

Original Article

# Color Saturation and Luxury Perception: An Empirical Study of Consumer Evaluation

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**Abstract** - Color operates as a rapid, pre-cognitive signal in brand evaluation, yet the role of color saturation remains insufficiently examined within research on luxury perception. This study positions color saturation as a central visual cue and investigates how varying saturation levels influence consumer perceptions of luxury, purchase appeal, and sustainability in a luxury branding context. Using a quantitative, exploratory research design, data were collected through a structured online survey administered over a two-month period. The sample consisted of 100 respondents with diverse demographic backgrounds and varying degrees of familiarity with luxury perfumes. Participants evaluated three perfume stimuli representing low, medium, and high color saturation. One-way ANOVA and post-hoc comparisons were employed to identify statistically significant perceptual differences across saturation conditions. The findings indicate that high color saturation significantly enhances perceived luxury and purchase appeal, with the highly saturated perfume rated more luxurious and desirable than both low and medium saturation alternatives. No significant differences were observed between low and medium saturation levels, suggesting that moderate saturation does not function as a distinct or intermediary luxury signal. Sustainability perception did not differ significantly across saturation conditions, although slightly higher sustainability associations emerged for less saturated stimuli. These results contribute to consumer psychology and luxury branding literature by empirically isolating saturation as a diagnostic design cue. The study challenges prevailing assumptions that muted palettes universally signal luxury, highlighting the context-dependent power of vivid color intensity. Practically, the findings offer actionable insights for luxury brand managers, particularly within digital-first environments, by demonstrating how saturation choices can strategically shape perceptions of premium value and consumer desirability.

**Keywords** - Branding, Color Saturation, Luxury, Purchase Appeal, Sustainability.

## 1. Introduction

The economic and behavioural decisions of consumers are not only informed by the functional attributes but also by the symbolic and visual cues that influence the perception prior to the rational evaluation: premium and aspirational goods: Prestige, exclusivity, and perceived value. Visual features in premium and aspirational markets are potentially a pre-cognitive effect that can predict willingness to pay, purchase intention, and quality rating before tactile input comes in. Color, especially, is a pre-cognitive element that may affect willingness to pay, purchase intention, and quality evaluation, prior to tactile experience. Knowing how consumers make meaning out of these visual cues, therefore, provides essential insights into the perception-led economic behaviour.

Visual cues gain even greater significance in digital-first consumption situations, whereby product experience is more frequently mediated by visual experience than by physical interaction. Color saturation, which is the intensity or vividness of a hue, may influence attentional capture, emotional involvement, and faster evaluative responses even in such environments. The differences in

saturation determine the perception of status and desirability, making the visual presentation in itself form the inference of the luxury value. In its turn, the investigation of consumer reactions to saturation contributes to a better comprehension of the mechanism of operation of the aesthetic cues as economic signals in modern markets.

Color is a pre-linguistic form of communication. Color is processed before logo recognition, typography, or price information when the consumer initially encounters a brand; visual cognition studies reveal that color can be decoded in milliseconds and is used to form impressions of who and what the brand is, even before conscious analysis. That is why designers and brand managers pay much strategic attention to color choices, especially the choice of saturation. Brands have to choose between emanating one of confidence and boldness with a high saturation or holding back and being more discreet with low saturation; each decision has its connotations on how well the brand has been perceived to be doing. Although color saturation is a strategically relevant independent variable in the academic work on luxury perception, it still has not been fully explored.



The available literature shows that color responses of consumers are multi-dimensional. The hue, brightness, and saturation are independent of each other as they have a distinct effect on the outcomes of perception. Previous research has shown that saturated colors are easy to notice and increase arousal, which more frequently results in the emotional reactions related to excitement and stimulation (Labrecque and Milne, 2012). On the other hand, desaturated palettes have been associated with composure, elegance, and less thinking effort that may work out to be viewed as refined. Although the effects of hue on emotion and purchase behaviour have received much research (Singh, 2006; Elliot and Maier, 2014), saturation has been mostly discussed as a secondary or decorative feature, instead of a primary perceptual feature.

Visual cues in luxury markets where the symbolic value and experiential value are central and functional differentiation takes a background role. The basis of luxury consumption is largely aesthetic, social signalling, and sensory meaning. In this scenario, color saturation can be seen as a key factor in determining brand confidence, exposure, and perceived investment in the presentation. This research project saturation as one of the primary sources of luxury meaning, claiming that its perceptual effect should be subjected to empirical investigation on its own. The study attempts to uncover the meaning of perception of intensity as a perception of luxury, desirability, and value by saturation, devoid of other color features.

The proposed research aims to fill an apparent gap in the available literature by focusing specifically on the levels of graded degrees of color saturation, which are explored with the help of a strictly controlled survey that utilizes perfume pictures as visual stimuli. It reacts to the growing prominence of the online brand experiences and questions the current belief that they are limited to always being associated with luxury. By doing this, the study develops within the areas of consumer psychology and literature related to luxury brands by revealing that color saturation is a salient visual heuristic in promoting the development of perceptive luxury in modern consumer judgments.

## 2. Literature Review

The literature available proves that the research on the topic of color saturation and luxury perception is still limited. Although the use of color psychology and visual branding has been extensively cautioned in scholarly works, saturation is a little-researched explanatory variable. However, research that dissociates saturation gives out important information regarding the effect of visual intensity on symbolic meaning. Indicatively, low saturation has been shown to increase perceived symbolic value when objective product quality is held constant (Hagtvedt and Patrick, 2008). The implication of these findings is that toned-down visual indications might reflect elegance and aesthetic restraint, as opposed to stimulation-driven fascination.

Digital evidence shows opposite results. Website colour saturation increases focus and interaction, yet decreases perceived trust in a high-cost product setting (Deng et al., 2010). This depicts a conflict between attention grab and credibility, especially on luxurious brands that depend on the ability to signal through subtle messages as opposed to explicit visual perception. Nevertheless, a lot of the studies have been interface design or packaging-based studies and have not directly compared various levels of saturation in a controlled experimental system, thus limiting their generalization to the luxury branding setting.

The perception of luxury has also changed according to the changing cultural and consumption trends. The modern luxury fashion is growing to be more understated, and the worth lies in the symbolism more than in the obvious demonstration (Kapferer and Bastien, 2012). Consumers are constantly bombarded with attention-seeking bold designs in the overly saturated digital spaces, which can diminish their ability to act as a cue of luxury. In that context, colour restraint or desaturated colour schemes can be used as an indicator of confidence and exclusivity.

Indeed, in line with this perception, Okonkwo (2007) contends that thriving luxury brands do so deliberately, by minimizing sensory and visual clutter but increasing symbolic richness. Sociologically, such a move goes in line with the Bourdieu theory of distinction, which argues that elite consumption is less conspicuous and more subtle and understated (Bourdieu, 1984). As a result, colour saturation is no longer considered as an aesthetic option but as a symbolic marker of socialization and cultural capital.

The cue-diagnostic theory also elaborates the reason as to why the weight of colour saturation can be disproportionately influential in the perception of luxury. When it comes to high-involvement products, consumers depend more on the subtle cues in their evaluation, especially in cases where the functional differentiation is close (Partal, 2016). Visual cues like saturation are of increased diagnostic value in luxury markets where products typically compete on symbolic and not functional dimensions. Less saturation can be an indication that there is confidence in the brand and restraint on the part of the individual, but increased saturation can represent boldness and visibility-oriented positioning. The longstanding implications of neuroscience and consumer cognition provide additional information that supports the role of saturation in the formation of evaluative reactions. Pale visual stimuli are connected with the lower-arousal neural activity related to trust, long-term assessment, and aesthetic enjoyment, and saturated visual stimuli provoke arousal-based reactions related to excitement and short-term (Reimann et al., 2010). According to these findings, saturation not only affects the preference in aesthetics but also the mechanisms of deeper mind processes. The neuroscientific evidence has, however, seldom been incorporated in branding or luxury perception studies.

Though these contributions exist, there is a wide research gap. The earlier research is more focused on hue and brightness; saturation is a secondary or decorative feature in the earlier research. There are very few studies that compare low, medium, and high saturation levels within one experimental design, and even fewer of them analyse the effect of saturation in product categories that are luxury specific. Additionally, the digital-first luxury settings, which have become the focus of consumer discovery and judgement, are not yet fully represented in empirical studies. This lapse in knowledge limits understanding of how modern consumers perceive saturation as a luxury cue.

To fill this gap, the current study isolates colour saturation and examines its independent impact on luxury perception, purchase appeal, and sustainability judgments. The systematic comparison of graded saturation levels in a controlled visual context leads to the contribution of the study to consumer psychology and the luxury branding literature, and acts in response to the beckon to better analyse visual cues in the contemporary consumption setting.

### 3. Methodology

This section outlines the methodological approach adopted to examine how variations in color saturation shape consumer perceptions of luxury. It elaborates on the research design, sampling, survey instrument, data collection procedures, and analytical framework employed to examine how color saturation influences consumer perceptions of luxury, purchase appeal, sustainability, and willingness to pay.

#### 3.1. Objectives of the Study

- To examine the effect of color saturation on consumer perceptions of luxury and purchase appeal.
- To assess how color saturation influences perceptions of sustainability.
- To evaluate how color saturation affects consumers' willingness to pay for luxury products.

#### 3.2. Hypotheses Development

Based on prior research in color psychology, signaling theory, and luxury branding, the following hypotheses were formulated and tested:

- H1: High color saturation will significantly increase perceived luxury compared to low and medium saturation levels.
- H2: High color saturation will significantly increase purchase appeal and willingness to pay compared to low and medium saturation levels.
- H3: Lower color saturation will be associated with higher sustainability perception compared to high saturation levels.

#### 3.3. Research Design

The study utilises a quantitative and exploratory research design using a structured online survey. This approach allows for systematic comparison across

controlled visual conditions while capturing responses from a heterogeneous consumer base. Given the limited body of work that treats color saturation as a primary variable in luxury perception, an exploratory approach was considered appropriate. The primary goal was to identify how patterns based on demographic groups emerge when saturation is studied in isolation.

#### 3.4. Sampling and Sample Participants

The study targeted consumers with varying levels of exposure to luxury products, particularly in categories where visual branding makes a significant difference. A non-probability sampling approach was used, relying on voluntary participation facilitated through digital distribution. This approach prioritizes perceptual diversity over statistical representativeness. The resulting sample reflects variation across age, income, education, and familiarity with luxury, allowing the analysis to draw on a broad range of perspectives. The sample size of 100 respondents was selected based on prior research on visual perception in luxury branding, which indicates that 80–120 participants are sufficient to detect medium effect sizes in ANOVA with three groups at 80% power and  $\alpha = 0.05$ . To minimize order effects, the presentation of perfume stimuli (low, medium, and high saturation) was randomized for each participant. All stimuli were controlled to be visually identical except for saturation, ensuring that differences in perception could be attributed solely to saturation levels.

#### 3.5. Data Collection Period

Data collection took place over a two-month period, from 15 September to 15 November. This extended window allowed responses to accumulate gradually rather than in a compressed burst. Spreading data collection over time helped reduce the influence of short-term contextual factors and ensured that participants engaged with the survey under relatively stable conditions. The survey remained continuously open throughout this interval, and all respondents accessed the same online instrument, viewed identical stimuli, and completed the survey independently.

#### 3.6. Survey Instrument

The questionnaire was organised into two sections. Section 1 included demographic data (age, gender, income, education) and the level of familiarity of the participants with luxury perfumes (Not familiar, Somewhat familiar, very familiar). Section 2 involved displaying to the participants three pictures of the same perfume, with variations of color saturation levels (low, medium, and high; titled as Perfume 1, 2, and 3). Each of the perfumes was rated on a 5-point Likert scale (1 = Strongly Disagree, 5 = Strongly Agree) on statements addressing luxury perception (luxurious, high-quality, exclusive, sophisticated), attention and purchase appeal (attention-grabbing, willingness to pay), and sustainability perception (environmentally friendly). The participants also chose the perfume that they felt to be the most luxurious, most sustainable, and most preferable to be paid for. Other products examined relationships between vibrant/highly

saturated and muted/desaturated colors and the suitability of products within a certain category, such as luxury, sophistication, trustworthiness, and excitement. The questionnaire underwent pre-test to ensure clarity; it was administered through the Internet and lasted between 5 to seven minutes per respondent.

**3.7. Ethical Considerations**

Ethical standards guided all stages of the research process. Participation was entirely voluntary, and respondents were informed of the academic purpose of the study prior to beginning the survey. No personally identifiable information was collected, and all responses were collected anonymously. Data were recorded anonymously and used solely for research analysis. Participants retained the option to exit the survey at any point.

**3.8. Analytical Framework**

The study involved both inferential and descriptive methods of data analysis. ANOVA assumptions, including normality and homogeneity of variances, were checked. Effect sizes ( $\eta^2$ ) and 95% confidence intervals were calculated to quantify differences. The one-way ANOVA was performed to determine the statistically significant differences in luxury perception, purchase appeal, and sustainability perception among the three saturation levels of color, and the post-hoc tests were performed to determine the exact differences between groups.

Moreover, trends in willingness to pay, luxury perception based on familiarity, and sustainability perception based on gender and income were also visualized in the form of descriptive charts. This two-pronged strategy enabled the study to remove the impact of color saturation and put it into the contexts of demographics and behavioural trends.

**4. Results and Findings**

This section elaborates on the results of the research and how changes in color saturation affected consumer perceptions of luxury, purchase attractiveness, sustainability, and willingness to pay. The differences across the three saturation levels (low, medium, and high) are analysed by using descriptive statistics, inferential analyses (one-way ANOVA), and visual representations. The findings are presented in a manner that gives a description of the demographic profile of the respondents, findings on each of the perceptual constructs, and finally, findings on the comparative charts that will reflect trends based on familiarity, income, and gender.

**4.1. Demographic Profile of the Respondents**

Table 1 below provides an overview of the participants’ demographic characteristics, including age, gender, income, education, and familiarity with luxury perfumes. Understanding these profiles helps contextualize the perceptual differences observed across saturation levels.

The sample is analytically relevant and spreads substantively between life stages. The respondents below the age of 18 make up 27 percent of the sample, which is an indication of good representation of a younger consumer. There are 11 per cent among people between 18 and 24 years and 14 per cent among people between 25 and 34 years. 23 percent of the respondents are between 35 and 44 years, and the number of people over 45 years is 25 percent; thus, mature consumption attitudes are sufficiently represented. The balance of genders is somewhat shifted to female respondents (57 per cent), male respondents constitute 41 per cent, non-available and no-answer make 1 per cent and 1 per cent respectively. This distribution allows the consideration of gendered patterns of perception without creating excessive imbalance.

**Table 1. Demographic Profile of the Respondents**

Variable	Category	Frequency (n)	Percentage (%)
Age	Below 18	27	27
	18–24	11	11
	25–34	14	14
	35–44	23	23
	45+	25	25
Gender	Female	57	57
	Male	41	41
	Non-binary	1	1
	Prefer not to say	1	1
Monthly Income (INR)	Less than ₹25,000	28	28
	₹25,000–₹49,999	12	12
	₹50,000–₹99,999	13	13
	₹1,00,000–₹1,99,999	17	17
	₹2,00,000+	30	30
Education Level	High school or below	27	27
	Undergraduate	13	13
	Postgraduate	50	50
	Doctorate / Professional	10	10
Familiarity with Luxury Perfumes	Not familiar	5	5
	Somewhat familiar	54	54
	Very familiar	41	41

The income distribution is highly scattered, which makes it easier to analyse between socioeconomic classes. 28 percent of the sample consists of the respondents who earn less than 25,000 per month. 12 percent of the sample have a 25, 000 - 49, 999 income. Another 13 percent drop to the 50,000 to 99, 999 group. The higher income groups are highly represented, with 17% having an income between 1,00,000 to 1,99,999 and 30% having a monthly income of more than 2,00, 000. Such a profile of income is especially relevant because of the study of luxury perceptions.

The academic level of the respondents is seen to be high. Fifty percent of the sample have postgraduate qualifications, with 10 percent having a doctorate or professional qualifications. The number of undergraduate degree holders is 13 percent, and 27 percent have a high-school education or less. Such a high level of higher education implies an increased mental involvement in branding stimuli and symbolic analysis.

The sample is also relevant, by the way, participants are very familiar with luxury perfumes. Fewer than 5

percent say that they are not familiar at all with luxury fragrances, but a majority, 54 percent, say that they are somewhat familiar, and 41 percent say that they are very familiar. Therefore, the majority of the respondents have the necessary background knowledge to make informed decisions about luxury signalling, which makes the sample quite appropriate when exploring the subject of perception based on the color saturation in a luxury setting.

**4.2. Descriptive Statistics**

The study investigated how color saturation influences consumer perceptions of perfumes. Participants evaluated three perfumes varying in saturation levels: Perfume 1 (low saturation), Perfume 2 (medium saturation), and Perfume 3 (high saturation). The constructs measured were Luxury Perception, Purchase Appeal, and Sustainability Perception, using a 1–5 scale.

Table 2 below presents the mean and standard deviation of respondents’ ratings for each perfume across the key constructs: luxury perception, purchase appeal, and sustainability. These descriptive statistics offer an initial view of how visual saturation influences consumer evaluations.

**Table 2. Descriptive Statistics for Perfume Perceptions (N = 100 per perfume)**

Construct	Perfume 1 (Low)	Perfume 2 (Medium)	Perfume 3 (High)
Luxury Perception	2.36 (0.95)	2.42 (0.91)	2.76 (1.20)
Purchase Appeal	2.04 (0.97)	2.25 (0.93)	2.75 (1.24)
Sustainability Perception	2.34 (1.12)	2.43 (1.12)	2.26 (1.24)

Perfume 3, the highly saturated option, received the highest mean scores for Luxury Perception and Purchase Appeal, while sustainability perception was slightly higher for the less saturated perfumes (Perfume 1 and 2). This suggests that vivid colors enhance perceived luxury and purchase desirability, whereas muted colors may subtly signal higher sustainability.

**4.3. Luxury Perception**

This subsection examines differences in perceived luxury across the three saturation levels. One-way ANOVA and post hoc comparisons are used to identify statistically significant variations and interpret the influence of saturation on perceived prestige and exclusivity.

**Table 3. ANOVA for Luxury Perception**

Source	Type III Sum of Squares	df	Mean Square	F	p	η <sup>2</sup>
Treatment	9.11	2	4.55	7.72	.001	0.07
Error	116.77	198	0.59	-	-	-

**Table 4. Post Hoc Comparisons – Luxury Perception**

Comparison	Mean Diff	p	Interpretation
Perfume 1 vs. Perfume 2	-0.06	1	Not significant
Perfume 1 vs. Perfume 3	-0.40	.005	Perfume 3 was rated significantly more luxurious
Perfume 2 vs. Perfume 3	-0.34	.005	Perfume 3 was rated significantly more luxurious

Perfume 3 (high) was perceived as the most luxurious. Perfume 1 (low) and Perfume 2 (medium) did not differ significantly. These results indicate that high color saturation positively influences perceived luxury, while moderate saturation changes are insufficient to create a noticeable effect. The effect size (η<sup>2</sup> = 0.07) suggests a meaningful but moderate contribution of saturation to luxury perception.

**4.4. Purchase Appeal**

This subsection evaluates how saturation impacts respondents’ interest in purchasing the product and their willingness to pay.

ANOVA analyses and post hoc comparisons highlight whether visual intensity translates into stronger perceived value and monetary commitment.

Table 5. ANOVA for Purchase Appeal

Source	Type III Sum of Squares	df	Mean Square	F	p	$\eta^2$
Treatment	26.30	2	13.15	17.87	<.001	0.15
Error	145.70	198	0.74			

Table 6. Post Hoc Comparisons – Purchase Appeal

Comparison	Mean Diff	p	Interpretation
Perfume 1 vs. Perfume 2	-0.21	.187	Not significant
Perfume 1 vs. Perfume 3	-0.71	<.001	Perfume 3 is significantly more appealing
Perfume 2 vs. Perfume 3	-0.50	<.001	Perfume 3 is significantly more appealing

Perfume 3 (high saturation) was rated as significantly more appealing for purchase than the other two perfumes. Perfume 1 and Perfume 2 did not differ significantly. The effect size ( $\eta^2 = 0.15$ ) indicates that saturation has a strong influence on purchase appeal, even more pronounced than for luxury perception. This underscores the role of visual aesthetics in shaping consumer purchase intent, particularly for products where appearance contributes to perceived value.

4.5. Sustainability Perception

This subsection investigates the effect of saturation on consumers’ perceptions of environmental friendliness and sustainability.

Statistical tests are used to determine whether muted or highly saturated visuals influence eco-conscious evaluations.

Table 7. ANOVA for Sustainability Perception

Source	Type III Sum of Squares	df	Mean Square	F	p	$\eta^2$
Treatment	1.45	2	0.72	0.86	.423	0.01
Error	165.89	198	0.84			

Table 8. Post Hoc Comparisons – Sustainability Perception

Comparison	Mean Diff	p	Interpretation
Perfume 1 vs. Perfume 2	-0.09	1	Not significant
Perfume 1 vs. Perfume 3	0.08	1	Not significant
Perfume 2 vs. Perfume 3	0.17	.561	Not significant

Although differences were not statistically significant, sustainability perception was slightly higher for less saturated perfumes (1 and 2) compared to the highly saturated Perfume 3. This pattern suggests that muted or lighter colors may be subtly associated with higher sustainability, even though saturation alone does not strongly influence eco-conscious perceptions.

4.6. Comparative Charts and Segment Analysis

This subsection presents visual insights from charts, showing trends across demographic segments such as familiarity with luxury perfumes, income levels, and gender. The analysis illustrates how perceptual patterns vary (or remain consistent) across different consumer groups.

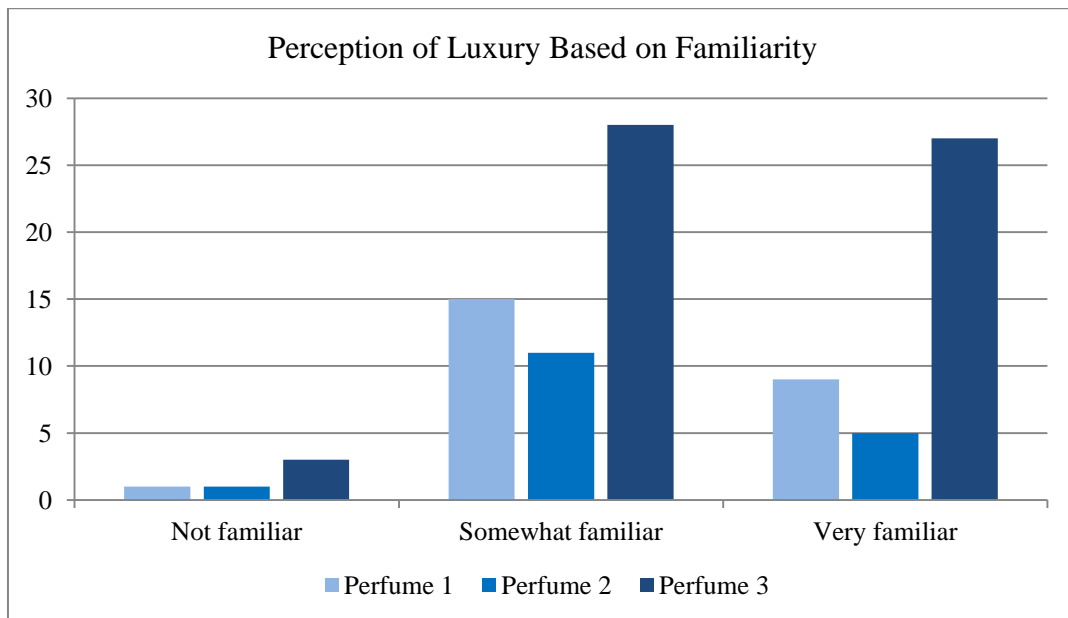


Fig. 1 Perception of luxury based on familiarity with luxury perfume brands

The given chart depicts how perceived luxury varies across familiarity levels, based on respondents selecting the perfume they considered most luxurious. Among participants not familiar with luxury perfumes, responses are limited overall, though Perfume 3 already receives the highest number of luxury attributions, indicating an early advantage driven by visual impact. In the somewhat familiar group, perceptions consolidate more clearly, with Perfume 3 receiving the highest number of selections, substantially outperforming Perfume 1 and Perfume 2. This

pattern persists among very familiar respondents, where Perfume 3 continues to dominate luxury perception, while selections for Perfume 2 decline further. Notably, increased familiarity does not shift preference toward muted or moderate designs; instead, it reinforces the association between high saturation and luxury. Overall, the chart demonstrates that across levels of category knowledge, consumers consistently identify Perfume 3 as the most luxurious, underscoring the robustness of saturation as a luxury signal.

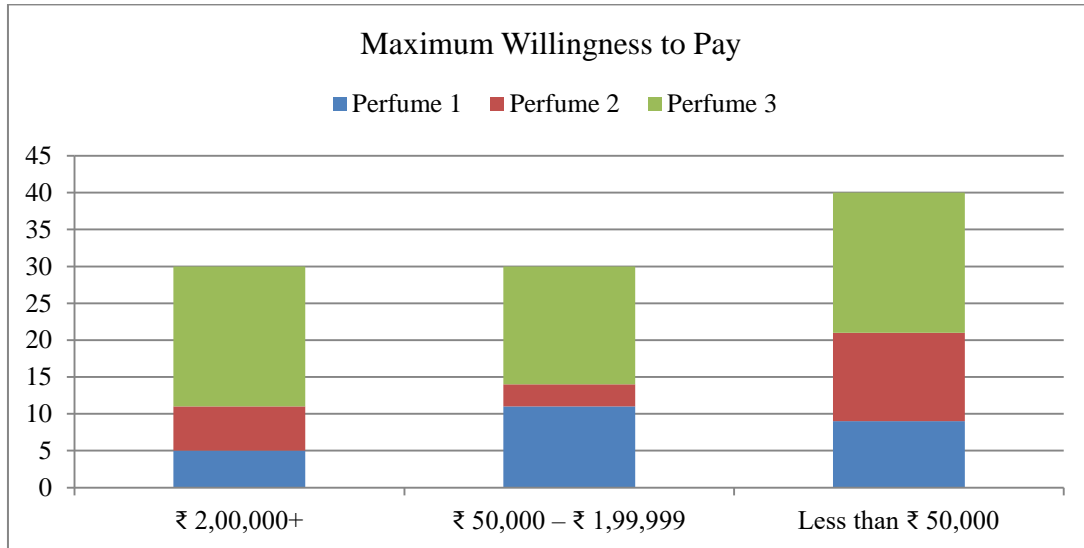


Fig. 2 Willingness to pay based on income levels

The chart presents maximum willingness to pay for the three perfume stimuli across income segments, highlighting clear differences in value attribution. Across all income brackets, Perfume 3 consistently commands the highest willingness to pay, indicating that high saturation translates into stronger perceived monetary value. Among respondents earning ₹2,00,000 and above, willingness to pay is heavily concentrated around Perfume 3, with markedly lower valuations for Perfume 1 and Perfume 2. This pattern persists in the ₹50,000–₹1,99,999 segment,

where Perfume 3 continues to outperform the other stimuli despite closer clustering. Notably, even within the less than ₹50,000 income group, Perfume 3 attracts the highest stated willingness to pay, suggesting that its premium signalling effect operates independently of purchasing power. Therefore, the chart reinforces the finding that visual saturation strengthens perceived value and price tolerance across all socioeconomic strata, not merely among high-income consumers.

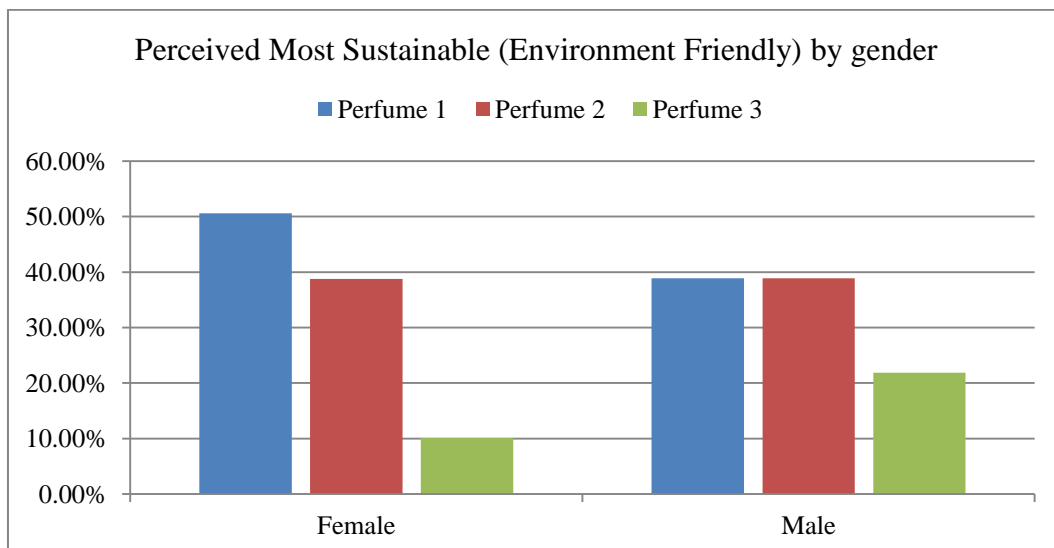


Fig. 3 Perception of sustainability based on gender

This chart illustrates gender-based differences in sustainability perception across the three perfume stimuli, revealing a consistent association between lower saturation and environmental friendliness. Among female respondents, Perfume 1 is most strongly perceived as sustainable at 50%, followed by Perfume 2 at 38%, while only 10% associate sustainability with Perfume 3. A similar pattern appears among male respondents, where Perfume 1 and Perfume 2 are equally perceived as the most sustainable at 39% each, compared to 22% for Perfume 3. Across both genders, the highly saturated Perfume 3 is least associated with sustainability, suggesting that visual intensity weakens eco-friendly signaling. Overall, the chart indicates that muted and moderately saturated color palettes are more likely to evoke sustainability perceptions, regardless of gender, reinforcing the idea that consumers associate visual restraint with environmental responsibility rather than luxury or desirability.

## 5. Discussion

The findings of this study demonstrate a clear and consistent relationship between color saturation and consumer perception in the context of luxury perfumes. Across multiple analytical dimensions, i.e., luxury perception, purchase appeal, willingness to pay, and familiarity-based judgments, high color saturation emerged as a dominant visual cue shaping perceived luxury and desirability (Labrecque & Milne, 2013).

The most salient result is that Perfume 3 (high saturation) was perceived as significantly more luxurious and more appealing for purchase than both low- and medium-saturation alternatives. This effect remained consistent across income levels and degrees of familiarity with luxury perfumes, indicating that the influence of saturation is not confined to a specific consumer segment. This pattern can be explained through signal theory, which suggests that consumers rely on observable cues to infer unobservable product qualities such as prestige and exclusivity (Spence, 1973). In this context, highly saturated colors function as strong market signals, implying confidence, bold positioning, and higher perceived investment in brand presentation.

These findings align with prior research demonstrating that vivid colors increase emotional arousal and attention, thereby enhancing perceived product value (Hagtvedt & Patrick, 2008). In luxury markets, where symbolic and experiential value often outweigh functional utility, visual intensity reinforces perceptions of indulgence and status. Notably, the absence of significant differences between low- and medium-saturation conditions suggests a threshold effect, whereby only high saturation levels are sufficient to alter luxury perception meaningfully (Janiszewski, 1998). The results relating to purchase appeal and willingness to pay further strengthen this interpretation. Perfume 3 not only generated the highest purchase interest but also elicited the greatest willingness to pay across all income groups. This suggests that aesthetic cues can elevate perceived value independently of

objective purchasing power, a phenomenon well-documented in consumer behavior literature (Bloch, 1995). Visual design, therefore, plays a critical role in shaping emotional valuation, occasionally overriding rational budgetary considerations.

In contrast, perceptions of sustainability followed an inverse pattern. Although differences were not statistically significant, lower-saturation perfumes were consistently perceived as more sustainable. This aligns with research showing that muted color palettes are commonly associated with naturalness, restraint, and environmental responsibility (Magnier et al., 2016). High saturation, while effective in communicating luxury, may inadvertently signal excess or artificiality, which conflicts with prevailing sustainability heuristics.

Interestingly, increased familiarity with luxury perfumes did not diminish the influence of saturation. Even knowledgeable consumers continued to associate high saturation with luxury, challenging the assumption that expertise reduces reliance on visual cues. This supports the argument that sensory heuristics remain influential even among experienced consumers, particularly in hedonic product categories such as fragrance (Alba & Hutchinson, 1987). Overall, the findings indicate a clear perceptual trade-off: design strategies that enhance luxury and purchase appeal may simultaneously weaken sustainability signaling. This highlights an inherent tension between premium branding and eco-conscious positioning, suggesting that brands must strategically balance visual intensity depending on their desired market narrative.

The current study contributes to the academic body of knowledge about consumer behavior and luxury brand management by empirically determining that colour saturation is a strong heuristic in the perception of luxury, regardless of whether or not the identifiers of the brand or the usage of the product are given. The analysis also outlines the fact that the effects of saturation are strong in different income groups and familiarity, hence suggesting that aesthetic cues have been mostly used as cognitive shortcuts, which are mostly universal. Moreover, the identified difference between the luxury and sustainability appraisal provides the empirical evidence of the dual-process evaluative theories, according to which consumers apply different symbolic associations based on the sphere of values under the assessment.

The outcomes have strategic implications for the practitioner in luxury brand management who will find it more important to use high-saturation visual design to add value in perceived prestige, desirability, and price tolerance. In an extremely competitive retail setting, brands that are determined to increase the expression of luxury will benefit by using bolder, more saturated packaging. However, in the case of organizations that work towards the realization of both the luxury and the sustainability goals simultaneously, the reported results bring about the challenge of substance. The given negative correlation

between the intensity of saturation and the perception of sustainability foreshadows that environmentally friendly luxury brands have to carefully balance the visual intensity with the signs of restraint. The combination of saturated accents and muted base colour selections, or more pronounced colours and unobtrusive sustainability, is one of the possible ways to address this conflict. On a more general note, the results raise the question of how visual design affects consumer decision making unwillingly and how it may be used to lead to increased consumption by being aesthetically appealing. The dynamics have implications that are consequential to ethical marketing practices and consumer literacy, particularly as sustainability continues to take a central role in consumer purchasing considerations.

## 6. Conclusion

This study set out to examine color saturation as a primary visual cue in shaping consumer perceptions of luxury, purchase appeal, and sustainability. Moving beyond traditional color research that prioritizes hue and brightness, the paper positioned saturation as a meaningful brand signal that operates at a pre-cognitive level. By isolating saturation and testing its effects systematically, the research contributes clarity to a design variable that luxury brands employ intuitively but that academic literature has largely overlooked. Methodologically, the study adopted a quantitative, exploratory approach using a structured online survey. A demographically diverse sample of 100 respondents evaluated three perfume stimuli that differed only in saturation level, low, medium, and high, allowing for controlled comparison across conditions. Perceptions of luxury, purchase appeal, and sustainability were measured using standardized Likert scales and analyzed using one-way ANOVA and post hoc tests. This design ensured that observed differences in perception could be attributed primarily to saturation rather than to extraneous visual or product-related factors. The findings demonstrate that high color saturation significantly increases perceived luxury and purchase appeal, while low and medium saturation levels are perceived similarly

across these dimensions. This suggests that moderate saturation does not function as a distinct perceptual category, but rather as a neutral state lacking strong signaling power. Sustainability perception, by contrast, showed no statistically significant variation across saturation levels, indicating that color intensity alone is insufficient to shape eco-conscious evaluations.

From a managerial perspective, these results carry important implications for luxury brand strategy. First, saturation should be treated as a deliberate branding decision rather than a purely aesthetic choice. In visually crowded digital environments, higher saturation may enhance desirability and attention without necessarily undermining luxury perception. Second, the assumption that muted palettes universally communicate sophistication and prestige warrants reconsideration, particularly for digitally native or discovery-driven luxury brands. Finally, the weak relationship between saturation and sustainability perception suggests that brands seeking to signal ethical or environmental values must rely on cues beyond color intensity alone. Overall, the study underscores the strategic role of color saturation in luxury meaning-making and encourages both scholars and practitioners to engage more critically with visual design as a driver of consumer perception.

The current study is, however, limited by the fact that it relies on survey-based research techniques and the use of static visual stimuli that might not adequately simulate real luxury consumption contexts. In future research, controlled experimental paradigms must be embraced, real brand names must be used, or more categories of products must be included to help researchers better understand the interaction of color saturation and concomitant design cues in the formation of luxury perception.

## Conflicts of Interest

The author affirms that they have no conflicts of interest related to the publication of this paper.

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