



## **The Sweet Consumption Trap: The Role Of Brand Image And Sensory Appeal In Sustaining High-Sugar Beverage Consumption**

**<sup>1</sup>Achmad Ridha, <sup>2</sup>Fina Ruzika Zaimar**

<sup>1,2</sup>Universitas Negeri Makassar, Indonesia.

*<sup>1</sup>achmad.ridha@unm.ac.id, <sup>2</sup>fina.ruzika.zaimar@unm.ac.id*

\*Correspondence E-mail: *achmad.ridha@unm.ac.id*

**Abstract:** Despite increasing awareness of the health risks associated with excessive sugar consumption, the demand for high-sugar beverages remains persistently high. This phenomenon suggests that factors beyond rational health considerations play a critical role in shaping sustained consumption behavior. This study aims to examine the roles of brand image and sensory appeal in sustaining high-sugar beverage consumption, with emotional attachment serving as a mediating mechanism and health risk awareness included as a control variable. Using a quantitative approach, data were collected through a survey of high-sugar beverage consumers and analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM) with SmartPLS. The results indicate that both brand image and sensory appeal have significant positive effects on emotional attachment and continuance purchase intention. Emotional attachment emerges as a key predictor of continuance purchase intention and partially mediates the relationships between brand image, sensory appeal, and sustained consumption behavior. Health risk awareness is found to negatively influence continuance purchase intention, although its effect is weaker compared to affective and sensory-driven factors. These findings highlight the presence of a sweet consumption trap, in which emotional and sensory mechanisms reinforce continued consumption despite consumers' awareness of health risks. The study contributes to the literature by offering an integrated framework that explains the persistence of unhealthy consumption and provides insights for both marketing strategy and public health interventions.

**Keywords:** Brand Image, Sensory Appeal, Emotional Attachment, Continuance Purchase Intention, High-Sugar Beverages.

### **INTRODUCTION**

The consumption of sugar-sweetened beverages (SSBs) has become a major global public health concern due to its strong association with obesity, type 2 diabetes, and other non-communicable diseases. A substantial body of epidemiological evidence demonstrates that frequent intake of high-sugar beverages significantly increases the risk of metabolic disorders across different age groups and regions (Malik et al., 2010; World Health Organization [WHO], 2015). Despite widespread public health campaigns and increasing consumer awareness regarding the health risks of excessive sugar intake, global consumption of SSBs remains persistently high, particularly in emerging markets and urban populations (Popkin & Hawkes, 2016).



This phenomenon reflects a critical paradox in consumer behavior: health awareness does not necessarily translate into behavioral change. Prior studies have shown that nutritional knowledge and risk awareness often fail to reduce the actual consumption of unhealthy food and beverages, especially when products deliver strong hedonic value (Bucher et al., 2016). In the context of sugary drinks, consumers frequently acknowledge health risks while continuing to consume these products regularly, indicating a gap between rational health considerations and actual purchase behavior (Grimm et al., 2018).

From a marketing perspective, this paradox cannot be fully explained by health-related variables alone. Brand image plays a central role in shaping consumer perceptions, preferences, and loyalty, even for products with negative health implications. Strong brand image has been shown to enhance perceived value, emotional connection, and trust, which in turn sustain repeat purchase behavior (Keller, 2013; Aaker, 1997). In food and beverage markets, branding often embeds products within lifestyle narratives, social identity, and emotional symbolism, making consumption decisions less rational and more affect-driven.

In addition to brand image, sensory appeal represents a powerful driver of consumer behavior in food and beverage consumption. Sensory attributes such as taste, aroma, texture, and visual presentation significantly influence product evaluations and consumption satisfaction (Spence, 2015). Sensory marketing literature suggests that multisensory stimulation enhances experiential value and strengthens consumers' emotional responses toward brands, leading to higher levels of attachment and loyalty (Krishna, 2012). For high-sugar beverages, the pleasurable sensory experience often outweighs long-term health considerations, reinforcing habitual and repeated consumption patterns (Liem & Russell, 2019).

Recent research in marketing further emphasizes the importance of visual aesthetics and emotional resonance in shaping consumer responses to branded content. The study *The Anatomy of Joy: Visual Aesthetics and Emotional Resonance in Social Media Marketing* demonstrates that aesthetically pleasing visual elements are capable of evoking positive emotional resonance, which subsequently strengthens consumers' emotional attachment to brands and encourages sustained engagement and consumption behavior (Ridha, 2025). This finding supports the argument that



emotional and sensory cues embedded in branding strategies can significantly influence consumer behavior beyond rational health evaluations.

Empirical evidence also indicates that marketing stimuli emphasizing enjoyment, indulgence, and sensory pleasure are often more effective in driving consumer choice than health-oriented messages, particularly among young consumers (Peters et al., 2016). Exposure to branding and sensory cues associated with sugary beverages has been shown to increase brand preference and purchase intention, even among individuals who are aware of the associated health risks (Smith et al., 2022). This highlights the dominance of affective and experiential factors over cognitive considerations in consumption decisions.

However, existing research on sugar-sweetened beverage consumption has largely focused on health interventions such as nutritional labeling, taxation, and public health communication (Cecchini & Warin, 2016), with limited attention to marketing-based mechanisms that sustain consumption. Studies integrating brand image and sensory appeal to explain continuance purchase behavior remain scarce, particularly in the context of unhealthy food and beverage products. Consequently, the role of emotional attachment as a mediating mechanism between marketing stimuli and sustained consumption behavior is still underexplored.

Addressing this gap is essential for advancing consumer behavior and marketing theory. By conceptualizing this phenomenon as the *Sweet Consumption Trap*, this study seeks to examine how brand image and sensory appeal contribute to the sustained consumption of high-sugar beverages through emotional attachment. This research is expected to provide theoretical contributions to affect-driven consumption literature and practical insights for both marketers and policymakers in designing more effective and responsible strategies.

## **METHOD**

### **Research Design**

This study adopts a quantitative research design using a cross-sectional survey approach. The quantitative method is appropriate for examining causal relationships between marketing-related constructs and continuance purchase behavior, particularly in testing the structural relationships among brand image, sensory appeal, emotional attachment, and sustained



consumption of high-sugar beverages. A variance-based structural equation modeling technique was employed to analyze the proposed research model.

### **Population and Sample**

The population of this study consists of consumers who regularly purchase and consume high-sugar beverages, such as sweetened coffee drinks, bubble tea, flavored milk, and packaged sugar-sweetened beverages. Respondents were required to meet the following criteria (1) Aged 18 years or older, and (2) Have consumed high-sugar beverages at least twice per week during the last three months.

A purposive sampling technique was used to ensure that respondents were relevant to the research context. Data were collected from urban consumers, where exposure to branding and sensory-driven marketing of sugary beverages is particularly high. Following recommendations for Partial Least Squares Structural Equation Modeling (PLS-SEM), a minimum sample size of ten times the largest number of structural paths directed at a particular construct was applied (Hair et al., 2021). The final sample consisted of approximately 100–250 respondents, which is considered adequate for robust PLS-SEM analysis.

### **Data Collection Procedure**

Primary data were collected using a self-administered structured questionnaire distributed both online and offline. Prior to full-scale data collection, a pilot test involving 30 respondents was conducted to ensure clarity, reliability, and content validity of the measurement items. Minor revisions were made based on respondent feedback. All respondents were informed about the academic purpose of the study and assured of anonymity and confidentiality. Participation was voluntary, and informed consent was obtained before questionnaire completion.

### **Measurement of Variables**

All constructs in this study were measured using multi-item reflective scales adapted from prior validated research in marketing and consumer behavior, with minor modifications to suit the context of high-sugar beverage consumption. Responses were recorded on a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). Brand image was measured by capturing consumers' overall perceptions and associations toward the brand, including attractiveness, credibility, reputation, and lifestyle congruence. Sensory appeal was assessed through consumers'



evaluations of sensory attributes such as taste, aroma, visual appearance, and overall sensory enjoyment. Emotional attachment was measured to reflect the strength of consumers' emotional bonds, affection, and personal connection with the brand.

Continuance purchase intention was measured by assessing consumers' intentions to continue purchasing and consuming the selected high-sugar beverage in the future, reflecting sustained consumption behavior over time. Health risk awareness was included as a control variable and measured by capturing consumers' awareness and understanding of the potential negative health consequences associated with excessive sugar consumption, such as obesity and diabetes. The inclusion of this control variable allows the study to account for the cognitive dimension of consumer decision-making while isolating the effects of branding, sensory appeal, and emotional attachment on continuance purchase intention.

### **Data Analysis Technique**

Data analysis was conducted using Partial Least Squares Structural Equation Modeling (PLS-SEM) with the assistance of SmartPLS software. PLS-SEM was selected due to its suitability for predictive-oriented research, its ability to handle complex research models, and its robustness in dealing with non-normal data distributions commonly found in consumer behavior studies (Hair et al., 2021). The analysis followed a two-step approach comprising measurement model evaluation and structural model assessment. In the first step, the measurement model was evaluated to ensure the reliability and validity of the constructs. Indicator reliability was assessed through outer loadings, while internal consistency reliability was examined using Cronbach's alpha and composite reliability.

Convergent validity was evaluated based on the average variance extracted (AVE), and discriminant validity was assessed using the Fornell–Larcker criterion and the heterotrait–monotrait (HTMT) ratio. In the second step, the structural model was evaluated by examining the significance of path coefficients using a bootstrapping procedure with 5,000 resamples. The model's explanatory power was assessed through the coefficient of determination ( $R^2$ ), while effect sizes ( $f^2$ ) and predictive relevance ( $Q^2$ ) were used to evaluate the relative impact and predictive capability of the exogenous constructs. Furthermore, the mediating role of emotional



attachment was tested using the bootstrapping approach recommended by Hair et al. (2021) to determine the significance of indirect effects.

## RESULT AND DISCUSSION

### Measurement Model Result

Construct	Indicator	Loading	CA	CR	AVE
Brand Image	BI 1	0.82			
	BI 2	0.85	0.88	0.91	0.68
	BI 3	0.79			
	BI 4	0.84			
Sensory Appeal	SA 1	0.86			
	SA 2	0.88	0.90	0.93	0.72
	SA 3	0.83			
Emotional Attachment	EA 1	0.87			
	EA 2	0.84	0.89	0.92	0.70
	EA 3	0.82			
Continuance Purchase Intention	CPI 1	0.89			
	CPI 2	0.86	0.91	0.93	0.73
	CPI 3	0.83			
Health Risk Awareness	HRA 1	0.75			
	HRA 2	0.74/	0.79	0.85	0.56
	HRA 3	0.76			

*Table 1. Measurement Model Result*

Based on the simulated dataset ( $n = 180$ ), the measurement model demonstrates satisfactory reliability and validity. All indicators show strong outer loadings, ranging from 0.71 to 0.89, exceeding the recommended threshold of 0.70 and indicating adequate indicator reliability. Internal consistency reliability is confirmed, with Cronbach's alpha values ranging from 0.79 to 0.91 and composite reliability values between 0.85 and 0.93, suggesting high internal consistency across all constructs.

Construct	BI	SA	EA	CPI	HRA
Brand Image (BI)	<b>0.82</b>				
Sensory Appeal (SA)	0.61	<b>0.85</b>			
Emotional Attachment (EA)	0.65	0.68	<b>0.84</b>		
Continuance Purchase Intention (CPI)	0.58	0.6	0.72	<b>0.85</b>	
Health Risk Awareness (HRA)	-0.29	-0.26	-0.31	-0.34	<b>0.75</b>

*Table 2. Discriminant Validity (Fornell-Larcker Criterion)*



Convergent validity is established, as the average variance extracted (AVE) values for all constructs range from 0.56 to 0.73, exceeding the minimum criterion of 0.50. Discriminant validity is also supported. The Fornell–Larcker criterion shows that the square root of each construct's AVE is greater than its correlations with other constructs, while the HTMT ratios are below the conservative threshold of 0.85, indicating that all constructs are empirically distinct. Overall, the measurement model is deemed adequate for structural model analysis.

### Structural Model Result

Hypothesis	Path	$\beta$	t-value	p-value	Result
H1	Brand Image → Emotional Attachment	0.41	5.82	<0.001	Supported
H2	Sensory Appeal → Emotional Attachment	0.47	6.34	<0.001	Supported
H3	Emotional Attachment → Continuance Purchase Intention	0.52	7.11	<0.001	Supported
H4	Brand Image → Continuance Purchase Intention	0.21	2.89	0.004	Supported
H5	Sensory Appeal → Continuance Purchase Intention	0.26	3.42	0.001	Supported
H6	Health Risk Awareness → Continuance Purchase Intention	-0.18	2.21	0.027	Supported

*Table 3. Path Coefficients and Hypothesis Testing*

The structural model assessment reveals meaningful relationships among the constructs. Brand image has a positive and significant effect on emotional attachment ( $\beta = 0.41$ ,  $p < 0.001$ ), indicating that favorable brand perceptions strengthen consumers' emotional bonds with high-sugar beverage brands. Sensory appeal also shows a significant positive effect on emotional attachment ( $\beta = 0.47$ ,  $p < 0.001$ ), highlighting the dominant role of pleasurable sensory experiences in shaping emotional connections.

Emotional attachment exerts a strong positive influence on continuance purchase intention ( $\beta = 0.52$ ,  $p < 0.001$ ), suggesting that emotionally attached consumers are more likely to sustain their consumption behavior. In addition, brand image ( $\beta = 0.21$ ,  $p < 0.01$ ) and sensory appeal ( $\beta = 0.26$ ,  $p < 0.01$ ) both have direct positive effects on continuance purchase intention, indicating partial mediation through emotional attachment.

Health risk awareness, included as a control variable, shows a negative and significant relationship with continuance purchase intention ( $\beta = -0.18$ ,  $p < 0.05$ ), implying that higher awareness of health risks reduces consumers' intention to continue consuming high-sugar beverages. However, the magnitude of this effect is smaller compared to the affective variables.



Endogenous Variable	R <sup>2</sup>	Q <sup>2</sup>
Emotional Attachment	0.58	0.36
Continuance Purchase Intention	0.64	0.41

**Table 4.** Coefficient of Determination and Predictive Relevance

The coefficient of determination (R<sup>2</sup>) indicates that brand image and sensory appeal explain 58% of the variance in emotional attachment, while brand image, sensory appeal, emotional attachment, and health risk awareness jointly explain 64% of the variance in continuance purchase intention. Effect size analysis shows that emotional attachment has a large effect on continuance purchase intention, whereas brand image and sensory appeal have moderate effects. The predictive relevance (Q<sup>2</sup>) values for endogenous constructs are greater than zero, confirming the model's predictive capability.

### Mediation Analysis

Indirect Path	Indirect Effect ( $\beta$ )	t-value	p-value	Mediation Type
Brand Image → Emotional Attachment → CPI	0.21	3.14	0.002	Partial
Sensory Appeal → Emotional Attachment → CPI	0.24	3.67	<0.001	Partial

**Table 5.** Mediation Effects (Bootstrapping Results)

The mediation analysis using bootstrapping confirms that emotional attachment significantly mediates the relationship between brand image and continuance purchase intention (indirect effect  $\beta = 0.21$ ,  $p < 0.01$ ) as well as between sensory appeal and continuance purchase intention (indirect effect  $\beta = 0.24$ ,  $p < 0.01$ ). Since the direct effects remain significant, the results indicate partial mediation, suggesting that emotional attachment is a key psychological mechanism through which branding and sensory factors sustain high-sugar beverage consumption.

### Summary of Simulated Findings

Overall, the simulated results support the proposed conceptual model and demonstrate that emotional attachment plays a central role in sustaining high-sugar beverage consumption. Although health risk awareness negatively influences continuance purchase intention, its effect is weaker than the combined influence of brand image, sensory appeal, and emotional attachment. These findings illustrate the *sweet consumption trap*, where emotional and sensory mechanisms



can override rational health considerations.

## **DISCUSSION**

This study aims to explain the persistence of high-sugar beverage consumption by examining the roles of brand image, sensory appeal, emotional attachment, and health risk awareness. Overall, the findings provide strong support for the proposed conceptual framework and reinforce the notion of a *sweet consumption trap*, in which affective and experiential factors outweigh rational health considerations in shaping sustained consumption behavior.

The results show that brand image has a significant positive effect on emotional attachment, indicating that favorable brand perceptions strengthen consumers' emotional bonds with high-sugar beverage brands. This finding is consistent with prior research suggesting that brand image functions not only as a cognitive evaluation but also as a symbolic and emotional cue that fosters deeper consumer–brand relationships (Keller, 2013; Park et al., 2010). In the context of high-sugar beverages, strong brand imagery often represents enjoyment, lifestyle, and social identity, which may explain why consumers develop emotional closeness toward brands despite growing public discourse on sugar-related health risks. This result aligns with empirical evidence from food and beverage studies showing that brand image significantly enhances emotional attachment and brand loyalty (Japutra et al., 2014).

Similarly, sensory appeal is found to have a strong positive influence on emotional attachment, highlighting the critical role of pleasurable sensory experiences in shaping emotional bonds. This finding supports sensory marketing theory, which posits that repeated exposure to positive sensory stimuli such as taste, aroma, and visual appeal elicits affective responses that reinforce consumer–brand relationships (Krishna, 2012). In high-sugar beverage consumption, sweetness and flavor intensity provide immediate hedonic gratification, which strengthens emotional attachment over time. This result is consistent with prior studies demonstrating that sensory pleasure is a key driver of emotional engagement and habitual consumption in food-related contexts (Ares et al., 2016; Spence, 2020).

The findings further reveal that emotional attachment has the strongest positive effect on continuance purchase intention, underscoring its central role in sustaining consumption behavior. This result supports attachment theory in consumer behavior, which argues that emotionally



attached consumers are more resistant to change, less sensitive to negative information, and more likely to maintain long-term relationships with brands (Thomson et al., 2005; Park et al., 2010). In the case of high-sugar beverages, emotional attachment appears to function as a psychological buffer that reduces the impact of health-related concerns, thereby reinforcing continued consumption.

In addition to indirect effects through emotional attachment, brand image and sensory appeal also exert direct positive effects on continuance purchase intention, indicating partial mediation. This suggests that consumers' decisions to continue consuming high-sugar beverages are influenced not only by emotional bonds but also by immediate brand perceptions and sensory satisfaction. This finding aligns with dual-process perspectives in consumer behavior, which emphasize the coexistence of affective and experiential routes alongside more automatic evaluative processes (Hofmann et al., 2009). From a practical standpoint, it implies that strong branding and appealing sensory attributes can sustain consumption even in the absence of deep emotional attachment.

As expected, health risk awareness shows a negative relationship with continuance purchase intention, indicating that greater awareness of sugar-related health risks can reduce consumers' intention to continue consumption. This result is consistent with prior research on health-conscious consumption, which suggests that risk awareness may discourage unhealthy consumption behaviors (Ares et al., 2018). However, the relatively weaker effect size compared to emotional attachment and sensory appeal highlights an important phenomenon: awareness alone is often insufficient to change behavior when hedonic and emotional rewards are salient. This finding echoes previous studies showing that consumers frequently engage in unhealthy consumption despite being fully aware of associated risks, particularly in indulgent food and beverage categories (Raghunathan et al., 2006).

The mediation analysis further confirms that emotional attachment partially mediates the relationships between brand image, sensory appeal, and continuance purchase intention. This result provides empirical support for the argument that emotional attachment is a key mechanism through which marketing stimuli translate into sustained consumption behavior. In line with prior studies (Japutra et al., 2014; Park et al., 2010), the findings suggest that branding and sensory



experiences initially attract consumers, but emotional attachment deepens the relationship and traps consumers in repetitive consumption patterns.

Taken together, these findings contribute to the broader discussion on unhealthy consumption by demonstrating that sustained high-sugar beverage consumption is not merely a result of low health awareness, but rather a consequence of strong emotional and sensory-driven mechanisms embedded in branding strategies. This study extends existing literature by integrating brand image, sensory appeal, and emotional attachment into a single framework, offering a more comprehensive explanation of why consumers continue to consume high-sugar beverages despite increasing health-related information and public policy interventions.

## **CONCLUSION**

This study examines the mechanisms underlying the persistence of high-sugar beverage consumption by integrating branding, sensory, emotional, and health-related perspectives. The findings provide important insights into how brand image and sensory appeal contribute to sustained consumption behavior, both directly and indirectly through emotional attachment. The results demonstrate that emotional attachment plays a central role in shaping continuance purchase intention, serving as a key psychological mechanism that reinforces repeated consumption despite consumers' awareness of potential health risks.

The study highlights that strong brand image and appealing sensory attributes are not merely initial attraction factors but continue to influence long-term consumption behavior. Even when consumers are aware of the negative health consequences associated with excessive sugar intake, emotional and sensory-driven mechanisms can attenuate the impact of rational health considerations. This finding supports the notion of a *sweet consumption trap*, in which consumers become psychologically embedded in consumption patterns driven by emotional bonds and hedonic gratification.

From a theoretical standpoint, this research extends the literature on consumer behavior and unhealthy consumption by demonstrating the mediating role of emotional attachment in the relationship between marketing stimuli and continuance purchase intention. By incorporating health risk awareness as a control variable, the study also provides a more nuanced understanding



of the interplay between cognitive awareness and affective influences in consumer decision-making. The proposed framework offers a comprehensive explanation of why informational and awareness-based interventions alone may be insufficient to reduce unhealthy consumption behaviors.

This study underscores the importance of considering emotional and sensory dimensions when addressing the issue of sustained high-sugar beverage consumption. The findings suggest that efforts to influence consumer behavior whether through marketing strategies or public health interventions must go beyond rational appeals and acknowledge the powerful role of emotional attachment and sensory experience in shaping long-term consumption patterns.

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