange juice purchase	On daily basis	13.3
	At least once per week	23.9
	2 – 3 times per month	34.9
	At least once per month	27.8
Type of favorite orange juice brand	Juicy	35.7
	Cappy	44.3
	Fructal	15.3
	Others (Rauch, Takovo, To)	4.7

Source: Author's own research

An ANOVA analysis was used to test potential differences in consumers' evaluation of orange juice taste (sweetness, freshness, naturalness) among five different colors of orange juice package. When those differences were significant, genuinely significant differences were determined by employing the post-hoc for pairwise comparison. Observed differences were regarded as significant if the p-value was 0.05 or lower. Statistical analyses were carried out using SPSS.

To assess the reliability and validity of ANOVA statistics, Levene's test of homogeneity of variances was carried out. For two variables ("sweetness" and "naturalness"), the F values of Levene's test were greater than 0.05, indicating that null hypothesis (no difference) for the assumption of homogeneity of variance is met. On the other hand, F-value of Levene's test for the variable "freshness" was less than 0.05, suggesting that null hypotheses (no differences) for the assumption of homogeneity of variance can be rejected. Given that the assumption of homogeneity of variance is violated for two variables ("sweetness" and "naturalness"), we employed Games-Howell's post hoc test for pairwise comparison instead of Tukey post hoc test.

**Table 3.** Means and differences with Tukey's test and Games-Howell's post hoc test for color/taste cross-modal correspondences

Taste attributes	Warm color	Cold colors		Neutral colors		F statistics	p-value
	Orange (a)	Green (b)	Blue (c)	White (d)	Grey (e)		
Sweetness	1.34	1.38	1.74	1.30	1.12	1.322	0.262
Freshness	-1.48	-1.78 <sup>c,e</sup>	1.00 <sup>b</sup>	1.40	1.19	2.184	0.071*
Naturalness	0.10	0.69 <sup>e</sup>	-0.08	0.53 <sup>e</sup>	-0.22	2.268	0.062*

Note: Values with different superscripts in the mean are significantly different ( $p < .05$ ) according to Tukey's test and Games-Howell's post hoc test

Means in a column based on the 7-point likert scale ranging from -3 (sweet/fresh/natural) to +3 (sour/stale/artificial)

Source: Author's own research

An ANOVA analysis showed no significant differences in perception of sweetness between the five experimental groups ( $F(1.322)$ ;  $p > 0.05$ ). Therefore, hypothesis H1: Orange juice from warm-colored package is perceived to be sweeter than orange juice from cold-colour packages and neutral-colored packages, is not supported. Surprisingly, findings revealed that all five selected

colors are associated more with sour tastes than with sweet tastes. Regarding the general premise that cold-colored packages are perceived as fresher than warm- and neutral- colored packages, results of ANOVA confirmed this assumption ( $F(2.184)$ ,  $p < 0.05$ ). The pairwise comparisons test indicates that a significant difference in the perception of freshness exists between cold-colored and natural-colored packages. Tukey's post hoc test revealed that orange juice in the green-colored package was perceived as fresher than that in the grey-colored package. Furthermore, a significant difference was observed in the perception of freshness between green-colored and blue-colored packages, indicating that green color is associated more with freshness than blue. However, it should be noted that no significant differences in the perceived freshness of orange juice were found between green and orange packages and green and white packages. This result suggests that green, orange, and white packages are closely associated with the perceived freshness of orange juice. Since significant differences in the perception of freshness were observed between green (cold color) and grey (neutral color) packages, Hypothesis 2: Orange juice from cold-colored packages is perceived to be fresher than orange juice from warm-colored and neutral-colored packages, is partially supported. In terms of perceived naturalness, significant differences were found between five experimental groups ( $F(2.268)$ ,  $p < 0.05$ ). Games-Howell's post hoc test for pairwise comparisons showed a significant difference in the perceived naturalness of orange juice among green and grey packages and white and grey packages. No significant differences were observed between the other pairs of color packages. This result indicates that green and white packages are closely associated with the perception of naturalness. Bearing this in mind, hypothesis H3: Orange juice from cold-colored packages is perceived to be more natural than orange juice from warm-colored and neutral-colored packages, is partially supported.

In line with our expectations, the atypical color of the orange juice package – white (Mean Rank = 2.54), led to a more favorable attitude (liking) than the typical color – orange (Mean Rank = 2.80). Moreover, the Friedman rank sum test shows that consumer preferences toward a product differ among different package colors ( $\chi^2 = 52.97$ ;  $p < 0.01$ ). Thereby, hypothesis H4: Atypical package color, compared to the typical package color, will lead to a more favorable attitude (liking) toward a product, is supported. However, we should note that incongruity with the product category color norm in some cases (grey-colored package) resulted in a less favorable attitude /liking) than typical color-orange.

## DISCUSSION AND CONCLUSION

The present study was designed to explore the degree to which consumers implicitly associate particular tastes (sweetness, freshness, and naturalness) to specific product packaging colors. Against this backdrop, this study provides compelling empirical evidence to support the existence of cross-modal correspondences between color and taste (color/taste correspondences) in product packaging. More precisely, the current study investigates how cold-, warm-, and neutral-colored packages are tied to the perceived sweetness, freshness, and naturalness of a product (i.e., orange juice). The overall results indicate that green seems to be the color that would lead to the highest perception of freshness and naturalness. In contrast, grey is the color that is implicitly associated with artificial flavors and perceived to be very stale. Contrary to our expectations, we did not confirm the effect of package color on the perception of sweetness. This finding contradicts extant research arguing that warm colors (e.g., orange, red) are likely to stimulate the taste of sweetness (e.g., Rebollar et al., 2012; Spence et al., 2015; Tijssen et al., 2017). One way to explain why warm color (orange) did not evoke the highest level of perceived sweetness in our study is that the color/taste correspondences vary across cultures (Carvalho & Spence, 2019). Another possible explanation is that sweetness is not a taste attribute that is primarily associated with the chosen beverage (orange juice).

Grounded in the schema incongruity theory, the present study was carried out to investigate how the use of typical and atypical package colors influences consumer's attitudes



(liking/disliking) toward a product. Our findings suggest that the deviation from the generic color code/norm of product category might trigger a more favorable attitude (liking) toward a product. More specifically, findings suggest that consumer attitude toward a product (orange juice) differs among different product packaging colors. In terms of typicality, results reveal that a white-colored-package is likely to lead to a more favorable attitude (liking) toward a product (orange juice) than orange, confirming the product's color code/norm. However, it should be noted that previous research have showed that some consumer segments (e.g., young consumers, consumers with higher level of innovativeness, consumers who are 'expert' in product category) are more prone toward atypical packaging (Celhay & Trinqucoste, 2015). Considering that our sample includes only young consumers (18-24 years old), the reported propensity toward the atypical color of a package, opposite to the typical color of a package, is not particularly surprising.

The present study contributes to the extant literature in marketing and food science by exploring the applicability of color/taste correspondences in the context of non-alcoholic beverages, namely orange juice. The findings extend our knowledge about the phenomenon called 'sensation transference' in the area of product packing design by providing empirical support to the idea that people are inclined to transfer sensations and perceptions derived from product packing elements to the product itself. More precisely, the present study suggests that green is the color that is most related to the perception of sweetness and freshness of orange juice. Furthermore, the current research contributes to the schema incongruity theory by demonstrating that incongruity, opposed to congruity, between the color package and product color-code/norm may generate more positive attitudinal responses toward the product.

The current research provides managerial implications for orange juice manufacturers and packing designers. Since consumers tend to associate a specific color of orange juice packing to certain taste attributes, orange juice manufacturers should concentrate not only on the taste properties of orange juice itself but also on the visual elements of product packing. By changing the color of product packaging, the marketers may shape consumers' expectations/perceptions regarding the taste of the orange juice stored in such packing. If marketers want to trigger expectations/perceptions of freshness and naturalness, they should opt for green-colored packages. Moreover, marketers should use trial experiments to assess consumers' attitudinal and emotional responses toward the typical (orange) and atypical (white) orange juice package. Although our study suggests that white-colored package is likely to lead to favorable consumers' responses, marketers should be cautious about using atypical package colors. Any deviation from the typical package color may generate confusion about the product and lead to negative feelings and attitudes (Garaus & Halkias, 2019).

The present study has some limitations that offer pathways for further research. First, in the current research, only the package color is manipulated to avoid any potential interaction between the package color and other visual and verbal elements of packing (e.g., shape, graphics, nutritional claims, etc.). Although this decision enabled us to assess the isolated effect of color packages on consumers' evaluation of a product, it does not reflect the real-life correspondences among multiple stimuli. Thus, future research should emphasize the possible cross-modal correspondences between color, shape, and taste attributes. Moreover, our research focuses on only one product category – orange juice, which makes the results merely applicable to this product category. Thereby, future studies are encouraged to deepen our knowledge about color/taste correspondences in the context of other food and beverages. Moreover, in this study, the selection of package colors was based on the pre-study carried out using the Google picture search engine. Thereby, qualitative research addressing the issue of correspondence between package colors and taste attributes would be welcomed in the future. Such research may contribute to identifying taste attributes and package colors that are relevant for the chosen product category and, thereby, provide more reliable findings regarding the color/shape symbolism. Lastly, the present study focuses only on younger consumers (18 – 24 years old). Since color/shape symbolism and reactions to (a)typicity of color packages may vary across different

consumer segments, future research is advised to explore these issues across age cohorts of consumers.

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