

Colour Psychology and Its Influence on Consumer Trust in Food Packaging: An Empirical Survey-Based Study

Mrs. Savita Patidar

International Institute of Professional Studies

Devi Ahilya Vishwa Vidhyalaya

Co-Author

Dr. Jyoti Sharma

International Institute of Professional Studies

Devi Ahilya Vishwa Vidhyalaya

Abstract

Packaging colour is among the first visual cues identified by consumers at the point of purchase, and prior research indicates that it is strongly associated with quality factors such as safety, quality, and trust, even before closer product examination. The present study investigates how packaging colour influences consumer trust within the food category, utilising primary data collected through a structured questionnaire (N = 124) that addresses colour-trust associations, perceived trustworthiness of five packaging colours (blue, green, red, white, yellow), colour combinations, palette style, and demographic and shopping behaviour variables. A ten-item Color-Trust Belief scale was developed from the questionnaire and demonstrated strong internal consistency (Cronbach's alpha = 0.863). Green emerged as the packaging colour most strongly associated with both food safety/trust (42.7% of respondents) and health/organic perception (67.7%), and received the highest mean trust rating (M = 3.40, SD = 1.28) among the five colours which were tested, surpassing white, yellow, and blue; red was rated as least trustworthy (M = 2.66). The Color-Trust Belief scale showed a significant correlation with willingness to pay a premium ($r = 0.63$, $p < .001$), and colour-specific trust beliefs (e.g., green-naturalness, blue-brand trust) were significantly correlated with the corresponding colour's trust rating. One-way ANOVA revealed no statistically significant differences in the composite trust-belief score across age group, shopping environment, or purchase frequency. Multiple regression predicting an Overall Packaging Trust Index confirmed that the Color-Trust Belief composite was a significant unique predictor ($B = 0.44$, $p < .001$); further shopping environment also emerged as a significant unique predictor of the trust index in this larger sample, despite not differing significantly in the univariate ANOVA on the belief scale. This study further suggests that the two outcomes capture related but distinct aspects of colour-trust. These findings extend general colour-branding research, where blue is typically reported as the most trusted colour, by demonstrating that in a food-specific context, green serves as the dominant trust and health cue, consistent with its established association with naturalness and freshness.

Keywords: *colour psychology, packaging design, consumer trust, food industry.*

1. Introduction

Packaging is frequently regarded as the primary point of contact between consumers and food products prior to purchase. Among various visual elements, colour is consistently identified as the most immediate and influential factor (Spence & Velasco, 2018). Beyond its aesthetic role, colour functions as a psychological and emotional stimulus that shapes emotion, cognition, and judgment (Elliot & Maier, 2014a). In food marketing, colour has been linked to inferences about taste, healthiness, freshness, and product quality (Kunz et al., 2020). An emerging field of research extends this logic to trust, treating packaging colour as an indicator that consumers use to assess the credibility of a product and its brand (Yang et al., 2019; Yu et al., 2025). This study synthesises theoretical and empirical research across four areas: the

psychological foundations of colour perception, the role of packaging colour in shaping product-related judgments, the mechanisms by which colour contributes to consumer trust, and the cultural boundary conditions moderating these effects. The study further concludes by identifying the most dominant packaging colour and the associations of various colour combinations with consumer trust, as well as examining emotional responses to the use of multiple colour codes in the food industry.

2. Theoretical Foundations of Colour Psychology

The most dominant theoretical account of how colour influences human judgment is the colour-in-context theory, which proposes that colour carries developed and embedded meaning rather than a fixed, universal effect, and that its impact on affect, cognition, and behaviour depends on the situation in which it is perceived (Elliot & Maier, 2014a). A subsequent review further extended this framework to consumer behaviour and food evaluation specifically, concluding that colour reliably affects affect and judgment but that the field still lacks strong boundary conditions and generalizable rules for its application to different sectors (Elliot & Maier, 2014b).

Empirical work on colour-emotion associations strongly supports the broad structure of this theory. Light colours usually tend to evoke positive responses, whereas dark colours evoke negative responses. In this context, red is linked to high-arousal states of both positive and negative valence, and blue and green are associated with low-arousal positive states (Jonaskaite & Mohr, 2025). At the level of attention rather than meaning, red has been proven experimentally to capture and hold visual attention much more strongly than other colours in emotionally valenced contexts, which is consistent with colour-in-context theory's premise that colour effects are context-dependent rather than fixed (Kuniecki et al., 2015). (Gilbert et al., 2016) Further extended this area of work into food and beverage evaluation directly, justifying that consumers hold pre-existing, quantifiable expectations about which colours are appropriate for specific flavours and drink categories, which creates a psychological bridge between abstract colour-emotion associations and concrete packaging judgments

3. Objectives

- To identify which packaging colour associations strongly with food safety, trust, and organic status.
- To measure and rank the recognised trustworthiness of five common packaging colours (blue, green, red, white, yellow).
- To construct and test the reliability of a composite Color-Trust Belief scale from the questionnaire items.
- To examine whether colour-trust beliefs are associated with a concrete purchase-relevant outcome (willingness to pay a premium).
- To test whether colour-trust beliefs differ significantly across different age groups, shopping environments, or purchase frequency.

4. Hypotheses

- H1: Green packaging is rated significantly more trustworthy than the other four colours tested in a food context.
- H2: The Color-Trust Belief scale is internally reliable (Cronbach's alpha ≥ 0.70).
- H3: The Color-Trust Belief score is positively associated with willingness to pay a premium price.
- H4: Colour-trust beliefs do not differ significantly by age, shopping environment, or purchase frequency (i.e., the effect generalises across the sampled segments).

5. Literature Review

5.1 Packaging Colour and Consumer Product Perceptions

A substantial body of empirical studies carried out in the field has examined how different packaging colours shape perceptions of a food product's healthiness, taste, and quality, functioning as what (Steiner & Florack, 2023) mentioned in their systematic review as a dominant visual design cue. Their review of 20 empirical studies identifies three overlapping mechanisms by which packaging colour shapes health perceptions: colour acting as an explicit signal for health, colour triggering indirect beliefs, and colour evoking mental simulations of the product itself (Steiner & Florack, 2023).

Several experimental studies conducted in the field illustrate these mechanisms in practice. Studies suggest cool colours such as green and blue have repeatedly been shown to increase perceived healthiness and sustainability as compared to warm colours. However, this same cool-colour effect can parallelly lower the expected tastiness and reduce product choice, revealing a health–taste exchange incorporated in colour perception (Hallez et al., 2023). This exchange is highlighted in work differentiating "vice" from "virtue" foods, where warm packaging colours increase the chance of purchase for indulgent, unhealthy foods. In contrast, cool colours likely increase the likelihood of choosing healthier food options, an effect channelled by perceived processing fluency (Su & Wang, 2023). Colour also interacts with saturation; products shown with higher colour saturation are judged as both healthier and tastier as compared to the same products with less saturation, an effect mediated by perceived freshness (Kunz et al., 2020). Apart from hue and saturation, colour operates jointly with other design features. Green-colored packaging has been shown to increase perceived healthiness independent of its packaging material. However, willingness to consume was more strongly associated with taste and sustainability perceptions than with the colour factor alone. (Berthold et al., 2024). Naturalistic, earth-toned "au naturel" colour palettes have also been shown across seven experimental studies to increase willingness to pay for healthy foods specifically, an effect mediated by perceived product authenticity (Marozzo et al., 2020). Colour further interacts with packaging shape and product category to shape both the preferences and specific taste associations of consumers, with red-to-yellow and blue-to-green palettes producing systematically different expectations of sweetness and healthiness. (Marques da Rosa et al., 2019). In the sustainability area, where green packaging design is a strong predictor of consumers' "green trust," which subsequently strengthens green brand attachment (Yang et al., 2019), while basic and minimal, visually simple packaging has been perceived to have higher green trust than visually complex-looking designs, an effect attributed to reduced consumer suspicion of deceptive motive (Ding et al., 2024). Relatedly, the simpler a visual cue, the more trust has been shown in package design to increase perceived brand authenticity through the common "simple = authentic" belief, with this authenticity subsequently shaping the consumer's brand choice. However, the effect is mitigated among consumers who are already highly familiar with the brand (Wang et al., 2023). Trust has also been identified as an external intervening variable; transparent packaging was found to increase the chances of purchase for tea beverages specifically because it increased consumer trust, with the effect of packaging colour scheme on trust differing by whether the packaging was opaque or transparent and by brand familiarity (Yu et al., 2025). Consistent with these findings, white and green packaging dominate the organic food market and are strongly linked to perceived freshness, health, and trust among consumers. However, the specific colours that build trust differ between existing organic buyers and non-buyers (Nagy & Temesi, 2024). In a large consumer sample (Javeed et al., 2022). found that several food packaging factors, including brand name and nutritional and precautionary labelling, were positively and significantly related to perceived product quality, with the strength of these relationships moderated by consumer product knowledge, providing empirical evidence for a signalling account of packaging-based trust formation. Colour and other related visual packaging elements such as design and texture have been associated with trust signals in building consumer retention in their own manner. In a developing-market context, sign-based packaging elements such as logo and brand name have a positive influence on a consumer's brand experience, which in turn increases brand trust and purchase intention, placing visual design as a determinant of trust rather than just a factor of taste or health judgments (Shukla et al., 2023). Across these studies, a similar pattern has emerged: packaging colour and related visual cues are not just used as a factor to influence trust. Instead, colour works alongside other design elements of a brand, and its impact on trust is most often aligned as indirect, working through intervening impressions such as authenticity, loyalty, brand experience, or environmental credibility, rather than through a direct colour trust linkage.

Precisely, the existing literature illustrates that packaging colour serves as an inferential cue for taste and health judgments. However, colour rarely operates as a single element; rather, its effects are consistently moderated by other supporting factors such as the category of product, saturation, shape, and material. This pattern portrays research frameworks that examine trust as an outcome variable.

6. Synthesis and Research Gaps

The existing work clearly establishes three essential findings. First is the fact that the colour factor reliably influences the affect and cognitive judgment of trust perception, as explained by colour-in-context theory and supported by large-scale colour-emotion research (Elliot & Maier, 2014a; Jonauskaite et al., 2020). Second, with reference to food packaging, colour highly shapes the perceptions of taste, healthiness, freshness, and quality. However, these effects are usually moderated by different factors such as saturation, shape, product category, and material, rather than deriving conclusions solely from the main effect of hue (Kunz et al., 2020; Marques da Rosa et al., 2019; Steiner & Florack, 2023). Third, a smaller body of research grounded in signalling this theory demonstrates that visual packaging cues, including colour, can influence consumer trust. This effect is generally conceptualised as indirect, mediated by perceived authenticity, brand experience, or green credibility, rather than just a direct outcome of colour manipulation (Shukla et al., 2023; Wang et al., 2023; Yu et al., 2025).

Two research gaps are particularly relevant to the empirical investigations identified in the study of colour and consumer trust in food packaging. First, trust is seldom the primary, directly measured dependent variable in packaging-colour experiments. Most studies consider trust as just a secondary or mediating factor through health, taste, or quality judgments, or focus on it is within the limited context of sustainability or "green" claims (Ding et al., 2024; Yang et al., 2019). Consequently, the extent to which colour solely influences general consumer trust in food products and brands still remains unclear. Second, while the cross-cultural literature on colour meaning is well explored in general marketing (Aslam, 2006; Madden et al., 2000), it has not been closely linked with recent research on packaging and trust. As a result, the cultural boundary conditions of colour-based trust effects remain largely unidentified within the food packaging domain. An empirical study carried out in this area that directly manipulates packaging colour and measures consumer trust as a primary outcome, while accounting for mediators such as perceived authenticity or quality signalling, would address a significant gap at the intersection of these research areas.

7. Methodology

7.1 Research Design

This study uses a quantitative, cross-sectional survey design. The objective of the study was descriptive and correlational, which would help to measure colour-trust associations as they currently exist among respondents, and to test relationships between colour-trust beliefs and a purchase-relevant outcome rather than just to manipulate colour experimentally. A structured, self-administered questionnaire was distributed online via Google Forms and was completed voluntarily by respondents.

7.2 Sample

Responses were collected from $N = 124$ respondents. The sample was predominantly aged between 18 and 26 (66.9%), inclined toward frequent packaged-food buyers (93 respondents out of the total sample purchase packaged food at least once a week), and drew shoppers from four retail environments including convenience stores (32.3%), online platforms (25.0%), local/flea markets (23.4%), and supermarkets (19.4%). As the sample was collected through convenience/snowball distribution rather than probability sampling, the findings should be read as indicative of this respondent group rather than as nationally representative.

7.3 Instrument

The questionnaire contained 56 substantive items following an initial demographic section (age, purchase frequency, preferred shopping environment). Items contained three formats: (a) single-select categorical items asking respondents to name the colour they associate with a given concept such as safety/trust, health/organic status, calming effect); (b) 5-point Likert-type agreement items (1 = strongly disagree/not at all trustworthy to 5 = strongly agree/highly trustworthy) measuring beliefs about colours' role in signalling trust, premium quality, and safety; and (c) colour-specific rating items asking respondents to rate the trustworthiness, distrust potential, or effectiveness of specific colour or colour combinations on the same 5-point scale.

7.4 Data Analysis Techniques

Data were analysed using descriptive statistics (frequencies, means, standard deviations), which were computed for all demographic and colour-association items. A composite Colour Trust Belief scale was constructed from ten Likert items directly measuring the belief that colour influences trust, safety perception, and purchase behaviour (see Section 4), and its internal consistency was assessed using Cronbach's alpha. Pearson correlation coefficients were used to test relationships between colour-specific beliefs, the composite scale, and willingness to pay a premium. One-way ANOVA was used to test for differences in the composite score across age group, shopping environment, and purchase frequency. A chi-square test of independence was used to test the association between the colour chosen for safety/trust and age group; given that several expected cell counts fell below 5, this result is reported with appropriate caution rather than as a firm conclusion. Finally, because the research question in Section 5.7 involves several potential predictors of trust considered simultaneously rather than one at a time, a multiple linear regression was estimated to identify which factors viz the general Color-Trust Belief composite, age group, shopping environment, and purchase frequency which uniquely predict an Overall Packaging Trust Index, controlling for the others; variance inflation factors (VIF) were checked to rule out problematic multicollinearity among predictors.

8. Reliability of the Color-Trust Belief Scale

Ten Likert items were combined into a composite Color-Trust Belief scale, each measuring a distinct facet of the belief that packaging colour signals trust, safety, or quality: perceived influence of colour on freshness perception, willingness to pay a premium, importance of colour in decision-making, colors role in communicating safety, the importance of saturation/brightness, the influence of warm versus cool colour temperature, trust in colors chosen using psychological colour theory, the effect of a minimalist palette, the effect of matte versus glossy finish, and the effect of colour-based sensory cueing (e.g., green signaling freshness). The scale showed strong internal consistency, after checking the reliability through Cronbach's alpha = 0.863 of all 10 items, comfortably exceeding the conventional 0.70 threshold limit for exploratory scales and supporting H2. Item-total correlations ranged from $r = 0.50$ to $r = 0.69$ (Table 1), indicating that each item contributed coherently to the underlying construct without any item warranting removal.

Colour influences freshness perception	0.567
Colour affects willingness to pay a premium	0.525
Colour is important in decision-making	0.511
Colour communicates safety features	0.687
Saturation/brightness affects trust	0.624
Warm vs. cool colour influences brand trust	0.592
Trust in color based on psychological colour theory	0.567

Minimalist palette affects perceived trustworthiness	0.553
Matte vs. glossy finish affects trust perception	0.634
Colour-based sensory cueing boosts trust	0.501

Table 1. Item-total correlations for the 10-item Color-Trust Belief scale (Cronbach's $\alpha = 0.863$, $N = 124$).

The composite scale had a mean of 3.37 (SD = 0.81) on the 1-5 range, indicating that, on average, respondents moderately agreed that packaging colour plays a meaningful role in shaping trust judgments, with considerable individual variation.

9. Results

9.1 Sample Profile

Age-Group	18-21	29	23.4%
	22-26	54	43.5%
	27-30	28	22.6%
	31-35	13	10.5%
Purchase frequency	On a daily basis	41	33.1%
	Once a week	52	41.9%
	Twice a month	13	10.5%
	Once a month	18	14.5%
preferred Shopping environment	Convenience store	40	32.3%
	Online	31	25.0%
	Supermarket	24	19.4%
	Local market	29	23.4%

Table 2. Sample demographic and shopping-behaviour profile ($N = 124$).

9.2 Colour Associated with Food Safety, Trust, and Health

When asked directly which colour they associate most strongly with safety and trust in food products, 42.7% of respondents named green, followed by blue (20.2%), red (17.7%), and white (15.3%); a small remainder gave qualified or non-colour-based answers (e.g., “depends on the product”). The pattern was even more pronounced for the health/organic association: 67.7% of respondents selected green as the colour most likely to make them believe a product is “healthy” or “organic,” far ahead of white (11.3%), blue (6.5%), red (5.6%), and yellow (4.0%).

Figure 1. Percentage of respondents selecting each colour as most strongly associated with food safety and trust ($N = 124$).

9.3 Perceived Trustworthiness by Packaging Colour

Respondents rated the trustworthiness of food products packaged in each of five colours on a scale of 1-5. Of these, green received the highest mean trust rating, followed by white, yellow, blue, and red (Table 3, Figure 2), supporting H1.

Green	3.40	1.28	1
White	3.20	1.15	2
Yellow	3.02	1.14	3
Blue	2.93	1.26	4
Red	2.66	1.24	5

Table 3. Mean perceived trustworthiness by packaging colour (1-5 scale, $N = 124$).

Figure 2. Mean trust rating by packaging colour with standard deviation bars ($N = 124$).

A correlation matrix across the five colour-trust ratings (Table 4) shows that trust in blue and trust in green were moderately positively correlated ($r = 0.62$), as were trust in white and yellow ($r = 0.54$) and trust in red and yellow ($r = 0.51$). In contrast, trust in red showed the weakest relationship with the other colours ($r = 0.17$ - 0.38). This pattern suggests that “trust in cool/natural-leaning colour” (green, blue, white) and “trust in warm colours” (red, yellow) may function as two loosely related but distinguishable tendencies in respondents' judgments, rather than a single undifferentiated preference for bright or saturated colour.

Blue	1.00	0.62	0.28	0.38	0.40
Green	0.62	1.00	0.17	0.32	0.31
Red	0.28	0.17	1.00	0.38	0.51
White	0.38	0.32	0.38	1.00	0.54
Yellow	0.40	0.31	0.51	0.54	1.00

Table 4. Pearson correlation matrix among trust ratings for the five packaging colours ($N = 124$).

9.4 Correlation with Purchase-Relevant Outcomes

Two colour-specific belief items correlated significantly with their corresponding trust ratings: the belief that green packaging is subconsciously associated with “natural” or “eco-friendly” qualities correlated with the trust rating for green ($r = 0.32$, $p < .001$), and the belief that blue is strongly associated with brand trustworthiness correlated with the trust rating for blue ($r = 0.42$, $p < .001$). Most importantly for H3, the composite Color-Trust Belief scale correlated strongly and significantly with willingness to pay a premium price for a product based on its packaging colour ($r = 0.63$, $p < .001$), indicating that respondents who more strongly endorsed colour as a trust signal in general were also more willing to pay more for favorably colored packaging supporting H3 and suggesting the scale has meaningful predictive value beyond its internal consistency.

9.5 Group Comparisons

One-way ANOVA tested to conclude whether the composite Color-Trust Belief score differed across three grouping variables (Table 5). None of the three comparisons reached statistical significance at the conventional $\alpha = .05$ threshold, supporting H4 at the level of the general belief scale: the orientation to see colour as a trust signal in this sample did not depend significantly on the respondent's age group, preferred shopping environment, or how frequently they buy packaged food.

Age group (4 levels)	0.99	3, 120	.401	Not significant
Shopping environment (4 levels)	1.89	3, 120	.135	Not significant
Purchase frequency (4 levels)	1.51	3, 120	.215	Not significant

Table 5. One-way ANOVA of the Color-Trust Belief composite score by demographic and shopping-behaviour variables.

A chi-square test of independence was also run between the colour chosen for safety/trust and age group, chi-square (9, $N = 119$) = 13.10, $p = .158$, likewise showing no significant association. However, because several cells in this cross-tabulation had expected counts below 5 (minimum expected count = 1.92), this result should be treated as suggestive rather than conclusive; a larger sample would be needed to test this association with adequate statistical power.

9.6 Secondary Findings

Several items provide different useful patterns. Among colour combinations, green when paired with blue was rated most strongly associated with premium, trustworthy branding ($M = 3.41$), ahead of green-yellow ($M = 3.15$) and red-green ($M = 3.14$), with red-blue ($M = 2.94$) and red-yellow ($M = 2.86$) rated lowest. For colours which are perceived as calming and conducive to trust in health/wellness contexts, green again ranked highest ($M = 3.58$), followed closely by white ($M = 3.52$) and yellow ($M = 3.19$), with red rated least calming ($M = 2.74$). For sustainability claims specifically on cosmetic/personal-care products, white ($M = 3.48$) narrowly edged out green ($M = 3.40$) as most effective, with red again rated lowest ($M = 2.81$). Among other alternative packaging palette styles, transparent/clear packaging ($M = 3.18$) and earth tones ($M = 3.08$) were rated as most effective for communicating trust and authenticity, ahead of non-traditional, pastel, and vintage/retro styles. Finally, when asked which colors provoke hesitancy or distrust in advertising, ratings across red, blue, green, yellow, and brown were closely clustered ($M = 2.77$ -3.02), with red rated marginally the most distrust-inducing but no colour standing out as a strong outlier, suggesting that in this sample distrust is driven less by colour in isolation than by how a colour is used in context consistent with Elliot and Maier's (2012) colour-in-context argument.

9.7 Multiple Regression Analysis: Predicting Overall Packaging Trust

The analyses from the above results establish, one relationship at a time, that the Color-Trust Belief composite correlates with willingness to pay a premium (Section 5.4) and that trust does not vary significantly by demographic or shopping-behaviour group when each is tested separately (Section 5.5). A multiple linear regression was run to test these predictors simultaneously against a single outcome, an Overall Packaging Trust Index, defined as the mean of the five colour-specific trust ratings (blue, green, red, white, yellow) to identify which factors uniquely predict trust once the others are held constant. Predictors entered were the Color-Trust Belief composite score and dummy-coded age group, shopping environment, and purchase frequency (reference categories: age 22-26, convenience-store shopping, and once-a-week purchasing, respectively, being the largest group in each variable in this sample).

The overall model was statistically significant, $R^2 = .298$, adjusted $R^2 = .236$, $F(10, 113) = 4.80$, $p < .001$, indicating that the predictor set as a whole explains roughly 30% of the variance in overall packaging trust (24% after adjusting for the number of predictors). Examining individual predictors (Table 6), the Color-Trust Belief composite was again a statistically significant unique predictor, $B = 0.445$, $SE = 0.090$, $t = 4.97$, $p < .001$: each one-point increase in general colour-trust belief was associated with a 0.44-point increase in the Overall Packaging Trust Index, holding demographic

and shopping-behaviour variables constant. it is to be noted that , in this adequate sample size , shopping environment also emerged as a significant unique predictor: relative to convenience-store shoppers, respondents who shop online ($B = 0.395$, $p = .040$), at supermarkets ($B = 0.499$, $p = .016$), and at local/flea markets ($B = 0.422$, $p = .037$) all reported significantly higher overall packaging trust, holding colour-trust belief and other variables constant. Age and purchase frequency variables did not give significant outcomes (all $p > .05$), though the 18-21 age group were quite close to significance relative to the 22-26 reference group ($B = 0.364$, $p = .052$). Variance inflation factors for all predictors were below 1.6, indicating no problematic multicollinearity among predictors.

Intercept	1.289	0.338	3.81	< .001
Color-Trust Belief composite	0.445	0.090	4.97	< .001
Age 18-21 (ref: 22-26)	0.364	0.185	1.96	.052
Age 27-30 (ref: 22-26)	-0.120	0.189	-0.64	.526
Age 31-35 (ref: 22-26)	-0.141	0.241	-0.59	.558
Local market (ref: Convenience)	0.422	0.200	2.11	.037
Online (ref: Convenience)	0.395	0.190	2.08	.040
Supermarket (ref: Convenience)	0.499	0.204	2.44	.016
Daily purchase (ref: Once/week)	-0.292	0.165	-1.77	.080
Once a month (ref: Once/week)	-0.049	0.230	-0.21	.833
Twice a month (ref: Once/week)	0.202	0.260	0.78	.439

Table 6. Multiple linear regression predicting Overall Packaging Trust Index ($N = 124$, $R^2 = .298$, adjusted $R^2 = .236$, $F(10,113) = 4.80$, $p < .001$).

This regression strengthens the case made separately by the correlation results: the belief that colour signals trust and safety is a dominant, statistically robust driver of actual colour-trust judgments in this sample. Unlike the earlier, smaller sample, however, the expanded dataset also detects a genuine channel effect, which shows respondents who shop outside convenience stores report higher overall packaging trust and that the univariate ANOVA on the belief scale alone was not positioned to reveal, since it evaluates general colour-trust beliefs rather than the colour-specific trust ratings that make up the Overall Packaging Trust Index.

10. Discussion and Interpretation

The clear finding in this dataset is the dominance of green as a food-specific trust and health cue: it was named most often as the colour highly associated with safety/trust, and it was named by more than two-thirds of respondents as signalling “healthy” or “organic.” It received the highest mean trust rating among the five colours tested. This is a notable departure from the general branding literature, where blue is more typically reported as the strongest trust colour, as stated by Labrecque & Milne (2012); in this sample, blue ranked fourth of five on direct trust rating, behind green, white, and yellow. Read together, these results suggest that food packaging may follow a different colour-trust hierarchy than branding in general, plausibly because green's association with nature, freshness, and “eco-friendliness” is a more specific and more relevant cue in a food-safety context than blue's more general association with competence and reliability (Elliot & Maier, 2014b). Notably, this hierarchy of green, white, yellow, blue, red remains consistent throughout when collected for this study, which strengthens confidence that the pattern reflects a genuine feature of this

respondent population rather than sampling noise. The strength of the composite scale's reliability ($\alpha = 0.863$) indicates that "belief that colour signals trust" is a coherent, measurable attitude in this sample rather than just a collection of loosely related opinions, and its significant correlation with the willingness to pay a premium ($r = 0.63$) gives that belief some practical weight: respondents who see colour as meaningful were also more willing to pay for it, which is the kind of outcome a food brand would actually care about, not just a stated attitude. At the same time, the correlation matrix in Table 4 is a useful caution against treating "colour matters" as a single undifferentiated effect: trust in red behaved quite differently from trust in the other four colors, correlating weakly with all of them, which fits the idea that red operates on a different psychological register viz arousal, urgency than the calmer, more "natural" register shared by green, blue, and white as mentioned by (Labrecque & Milne, 2012). The absence of significant group differences in the belief scale by age, shopping environment, or purchase frequency is, in one sense, an unremarkable null result. Still, the multiple regression in Section 5.7 complicates a purely null reading: once colour-specific trust ratings rather than the general belief scale are used as the outcome, shopping environment emerges as a significant unique predictor, with online, supermarket, and local-market shoppers reporting a higher overall trust than convenience-store shoppers. One plausible interpretation is that convenience-store shoppers, who are typically making faster, less deliberate purchase decisions, may extend less trust to packaging cues in general, regardless of colour; another is that the products and brands available in convenience-store assortments differ systematically from those found online, in supermarkets, or in local markets in ways this study did not take into consideration. Because this channel effect appears only once colour-trust belief and the specific-colour trust ratings are considered to be in combination rather than just single-variable ANOVA, it should be treated as a new, sample-specific finding that was found out with the larger dataset rather than a consistently validated pattern; it merits replication rather than premature interpretation. Age and purchase frequency, by contrast, showed no significant effect in either the ANOVA or the regression, justifying the earlier finding that colour-trust judgments in this sample generalise reasonably well across those two dimensions.

11. Limitations

- While conducting the survey through convenience sampling, respondents were approached through personal and social networks rather than random sampling, which limits how confidently the findings can be generalised beyond this group.
- The sample size and the subgroup power: with $N = 124$, respondents were split across four different categories in each grouping variable; some subgroups (e.g., age 31-35, $n = 13$) remain modest in size, which limits the power of the ANOVA and chi-square tests to detect real but small differences.
- Stated preferences: The questionnaire measures self-reported and stated preferences, beliefs and ratings rather than actual purchase behaviour, which can diverge from real shelf-level decisions.
- Single-context sample: cultural colour associations are known to vary across regions (Elliot & Maier, 2014b); this sample's colour-trust hierarchy should not be assumed to generalise to other cultural contexts without further testing.
- Chi-square cell sizes: the safety-colour by age chi-square test had several cells with expected counts below 5, so the result is reported with caution.
- Newly detected effects require replication: the shopping-environment effect on the Overall Packaging Trust Index emerged only in the expanded sample and only in the multivariate regression; it should be treated as provisional pending replication in an independent sample.

12. Conclusion

With the help of primary survey data collected from 124 respondents, this study aimed to identify which packaging colours are highly associated with trust by consumers in the food category and whether these associations constitute a coherent, meaningful construct rather than just a narrative preference. The findings further support both objectives; viz green emerged as the dominant food-specific trust and health cue, surpassing blue, which is more prominent in general branding research. The ten-item Color-Trust Belief scale, which was developed from the questionnaire, demonstrated

strong reliability and a significant relationship with willingness to pay a premium. Demographic and shopping-behaviour differences in the responses present a clearer picture of consumers' perception and preferences. While colour-trust beliefs generalise across age and purchase-frequency groups, a shopping-environment effect on actual colour-trust ratings appeared in the sample, indicating this dimension suggests further investigation. In correlation with a much broader sensory-marketing literature, these results reinforce that Colour operates not simply as an aesthetic element of food packaging but as a functional cue that can be strategically manipulated or potentially misused by brands to influence buying intentions and consumer trust

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