

Festive Color Congruence and Its Influence on Consumer Behavior in Social Media Advertising

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ABSTRACT

The rapid growth of social media usage has led to a significant shift in consumer behavior, with brands allocating a greater portion of their budgets to digital marketing, particularly on social media. Based on color congruence theory and the Stimulus-Organism-Response (S-O-R) model, this study investigates the impact of festive color adoption on consumer behavior in social media advertising posts. We conducted an experimental study featuring a 2x2x2 between-subjects design, which manipulated festive color congruence, festival text cues, and product packaging color hue. The study collected valid responses from 300 social media users to measure the effects of the test conditions. The results showed that the use of festive colors significantly influenced consumer behavior, with congruent color schemes enhancing both perceived quality and emotional responses. Purchase intentions were strongly mediated by both perceived quality ($\beta=0.29$, $p<0.001$) and emotional response ($\beta=0.61$, $p<0.001$), while impulsive buying was primarily driven by emotional response ($\beta=0.63$, $p<0.001$). These findings have important implications for brands, underscoring the potential of leveraging festive colors in social media marketing to engage consumers and boost sales more effectively.

Keywords: Social Media, Festive Color, Consumer Behavior, Purchase Intention

1. INTRODUCTION

In the early stages of social media, posts were largely text-based, focusing on conveying messages through written content. However, as social media platforms have evolved, there has been a significant shift towards the use of images and videos, which are now favored over text due to their ability to capture attention and convey information more effectively [1]. This evolution in content format has prompted a heightened emphasis on optimizing the design and visual aesthetics of social media posts, as visually appealing content has been shown to drive higher engagement and foster deeper consumer interaction [2]. Among the various visual elements, the strategic use of color plays a crucial role in shaping consumer perceptions, enhancing brand recognition, and driving purchase decisions [3, 4]. In turn, thoughtfully chosen color schemes amplify visual appeal and promote deeper consumer engagement.

Marketing strategies often use color to subtly shape consumers' perceptions of advertisements [5]. Color not only influences emotional responses [6] but also captures attention [7], reinforces brand associations [8], and is vital in determining how consumers interpret and engage with advertising [9, 10]. By setting distinct moods and making lasting impressions, color strengthens the effectiveness of message delivery in marketing communication [11]. This is particularly evident in festival-themed marketing, where holiday-specific colors serve as a key visual element. For instance, colors linked to celebrations such as Chinese New Year, Halloween, and Valentine's Day draw upon cultural traditions and consumer rituals, intensifying emotional responses and enhancing memory retention [12]. Consequently, marketers frequently curate a distinctive festive ambiance during seasonal periods to increase consumer engagement and drive purchasing behavior.

Online retailers frequently leverage emotional cues during festive seasons by incorporating festive colors into their platform designs. These designated colors foster a sense of ritualistic participation, transforming the shopping process into a more immersive and emotionally engaging activity. Despite the widespread use of festive color schemes in online marketing, their specific effects on consumer behavior remain underexplored in academic research. It is crucial to acknowledge that ambient colors on e-commerce websites significantly shape the overall atmosphere, influencing both the emotions and behaviors of online shoppers [13-16]. While previous studies have

examined how color impacts consumer decision-making in general, little attention has been paid to how festive colors, when used congruently during holiday campaigns, might amplify these effects. Therefore, this study seeks to explore whether the festive atmosphere created through the use of festive colors influences online consumer perceptions and emotional responses, particularly in relation to purchasing decisions and subsequent buying behaviors.

2. LITERATURE REVIEW

2.1 Color congruence on customer attitudes and emotions in e-commerce

Color, sound, and texture, as atmospheric elements, have long been recognized as effective marketing tools, capturing attention and shaping cognitive and emotional responses in traditional retail environments [17, 18]. In the context of online shopping, the ambient experience has evolved, primarily relying on visual and auditory stimuli displayed on the screen, with cues restricted to what consumers can perceive through sight and sound [19]. These ambient elements in online retail settings continue to play a significant role in shaping consumer emotions [20], influencing decision-making [21], and affecting behaviors [22, 23]. Previous studies on background elements in online shopping environments focused on sound [24-28] and, to a greater extent, on color. In particular, background colors in online advertising have been shown to impact consumer perceptions of quality and value, ultimately influencing purchase intentions [10, 29, 30]. In e-commerce, retailers often capitalize on consumers' emotional connections to traditional holidays by incorporating ambient cues into their advertising and promotional strategies [24]. Building on this foundation, our research specifically examines how festive color congruence enhances marketing effectiveness.

Hekkert [31] describes congruency as the consistency and alignment of various sensory impressions, themes, or associations conveyed by a product. According to Maille & Fleck [32], congruence is a multi-dimensional concept that combines relevancy and expectancy to reflect how consistently entities are perceived to align. In this study, we extend our previous research [33] by defining color congruence, our main research theme, as the harmonious alignment between backgrounds and other elements within the same online advertising posts. Advertisements with congruent elements are processed with minimal cognitive effort, fostering a sense of familiarity and ease, which in turn promotes a

positive consumer response [34]. The alignment between color and text in online retailing creates a sense of positive consistency, thereby enhancing favorable attitudes toward the brand [15], [35], [36]. In other cases, highly incongruent background color and text were not as expected to increase attention [37]. Congruent background colors, such as blue or low-brightness hues, enhance perceived quality by encouraging consumers to view price as a signal of value rather than a financial sacrifice when doing online shopping [38]. Higher color-context congruence increases online trust, which mediates behavioral intentions in online shopping [39]. These previous findings lead us to assume in social media advertising posts that:

H1: The congruence between festive background color and the festival scenario positively influences customers' perceived quality.

H2: The congruence between festive background color and the festival scenario positively influences customers' emotional response.

2.2 Customer perception, emotion, and buying decision and behavior

Visually accessible stimuli are typically more favorably received by consumers compared to more complex stimuli, as they tend to evoke more positive emotional responses and exert a stronger influence [40]. When there is congruence between consumers' cognitive perceptions and a product's quality or overall atmosphere, this alignment enhances emotional attachment and perceived quality, which, in turn, impact behavioral intentions [41-43]. Visual elements such as color in social media advertisements significantly affect consumers' perceptions of quality, shaping their purchase intentions and prompting impulsive buying behaviors [44, 45]. Perceived quality is a key factor in purchase intention, with higher perceptions of product quality, particularly reliability, increasing both satisfaction and the likelihood of a purchase in e-commerce [46]. Accordingly, when a product's or brand's quality perception is enhanced, it fosters positive emotional responses and encourages purchasing behavior [47]. A clear positive correlation exists between higher perceived quality and consumer behavior, with increased perceived quality directly influencing purchasing decisions [48-50]. Based on these insights, we propose the following hypotheses for the online shopping experience:

H3a: The perceived quality mediates the relationship between color congruency and buying intention.

H3b: The perceived quality mediates the relationship between color congruency and impulsive buying behavior.

Emotional responses have been found to directly impact consumers' purchase intentions and behaviors [51]. When consumers recognize a connection between sensory stimuli and their past experiences, they are more likely to develop shopping intentions and engage in purchasing behavior [52]. Specifically, when the background colors of advertisements align with scenario atmospheres, consumers may experience associative learning [53]. Aesthetic connection between the advertising and the consumer can evoke emotional responses, which in turn may lead to increased purchase intentions and behaviors [54-56]. Studies have further shown that emotional responses frequently influence consumers' evaluations of products, which can subsequently affect their purchase intentions and actions [57-59]. Based on these findings, we propose the following hypotheses for online shopping:

H4a: Emotional responses mediate the relationship between color congruency and buying intention.

H4b: Emotional responses mediate the relationship between color congruency and impulsive buying behavior.

3. METHODOLOGY

This study examined whether the congruent use of festive colors is associated with perceived quality and emotional responses, and how these factors influence consumer purchase intentions and behaviors on social media. An experimental design was employed to create controlled test conditions, and data were collected through a survey.

3.1 Research model

This study consisted of two phases. In the first phase, an experimental approach was used to simulate advertising scenarios in the context of Christmas and Black Friday. Eight different product posts were designed to target consumers in Taiwan who were interested in purchasing beauty products. The study employed a 2x2x2 between-subjects experimental design, manipulating three factors: festive color congruence (congruent vs. incongruent), festival text cues (contextual vs. reverse contextual references), and package color hue (warm vs. cool).

In the second phase, a survey was conducted to collect data. A 7-point Likert scale was used as the measurement tool to assess participants' responses. The survey was distributed online, and data were collected from the responses to measure four dimensions: perceived quality, emotional response, purchase intention, and impulsive buying behavior. The research model is illustrated in Figure 1.

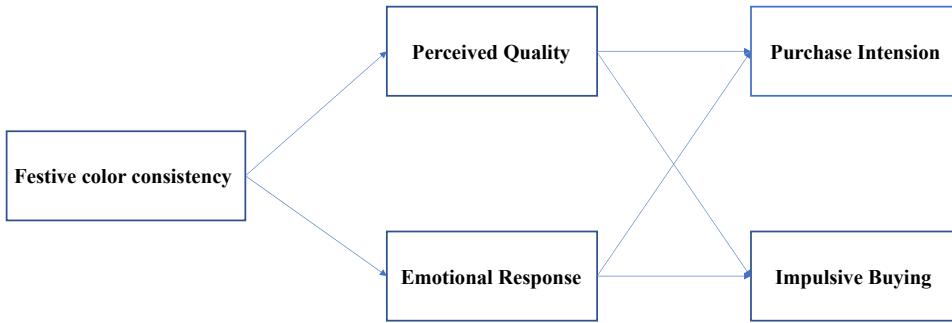


Figure 1. Research Model

3.2 Experimental material

We set the scenario of consumers intending to buy cosmetics for holiday shopping and selected bottled cosmetics as product images. Eight versions of product advertising posts were created as experimental stimuli, using a Facebook post advertisement template in a 1:1 square format. Each post consisted of a product image with packaging featuring warm and cool colors, a festive background color, festival text cues, and fixed copywriting. The experiment manipulated three factors: festival text cues, background festive color, and product packaging color. We tested (a) festive colors congruent with the text cues and (b) festive colors incongruent with the text cues across two packaging color conditions: warm and cool. Each condition featured two distinct festival scenarios, Christmas and Black Friday. To ensure color accuracy, we specified the exact colors for festive backgrounds and packaging using HEX codes (#RRGGBB) for precise RGB color representation on the webpage. This approach enabled precise color representation, utilizing a combination of red, green, and blue (RGB) values. All other factors, including font, size, and layout, remained uniform across all conditions.

3.2.1 Manipulating festival text cues.

The study employed a uniform text design to minimize textual variations. The primary copywriting, including the phrase "Exquisite Selection, Gentle Care," remained consistent across all conditions. The phrases "Merry Christmas" and "Happy Black Friday" served as text cues to evoke a festive atmosphere and align with seasonal expectations.

3.2.2 Manipulating background color.

Christmas-themed posts, featuring the cue "Merry Christmas," were presented with a red background (#FF0000), while Black Friday posts, with the cue "Happy Black Friday," used a black background (#000000). For the incongruent conditions, the background colors were swapped: Christmas posts displayed a black background (#000000), and Black Friday posts used a red background (#FF0000).

3.2.3 Manipulating packaging color.

To minimize the influence of pre-existing associations with packaging colors, we manipulated the color palettes used for product packaging. We represented a warm palette with yellow (#FFFF00) and a cool palette with blue (#0000FF). These specific color choices created a clear distinction between the warm and cool tones, enabling a more controlled analysis of their impact on consumer perceptions and behaviors.

Thus, we created two conditions for the contextual design with each package: congruent and incongruent. The congruent condition featured two scenarios: (a) a Christmas-themed post with a red background color (#FF0000) and festive text cues ("Merry Christmas"), and (b) a Black Friday-themed post with a black background color (#000000) and festive text cues ("Happy Black Friday"). The incongruent condition featured two scenarios: (c) a Christmas-themed post with a black background color (#000000) and festive text cues ("Merry Christmas"), and (d) a Black Friday-themed post with a red background color (#FF0000) and festive text cues ("Happy Black Friday"). These conditions were combined with the two packaging colors (yellow and blue), resulting in a total of eight versions of the experimental materials.

3.3 Instrument and procedure

The instrument consists of two sections. The first section assesses participants' responses to the stimulus across four dimensions. To contextualize their responses, participants are prompted to imagine buying a gift for themselves, their partner, or their parents and responding to an advertising post on Facebook based on their first impression. They then answer question items, indicating their level of agreement on a 7-point Likert scale (1 = strongly disagree, 7 = strongly agree), for perceived quality, emotional response, purchase intention, and impulsive buying behavior. The second section collects demographic information and data on online shopping habits, which will be used to explore relationships between individual characteristics, shopping tendencies, and responses to the stimulus, enhancing the validity and generalizability of the findings.

The question items were adapted from existing scales and tailored to our study's context, drawing on previous research on customer perception and buying behavior. The perceived quality dimension was measured using five items adapted from Yoo and Donthu [60] (*Cronbach's α* = 0.93). For emotional response, we only used positive affectivity, as our study focused on the favorable emotional reactions to advertising. Specifically, eight items capturing positive emotional responses, namely entertaining, creative, memorable,

unique, touching, meaningful, credible, and persuasive, were adapted from Kang et al. [61] (*Cronbach's α* = 0.95). Purchase intention was measured using three items adapted from Putrevu and Lord [62] (*Cronbach's α* = 0.94), and impulsive buying behavior was assessed using three items adapted from Beatty and Ferrell [63] and Kacen and Lee [64] (*Cronbach's α* = 0.92).

Before the formal experiment, a pilot study was conducted with Facebook users. It featured yellow packaged serum under two conditions: a congruent Christmas-themed post and an incongruent one. Thirty responses were collected for each condition, resulting in a total of 60 completed questionnaires. The ANOVA analysis revealed significant differences between the congruent and incongruent conditions for perceived quality, emotional response, purchase intention, and impulsive buying behavior ($F = 16.38, 40.15, 31.59$, and 21.34 , respectively, all $p < 0.001$).

Further analysis examined the mediating effects of perceived quality and emotional response on purchase intention and impulsive buying behavior. The results showed that both perceived quality ($\beta = 0.309$, $p = 0.003$) and emotional response ($\beta = 0.622$, $p < 0.001$) positively influenced purchase intention. However, only emotional response ($\beta = 0.633$, $p < 0.001$) had a significant positive effect on impulsive buying behavior, while perceived quality did not ($p = 0.290$). These findings emphasize the crucial role of emotional response in driving purchase intention and impulsive buying behavior.

An online questionnaire was administered to a targeted sample of Taiwanese consumers who purchase beauty products via social media platforms. At the outset, respondents were asked to verify whether their color associations for festival conditions aligned with the predetermined colors, specifically Christmas red (#FF0000) and Black Friday black (#000000). Only those respondents whose color associations matched the predetermined colors were permitted to proceed with the questionnaire. The questionnaire was distributed on Facebook from February to April 2024, deliberately avoiding potential biases from festival conditions in November, December, and January. Participants were randomly assigned to one of eight conditions, each simulating a unique festival-related scenario. After excluding incomplete responses, 300 valid questionnaires were collected.

4. DATA ANALYSIS AND RESULTS

4.1 Sample characteristics

The sample consisted of 300 individuals, comprising 79% females and 21% males, with a mean age of 28.4 ($SD = 7.6$). The majority (78%) fell within the 19-35 age range. Facebook usage was prevalent, with 82% using the platform for over 7 years and 47% spending 1-3 hours daily on it. Most (89%) browsed Facebook ads 1-2 times per month, and 38% made purchases worth NT\$1,001-5,000 or less through Facebook advertisements.

Regarding shopping behavior, 65% spent less than 1 hour per day browsing online shopping information, and 57% believed online shopping saved time. Half (51%) preferred purchasing beauty and skincare products through e-commerce platforms, and 86% purchased these products 2 times or less per month. During holidays, 41% spent NT\$1,001-5,000 or less, while 27% spent NT\$5,001 or more.

4.2 The effects of color congruence on perceived quality and emotional response (H1, H2)

The effects of color congruence on perceived quality and emotional response were examined across two packaging conditions: yellow and blue. Descriptive statistics and ANOVA results (Table 1) supported Hypothesis 1 (H1), indicating that color congruence significantly enhances perceived quality in both conditions. For yellow packaging, congruent festive colors for Christmas ($M = 4.90$, $SD = 1.26$) and Black Friday ($M = 4.69$, $SD = 1.02$) led to higher perceived quality than incongruent colors ($M = 3.65$, $SD = 1.12$ and $M = 4.00$, $SD = 1.13$, respectively). This effect was confirmed by ANOVA results, $F = 7.50$, $p < 0.001$. Similarly, in the blue packaging, congruent festive colors for Christmas ($M = 4.91$, $SD = 1.13$) and Black Friday ($M = 4.30$, $SD = 1.46$) resulted in significantly higher perceived quality compared to incongruent colors ($M = 3.84$, $SD = 1.57$ and $M = 3.96$, $SD = 1.52$, respectively), with $F = 6.03$, $p < 0.001$.

Hypothesis 2 (H2) was also confirmed, showing that color congruence significantly boosts emotional response in both conditions. For yellow packaging, emotional response was substantially higher for congruent festive colors associated with Christmas ($M = 5.09$, $SD = 1.16$) and Black Friday ($M = 4.67$, $SD = 1.06$) compared to incongruent colors ($M = 3.07$, $SD = 1.13$ and $M = 3.77$, $SD = 1.17$, respectively). This effect was significant, $F = 14.67$, $p < 0.001$. A similar significant increase was observed in blue packaging, where congruent festive colors for Christmas ($M = 4.89$, $SD = 1.11$) and Black Friday ($M = 4.30$, $SD = 1.46$) led to higher emotional response than incongruent colors ($M = 3.11$, $SD = 1.38$ and $M = 3.81$, $SD = 1.83$, respectively), with $F = 12.34$, $p < 0.001$.

Table 1. Effects of Color Congruence on Consumer Behavior

Variable	Package	Context	Congruence	N	Mean	SD	F	P
Perceived Quality (PD)	Yellow	Christmas	congruent	31	4.90	1.26	7.50	<0.001*
			incongruent	31	3.65	1.12		
		Black Friday	congruent	31	4.69	1.02		
			incongruent	45	4.00	1.13		
	Blue	Christmas	congruent	57	4.91	1.31	6.03	<0.001*
			incongruent	32	3.84	1.57		
		Black Friday	congruent	36	4.30	1.46		
			Incongruent	37	3.96	1.52		
Emotional Response (ER)	Yellow	Christmas	congruent	31	5.09	1.16	14.67	<0.001*
			incongruent	31	3.07	1.31		
		Black Friday	congruent	31	4.67	1.60		
			incongruent	45	3.77	1.17		
	Blue	Christmas	congruent	57	4.89	1.11	12.34	<0.001*
			incongruent	32	3.11	1.38		
		Black Friday	congruent	36	4.23	1.48		
			incongruent	37	3.81	1.83		

Note: * indicates $P < 0.05$

4.3 Mediation effects of perceived quality and emotional response (H3a, H3b, H4a, H4b)

The mediation effects of perceived quality and emotional response were analyzed to understand how these factors influence the relationship between color congruence and consumer behaviors, specifically purchase intention and impulsive buying, under two conditions: yellow packaging and blue packaging. The findings provided varying levels of support for Hypotheses 3a, 3b, 4a, and 4b.

To confirm these results, we conducted regression analyses. We used the Durbin-Watson (DW) test to check whether the residuals were independent. A DW value close to 2 suggested that the errors were random, which confirmed the absence of autocorrelation [65]. Next, we examined the R-squared (R^2) value to evaluate the explanatory power of each dimension as well as the overall model. R^2 values range from 0 to 1, where values below 0.25 are considered weak, around 0.5 are moderate, and above 0.75 are substantial [66]. Finally, we analyzed the beta (β) coefficients to understand the relationships between the variables. A positive β indicated a direct relationship, while a negative β suggested an inverse relationship.

In both Table 2 and Table 3, the DW values (2.15, 2.06, 1.84, and 2.02) are close to 2, indicating no significant autocorrelation and confirming that the residuals are randomly distributed within the acceptable range of 1.5 to 2.5. The R-squared values of 0.74, 0.52, 0.75, and 0.54 indicate explanatory power that exceeds a moderate level for the dependent variables. Overall, the results suggest a good model fit, with significant explanatory power for the dependent variables.

For H3a, the results confirmed that perceived quality significantly mediates the relationship between color congruence and purchase intention in both conditions, with a β of 0.17 ($p = 0.032$) for yellow packaging and a stronger β of 0.29 ($p < 0.001$) for blue packaging (Table 2). However, the mediation effect on impulsive buying (H3b) was inconsistent: it was not significant for yellow packaging ($\beta = 0.13$, $p = 0.199$), but marginally significant for blue packaging ($\beta = 0.20$, $p = 0.05$) (Table 3).

The mediation effects proposed in H4a and H4b were consistently supported across both packaging conditions, with emotional response significantly mediating both purchase intention and impulsive buying. For H4a, emotional response strongly mediated the relationship between color congruence and purchase intention, with β coefficients of 0.72 ($p < 0.001$) in the yellow packaging condition and 0.61 ($p < 0.001$) in the blue packaging condition (Table 2). Similarly, H4b was supported, as emotional response significantly mediated the relationship between color congruence and impulsive buying, with β coefficients of 0.61 ($p < 0.001$) for yellow packaging and 0.56 ($p < 0.001$) for blue packaging (Table 3).

Table 2. Mediation Analysis of Perceived Quality and Emotional Response on Purchase Intention

Package Color	Mediator	Dependent Variable	DW	R ²	β	P
Yellow	Perceived Quality	Purchase Intention	2.15	0.74	0.17	0.032*
	Emotional Response				0.72	<0.001*
Blue	Perceived Quality	Purchase Intention	1.84	0.75	0.29	<0.001*
	Emotional Response				0.61	<0.001*

Note: DW = Durbin-Watson, R² = R Squared, β = Standardized Regression Coefficient, P = p-value, * = P < 0.05

Table 3. Mediation Analysis of Perceived Quality and Emotional Response on Impulsive Buying

Package Color	Mediator	Dependent Variable	DW	R ²	β	P
Yellow	Perceived Quality	Impulsive Buying	2.06	0.52	0.13	0.199
	Emotional Response				0.61	<0.001*
Blue	Perceived Quality	Impulsive Buying	2.02	0.54	0.20	0.05*
	Emotional Response				0.56	<0.001*

Note: DW = Durbin-Watson, R² = R Squared, β = Standardized Regression Coefficient, P = p-value, * = P < 0.05

5. DISCUSSION AND CONCLUSIONS

5.1 Discussion

We propose a new and concise explanation for the interaction effects between festive color congruence and consumer perceptions and behavior within social media advertising contexts. The primary hypotheses suggest that these interactions are explained by the congruence between festive colors and the relevant holiday context. Specifically, we anticipated that the color congruence × festive context interaction effects could be understood through (1) whether the background color is congruent or not with the festive theme (e.g., Christmas or Black Friday), and (2) how this congruence influences

consumer perceptions of quality and emotional response, which further mediate consumer purchase intentions and behaviors. Additionally, product packaging color was controlled, using both yellow (warm) and blue (cool) packaging, ensuring the observed effects were due to festive color congruence rather than the packaging color itself.

The results of our study provide strong support for the hypothesis that festive color congruence significantly influences perceived quality and emotional response in social media advertising posts. Regardless of the packaging color (warm or cool), significantly higher ratings were observed for both perceived quality and emotional response in conditions where the festive colors were congruent, whether for Christmas or Black Friday. As hypothesized, festive color congruence exerted a substantial effect beyond the influence of packaging color, with advertising posts featuring congruent background colors enhancing consumer evaluations. These findings underscore the important role of festive color congruence in shaping product perceptions.

Moreover, our findings indicate that emotional response is a strong and consistent mediator in the relationship between color congruence and consumer behaviors, significantly affecting both purchase intention and impulsive buying across the yellow and blue packaging conditions. On the other hand, perceived quality primarily mediates the relationship with purchase intention in both conditions, but its role in influencing impulsive buying is less consistent and seems to be more sensitive to the specific color context. This suggests that emotional engagement, stemming from color congruence, plays a more critical role in driving consumer decisions and purchase behavior than perceived quality alone.

Our findings reveal an interesting nuance regarding H3b, which proposed that perceived quality mediates the relationship between color congruence and impulsive buying behavior. This hypothesis was only partially supported, as the mediation effect was marginally significant for blue packaging ($\beta=0.20$, $p=0.05$) but not significant for yellow packaging ($\beta=0.13$, $p=0.199$). This discrepancy suggests that warm colors like yellow might trigger more immediate emotional responses that directly influence impulsive buying, bypassing cognitive evaluations of quality. In contrast, cool colors like blue may encourage more deliberate processing, allowing perceived quality to play a more significant role in impulsive purchasing decisions. This finding aligns with prior research suggesting that color temperature affects information processing styles, with cool colors promoting more analytical thinking and warm colors facilitating more intuitive responses.

5.2 Theoretical Implications

Our findings align with prior research suggesting that congruent visual elements in advertisements reduce cognitive dissonance and enhance consumer perceptions of product quality [67]. When online shoppers encounter a harmonious visual experience, such as festive colors that align with the seasonal context, they are more likely to associate the product with higher quality [5, 20]. For example, a study by Ha & Lennon [68] found that online shoppers' perceptions of product quality were positively influenced by the use of festive colors that aligned with the seasonal context in the website environment. This

supports the idea that color congruence can serve as a subtle but powerful tool in enhancing the perceived value of products in social media advertising. Moreover, our results extend the current body of studies by emphasizing that background color congruence in online retailing plays a crucial role in shaping emotional responses, which are a key determinant of consumer behavior [13, 15, 39, 52, 69]. Our study's results also have implications for the theory of online impulse buying, which suggests that atmospheric cues can influence consumers' impulsive buying behavior [70, 71]. The study found that emotional response significantly mediated the relationship between color congruence and impulsive buying, suggesting that consumers' emotional responses to a product can influence their impulsive buying behavior.

Our study makes a significant contribution to the S-O-R framework in digital marketing contexts by demonstrating how festive color congruence (stimulus) influences both cognitive assessments (perceived quality) and affective responses (emotional response), which subsequently impact consumer behavior (response). This extends previous applications of the S-O-R model in online environments by specifically highlighting the role of culturally relevant color cues during festive periods. Furthermore, our findings contribute to congruity theory by demonstrating that the alignment between visual elements and contextual expectations enhances message processing fluency, resulting in more favorable consumer responses. This supports the theoretical proposition that congruent stimuli reduce cognitive dissonance and enhance persuasive effects.

Additionally, our research extends color theory in digital marketing by demonstrating that the effectiveness of color is not absolute but contextually dependent. The differential mediating effects of perceived quality on impulsive buying between yellow and blue packaging conditions support the notion that color temperature influences cognitive processing styles. Cool colors, such as blue, appear to engage more deliberate evaluation processes, while warm colors, like yellow, may bypass quality assessment and directly trigger emotional and behavioral responses. This finding contributes to a more nuanced understanding of how color psychology operates in online retail environments, particularly during festive periods where cultural color associations are heightened.

5.3 Practical Implications

In the realm of e-commerce, visual elements play an increasingly vital role in shaping consumer behavior, with color being a particularly influential factor. Colors not only evoke specific emotional and psychological responses but also serve as powerful cues that guide online shoppers' perceptions and decision-making processes. This is especially important during festive seasons, where the cultural significance of specific colors can intensify consumer engagement. For example, during the Lunar New Year, red is deeply associated with joy, reunion, and prosperity, while gold symbolizes wealth and success. E-commerce platforms and online retailers can strategically incorporate these festive colors into their website designs, product displays, and advertisements to create a more culturally relevant and emotionally engaging shopping experience. Congruent festive colors can foster positive emotional responses, thereby increasing consumer trust and

encouraging higher purchase intentions. Moreover, the ability to create a visually cohesive and festive online shopping environment can enhance brand recognition and loyalty, as consumers are more likely to associate the brand with positive cultural and emotional experiences. In the highly competitive e-commerce landscape, the strategic use of color, particularly during key seasonal periods, can be a decisive factor in driving traffic, boosting conversion rates, and ultimately increasing sales.

6. LIMITATION AND FUTURE RESEARCH

Despite the valuable insights gained from this study, several limitations must be considered. Firstly, we measured short-term consumer responses immediately after viewing the advertisements, which limits our understanding of the long-term effects of color congruence on consumer behavior. It remains unclear whether the positive effects we observed are sustained over time or diminish after the initial exposure. Future research could adopt a longitudinal approach to assess how these effects evolve and whether they influence longer-term outcomes such as brand loyalty, repeat purchases, or sustained consumer engagement. Additionally, we acknowledge that exploring color congruence across diverse cultural groups is crucial for gaining a more nuanced understanding. Color often holds different meanings and emotional associations across cultures, which could significantly influence consumer responses.

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