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The Effect of Coffee Chain Customers' Need to Smell on Their Taste Evaluations

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Abstract

This paper aims to investigate whether ambient scent in coffee chains affects the taste perceptions of customers who consume the products of those chains. The paper highlights the importance of smell in creating memorable experiences and its role in arousing customers. It also mentions the olfactory system's vital functions in warning and protection, eating behavior, and social communication. The use of ambient scent enhances the memorability of brand-related olfactory information. The paper mentions that taste evaluation involves both objective and subjective processes. Biological preferences and existing information can influence taste perceptions. Positive sensory experiences lead to positive attitudes and increased consumption, while negative experiences can have the opposite effect. The paper also emphasizes the connection between smell and taste, with smell responsible for a significant portion of our taste. The coffeehouse's ambiance and coffee scent can influence taste and consumer choices. The sample covers data collected from 578 participants via the convenience sampling method. Overall, the paper provides insights into the impact of smell and taste evaluation mediated by customer loyalty in the context of coffeehouse chains. The study is also thought to inspire future research on senses other than smell and taste in sensory marketing, thereby providing practical implications for businesses in the field.

Keywords: Coffeehouse chains, Taste evaluation, Need-to-smell, Sensory marketing, Mediating effect

JEL Code: M31, C39, D91

1. Introduction

As a scientific discipline, marketing seeks to understand consumption processes and their underlying factors. These processes involve services as well as physical products. Pine II & Gilmore (1998) state that economists typically lump experiences with services, but experiences are a distinct economic offering, as different from services as services are from goods. This phenomenon points out experiential marketing, which Schmitt (1999) positioned as opposed to traditional marketing. According to Chen & Lin (2018), businesses typically utilize experiential marketing to captivate customers and build loyalty toward the brand.

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Too many factors can influence customers' perceptions of their experiences. One of these factors can be specified as aesthetic perception, described by D. Kim et al. (2020) as a combination of classical and expressive aesthetics. Classical aesthetics refers to well-organized, clear, clean, and symmetrical aesthetics (Lavie & Tractinsky, 2004), while expressive statistics can be considered creative design fused with sophistication, fascination, and novelty (Bhandari et al., 2017). On the other hand, Sibley (2001) affiliates taste and smells with aesthetics and argues that these senses meet some demands typically imposed on objects. He also highlights that there is no suitable criterion for demarcating the aesthetic perception and these senses.

Diaconu (2006) argued that the relationship between the senses, which include touch, heat, pain, movement, smell and taste, and aesthetic perception is poorly understood. On the other hand, with the understanding of the impact of aesthetic perception on retail consumer behavior, there has been a tendency to appeal to the senses, which are components of aesthetic elements in marketing efforts (Gilboa & Rafaeli, 2003). One of these senses, smell, is one of the sensory tools that provide untapped opportunities (Madzharov et al., 2015). In addition, the scent in a store has a significant impact on determining consumers' purchasing preferences. Therefore, it is essential to investigate the effect of scents on retail businesses. One of these retail businesses is coffee chains, which use the coffee smell in the sales environment as a sales-boosting element (Pappu et al., 2022).

Coffee is the most consumed soft drink on the Earth (González et al., 2020). The origin of coffee dates back to 575 A.D., and its use as a stimulant and revitalizer dates back to 1000 A.D. (Ribeiro et al., 2022). On the other hand, (Han et al., 2018) stated that coffee consumption has never gone out of fashion, and chain coffee shops continue this fashion today. As a type of retailer, chain coffee shops are a large industrial sector. Nearly 10 trillion kg of coffee was consumed between 2020-2021(MacDonnell, 2022). Meanwhile, 70% of individuals consume their coffee at home; it is estimated that about one-fifth (21%) of the total coffee produced will be consumed outside (out-of-home venues) by 2025 (MacDonnell, 2022). In 2021, the total revenue of the coffee market in the US alone was approximately $82 billion, generated by 38,400 coffee businesses (STATISTA, 2022). Therefore, it can be calculated that a coffee shop generates an average value of 2.1 million dollars.

Mehrabian & Russell (1974) suggest that environmental stimuli and related variables (color, heat, scent, etc.) are linked to behavioral responses that produce behavioral and emotional attitudes to the product. This phenomenon is also in parallel with the thought of Doucé et al. (2013) about the relationship between scents and purchase-related behavior, which indicates that people associate their perceptions of the product they consume with the ambiance of the environment in which the product is presented to them. According to Brady (2012), savoring and sniffing are central to human life, and some vital human needs depend upon these senses. On the other hand, experiences provide sensory, emotional, cognitive, behavioral, and relational values that replace functional values (Schmitt, 1999). Therefore, stores (including coffee chains) that stimulate people's senses influence their consumption and the experience they have with them. Additionally, Zemke & Shoemaker (2007) state that scent positively affects strangers' social interaction

behaviors, which connects customers to coffee chains. Bayindir & Çalişkan (2022) evaluate this effect as a basic need, and they state as follows: "*Although coffee shops seem to be the places where people meet their need for food and drink, they also include a socialization aspect, which is another basic need.*".

As Muradian & Pelupessy (2005) states: "*The international market of coffee is nowadays characterized by two remarkable features: (i) a great variety of tastes and notions of "quality," which vary highly from country to country and (ii) a broad market fragmentation between "mass" and "specialty" segments."* Taste perception is also one of the factors that influence the preference of coffee chains. Taste perception is a factor that influences brand loyalty toward coffee chains, along with other factors such as menu richness and nutritional characteristics (Han et al., 2018). On the other hand, Dörtyol (2021) found that ambient scent is related to consumers' shopping experience. In parallel, Dusauw et al. (2023), who drew a framework with coffee chains and sensory marketing, suggest that sight, sound, taste, and smell all affect consumers' psychology, personal, and social that affects their behavior in coffee chains. Jang & Lee (2019) also suggest that effective marketing is essential for the sustainability of coffee businesses and is an effective tool for influencing coffee customers' emotional states. Although Chen & Lin (2018) have investigated the impact of sensory experiences and emotions on purchase behavior in coffee chains, no study investigates explicitly whether one sense (i.e., the smell of coffee) affects another sense (i.e., the taste of the coffee purchased) in the consumer mind. This is why investigating the relationship between store scent and customer taste perceptions is crucial for coffee chains.

Thus, this study aims to investigate whether ambient scent in coffee chains affects the taste perceptions of customers who consume the products of those chains. This study aims to measure whether the action phase and pay more attitude of customers, which are sub-dimensions of brand loyalty, influence taste evaluation through ambient scent. All scales and dimensions used in the study evaluate the subjective behavior of consumers. In this respect, the study targets the gap hidden in the assertion of Allen et al. (2008) that implies "*the subjective dimension of taste evaluation is not yet fully understood*."

2. Theoretical Framework

2.1. Need to Smell (NTS)

As an olfactory sensation, smell is the primary sensory system that contributes to the perception of food aromas and volatile flavors (Lawless, 1991). Applied research suggests that smell is the strongest of all senses, and consumers are more likely to remember a scent than something they see or touch (Pappu et al., 2022). Although the smell of the environment and the effect of the products offered in the environment may vary individually (Wrzesniewski et al., 1999), marketers have widely researched the role of scent and how it affects consumers' behavior (Brengman et al., 2022; De Luca & Botelho, 2021; Dörtyol, 2021; Herz et al., 2022).

According to Dörtyol (2021), consumers need to smell when they buy, and this need affects their shopping experience. The need-to-smell (NTS) construct revealed by Dörtyol (2021) is how an ambient scent affects consumers' shopping experiences. He states, "*When marketers use ambient scent, the perception process involving steps of exposure, attention, and interpretation becomes more of an issue*." Here, the concept of shopping experience becomes prominent. Ihtiyar et al. (2019) state that providing customers with the right shopping experience is one of the main focuses of experiential marketing. Batat (2019) points out emotional touch points and the emotions experienced by customers as one of the keys to effective experiential marketing. As stated by Lindstrom (2005), this fact results from consumers' sensory perceptions of their emotions influencing their emotions and thus creating emotional connections between brands and consumers. In parallel, Tsaur et al. (2007) stated that the sensory perceptions of people who visit the zoo affect the experience they get and generalize the research findings within the scope of experiential marketing. The sense of smell directly and quickly affects memory (Jang & Lee, 2019), and it has been discovered that smell produces a feeling of arousal in customers. Additionally, Boesveldt & Parma (2021) characterize the olfactory system as a primary sense due to its vital functions, such as warning and protection from environmental hazards, eating behavior and nutrition, and social communication. Sometimes, this sense can even suppress other senses (Zhou et al., 2010). Despite the difficulty of generating a precise value or even a range of values, many researchers agree that olfaction plays a "dominant" role in the tasting (Spence, 2015). Using ambient scent increases the memorability of brand-related olfactory information due to the encoding and retrieval of long-term memory (Morrin et al., 2011).

2.2. Taste Evaluation (TE)

According to Allen et al. (2008), one's evaluation of the taste of a food or beverage stems from both an objective and a subjective process. They also state that the product's chemical properties cause evaluations by stimulating taste receptors in the mouth. These evaluations are based partly on biological or innate preferences for particular tastes or flavors (Germov & Williams, 2009). However, these evaluations are influenced by existing information available, and individuals' sense of taste may be exposed to some influence. According to Nevid (1981), product image can affect consumers' judgments of product quality. Another element other than existing information that affects the perception of a product is sensory perception (Wang et al., 2008). Positive sensory experiences cause positive attitudes toward foods and increase their consumption (Letarte et al., 1997), while negative ones, such as nausea, cause quite the opposite (Allen et al., 2008), especially for taste perceptions (Allison & Uhl, 1964).

Hoegg & Alba (2007) draw attention to the importance of sensory discrimination in taste evaluation and state that offering it to customers in isolated conditions in real life is impossible. However, food taste might significantly predict consumers' emotional responses (Kivela et al., 2000). In coffeehouses, emotional responses can be provided through sensory experiences, and these experiences lead to buying behavior in them (Chen & Lin, 2018). Some factors can influence taste evaluation, which is one of these sensory experiences. For example, van Rompay

et al. (2019) found a link between visual images and taste perception in coffeehouse chains. Another example is the findings detected in the study conducted by (Becker et al., 2011), which shows that packaging design affects customers' taste impressions.

The widespread complaints heard during COVID-19 have also revealed how effective the sense of smell is on taste perception (Cazzolla et al., 2023), and our sense of smell is responsible for about a percentage between 75 and 95 of what we taste (Spence, 2015). The reason for this inextricable bond is the gastronomic value of smell since breathing cannot be stopped while eating (Fincks, 1886). On the other hand, non-product factors (e.g., the ambiance of the place where the coffee is drunk) also influence coffee taste and, therefore, choice (Lim et al., 2020; Spence & Carvalho, 2020). Moreover, it has even been found that the scent of coffee chains can influence consumers' physical view of the product (Seigneuric et al., 2010). Here, coffee's smell is a fragrance appreciated by many cultures worldwide. According to Spence & Carvalho (2020), coffeehouses must use its scent in their store atmospherics "*without contaminating by adding any additional scent*."

2.3. Loyalty

The driving force of a firm is usually provided by developing, maintaining, and increasing customer loyalty towards the products and services it offers (Dick & Basu, 1994). In this sense, loyalty is becoming an important marketing tool for companies and brands to build long-term consumer relationships in today's highly competitive market conditions (Saydan & Dülek, 2019). In studies on coffee chains, it is seen that loyalty is generally addressed from the attitudinal and behavioral loyalty dimension (Choi et al., 2017; K. Kim et al., 2020), which is consistent with the study of Dick & Basu (1994).

In this study, the action phase, the fourth of the loyalty phases proposed by Oliver (1999), was used as developed by McMullan & Gilmore (2003). McMullan & Gilmore (2003) stated that in the action phase, the consumer experiences inertia when turning to new goods and services and tends to fix his preference on the brand that justifies this inertia. Since it is known that loyal customers in coffee businesses create inertia regarding new brand search behavior (Rotinsulu et al., 2017), loyalty in the action phase was considered more appropriate for the study. Thus, it was aimed to calculate the extent to which people who purchase products in coffee chains put their loyalty into action.

Another issue to be investigated in the study on loyalty is how much loyalty can lead consumers to pay more. Yu & Dean (2001) show the source of loyalty is emotional satisfaction. Yeh et al. (2016) state that this satisfaction is related to the value provided to the customer, one of which is symbolic value (Huang & Zhang, 2008). The symbolic value is subjective in the eyes of consumers (Deneçli et al., 2022). Therefore, customers' loyalty and how much more they are willing to pay for the product they are loyal to is subjective with their perceptions.

3. Methodology

3.1. Participants

This study is derived from a data set that combines consumer behavior with a stimulus and attitudes that may affect this behavior. The study population consists of people living all over Türkiye. The sample consisted of 610 shoppers who could be reached using the convenience sampling method. Participants were adults (age≥18) with any level of education, financial independence, and regular shoppers at coffeehouse chains. The first exclusion criterion was the condition of refusal to participate. The second exclusion criterion was not shopping in coffeehouse chains and not planning to do so in the future. Incomplete or incorrect information in the questionnaires obtained was cleaned, and the data set was formed with the questionnaire form of 578 participants who decided to be used in the study.

3.2. Procedure

The primary problem in creating the data set was geographical accessibility. Surveys were administered to people currently residing in Istanbul, Ankara, and Izmir to reflect the study population better. The total population of the cities selected as the sample covers approximately 30% of the population of Türkiye. No one in the sample was promised a reward or profit opportunity for participating in the study. Consumers who wanted to participate were informed about the study face-to-face. The questionnaire form was then delivered to the respondent, who was expected to answer the questions. The total time required to complete the questionnaire was set at a maximum of 30 minutes. Participants could discontinue the survey at any stage. The ethics committee's approval was obtained by Sivas Cumhuriyet University Legal Consultancy with the letter dated 24.02.2022 and numbered E-60263016-050.06.04-136509.

3.3. Measures

3.3.1. Demographics Questionnaire

The essential characteristics of the people who took part in the study are specified under the heading "Participants". In addition, multiple-choice questions were included to determine the participants' sociodemographic characteristics. These variables include basic characteristics (gender, age, family type) and outcomes (education, marital status, sector of employment, income).

Table 1. Participant Sociodemographic Characteristics

Variables	n (%)
Age (p=0.091)	
24-30	110 (19.0%)
31-37	135 (23.4%)
38-44	95 (16.4%)
45-51	113 (19.6%)
51<	125 (21.6%)
Gender (p=0.114)	
Male	308 (53.3%)
Female	270 (46.7%)
Education (p<.001)	
Secondary Education Degree	65 (11.3%)

High School	136 (23.5%)
Bachelor's Degree	353 (61.1%)
Postgraduate Degree	24 (4.1%)
Marital Status (p=0.212)	
Single	304 (52.6%)
Married	274 (47.4%)
Income (p<.001)	
Low	247 (42.7%)
Adequate	298 (51.6%)
High	33 (5.7%)
Daily Consumption of Coffee-Containing Products (p<.001)	
1	271 (46.9%)
2-3	170 (29.4%)
3<	137 (23.7%)
Store Visits (Monthly) (p=0.712)	
≤4	200 (34.6%)
4-10	184 (31.8%)
…10<	194 (33.6%)
Time Spending (Hourly) (p<.001)	
<1	100 (17.3%)
1-2	192 (33.2%)
2-3	126 (21.8%)
3-4	110 (19.0%)
5<	50 (8.7%)

3.3.2. Need-to-Smell (NTS) Scale

This study is based on the assumption that taste alone is not the only discriminator of consumers when evaluating the food, they buy and that smell will affect taste. For this reason, the "Need to Smell" scale, introduced to the literature by Dörtyol (2021), was used in the study. The developer of the scale claims that scent triggers cognitive activities and plays a role in influencing people's emotions. Hypotheses were supported in the scale developed for this purpose. There are a total of 8 statements in the need-to-smell scale. The measurements were made with a 5-point Likert scale, and the participants could respond to the statements in the range of 1=strongly disagree and 5=strongly agree. This scale, which has been used many times in literature, was also used with studies that investigate motivational differences in the need to smell (Pappu et al., 2022), use of smell in sensory marketing (Fong et al., 2022); and individual differences in need for smell (Koller et al., 2023).

When the validity and reliability statistics of the questionnaires were examined, ($\chi 2/df$) =5.8, CFI=0.955, TLI=0.937, SRMR=0.030, RMSEA=0.124, and α=0.947 values were reached in the study (Bentler & Bonett, 1980; Henseler et al., 2015; Lohmöller, 1989). Thus, it is understood that the survey scale results are

suitable for the analysis. This study used consumers' NTS scale scores as an independent variable.

The study's basic assumption is that ambient odor should influence consumers' food evaluation. In addition, ambient scent may also influence the willingness to pay more and act behaviors regarding customer loyalty. Therefore, the assumptions above were tested through the following hypotheses:

H1: The need to smell positively influences consumers' taste evaluation.

H2: The need to smell positively affects the action stage of consumer loyalty.

H3: The need to smell positively affects consumer loyalty's Willingness to Pay More (WtPM) dimension.

3.3.3. Taste Evaluation (TE) Scale

Another scale used in the study is the Food Evaluation scale. This scale is taken from the article written by Allen et al. (2008), in which they examined the subjective and objective processes in evaluating the taste of foods. The scale consists of 8 statements, and the information is obtained with a 5-point Likert scale. Participants can answer the statements between 1 = almost never and 5 = almost always. This scale, which has been used many times in the literature, has also been used in studies that focus on the roles of human values and trust in labeled foods (Grebitus et al., 2015), the effect of packaging weight on gustatory evaluations (Kampfer et al., 2017); and the role of brand familiarity and consumer value on brand-induced food taste perception (Paasovaara et al., 2011).

When the validity and reliability statistics of the questionnaires were examined, ($\chi 2/df$)=4.2, CFI=0.950, TLI=0.930, SRMR=0.034, RMSEA=0.119, and α=0.930 values were reached. Thus, it was understood that the survey scale results were usable. This study used consumers' TE Scale scores as the dependent variable.

3.3.4. Action Phase

It was thought that loyalty might be one of the factors affecting customers' food evaluations. For this purpose, the "action" stage in the stepwise model developed by McMullan and Gilmore (2003) to measure the degree of customer loyalty was included in the study. Only the addition of this stage is differentiated from attitude and intention as it is considered to transform customer loyalty into action. Data was collected through this scale consisting of 6 items and a 5-point Likert scale. Respondents can answer the items between 1 = almost never and 5 = almost always. This scale has been used many times in literature. It has also been used in some studies that investigate the effect of organizational commitment on the loyalty of hotel employees as internal customers (Yao et al., 2019), price fairness perceptions on customer loyalty (Martin et al., 2009), and product involvement and routine use of niche products (Zhang et al., 2023).

The validity and reliability statistics of the questionnaires were examined: ($\chi 2/df$)=5.1, CFI=0.957, TLI=0.929, SRMR=0.041, RMSEA=0.165 and α=0.921.

Thus, it was understood that the survey scale results were usable. This study used consumer scores on the Action Dimension of the Customer Loyalty Scale as a mediating variable.

For this study, two hypotheses were tested in terms of this dimension. These hypotheses are given below:

H4: The action stage of consumer loyalty positively influences consumer taste evaluation.

H6: The action stage of consumer loyalty positively mediates the interaction between the need to smell and consumers' taste evaluation.

3.3.5. Willingness to Pay More (WtPM)

Willingness to Pay More (WtPM) is thought to be another factor affecting customers' taste evaluations. For this purpose, the "action" stage in the progressive model developed by Yu and Dean (2002) to measure the degree of customer loyalty (CL) was included in the study. Only the addition of this stage is differentiated from attitude and intention as it is considered the transformation of customer loyalty into action. In the scale consisting of 2 statements, information is obtained with a 5-point Likert scale. Participants can answer the statements between 1 = almost never and 5 = almost always. This scale, which has been used many times in literature, has also been used in some studies that investigate satisfaction emotions and consumer behavioral intentions (White & Yu, 2005), antecedents of price sensitivity (Ramirez & Goldsmith, 2009), and online behavioral experience and intentions on digital comedy platforms (Ponte, 2022). Since the WtPM dimension consists of two statements, it will be sufficient to interpret only the reliability coefficient. When the reliability statistics were calculated, α=0.882 values were reached. Thus, it is understood that the survey scale results are usable. This study used consumers' Willingness to Pay More Dimension scores as a mediating variable.

For this study, two hypotheses were tested in terms of this dimension. These hypotheses are given below:

H5: The WtPM dimension of consumer loyalty positively affects consumer taste evaluation.

H7: The WtPM dimension of consumer loyalty positively mediates the interaction between the need to smell and consumers' taste evaluation.

3.4. Data Analyses

All analyses used in the study were performed with the open-source JAMOVI v2.3.26. The analysis phase of the current study consists of two parts. First, the normality test of the scales, for which validity and reliability analyses were conducted, was applied. In addition, correlation analysis results of the scales were evaluated at this stage. In the last part, the models in which the TE Scale is independent, the NTS Scale is dependent, and the CL and WtPM scales are mediating variables that are tested. In the model where the mediation effect was

investigated, 10000 bootstrap samples were used to correct the bias and reveal the confidence interval.

3.5. Results

Analyses showed that 53.3% of the participants were male and 46.7% were female, and there was no statistically significant difference. Age and marital status, which are the main demographic characteristics of the participants, did not show statistically significant differences between the categories. Thus, it is assumed that there will be no bias due to the essential sociocultural characteristics of the participants. Notably, the participants have higher education (61.1%) and above (4.1%). Another striking socioeconomic status is that participants with low income (42.7%) and "sufficient" income (51.6%) constitute 94.3% of the sample.

The variables that contain the main characteristics of the study are the variables that show the behavior of the participants who go to coffee chains. According to the number of products consumed daily by the coffee-chains participants, the density was seen in the answer "1 per day" (46.9%). In the other categories, the number of participants is close to each other. Regarding the number of monthly coffeehouse chain visits, the number of participants in all categories was similar (p=0.712). It was found that most people who agreed to participate in the study (33.2%) spent 1-2 hours in the coffeehouses. It is also noticeable that the number of participants decreases as time increases. As a result of Cronbach's Alpha statistics, mean values were calculated for the NTS, TE, Act. and WtPM scales and dimensions. These averages will be referred to as "measurement tools" in the rest of the study.

The correlation analysis between the measurement tools used in the study calculated a positive correlation between all measurement tools. Moderately significant correlations were calculated between WtPM and AP (r=0.583) and between WtPM and TE (r=0.593). The other measurement tools also calculated a highly significant relationship ($r_{NTS\text{-}AP.}$=0.628; $r_{NTS\text{-}WtPM}$=0.640; $r_{TE\text{-}AP.}$=0.687; $r_{NTS\text{-}TE}$=0.613).

Table 2. Results of Path Analysis

Type	Effect	Estimate	SE	95% C.I.		β	z	p	Adj. R^2
				Lower	Upper				
Indirect	NTS ⇒ Action ⇒ TE	0.323	0.029	0.266	0.381	0.310	11.00	< .001	0.452
	NTS ⇒ WtPM ⇒ TE	0.111	0.025	0.063	0.160	0.107	4.52	< .001	0.425
Component	NTS ⇒ Action	0.718	0.033	0.654	0.783	0.672	21.84	< .001	-
	Action ⇒ TE	0.450	0.035	0.381	0.520	0.461	12.72	< .001	-
	NTS ⇒ WtPM	0.807	0.039	0.731	0.884	0.652	20.66	< .001	-
	WtPM ⇒ TE	0.138	0.030	0.080	0.196	0.164	4.63	< .001	-
Direct	NTS ⇒ TE	0.273	0.040	0.195	0.352	0.262	6.82	< .001	0.461
Total	NTS ⇒ TE	0.708	0.0312	0.646	0.770	0.679	22.21	< .001	0.617

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While correlation analysis reveals the relationship between the model variables, it cannot explain the cause-and-effect relationship. The results of the model prepared to understand this are given in Table 2. The study's main objective is to reveal the effect of NTS on TE. It was predicted that AP and WtPM scales could mediate this interaction (Table 2).

At the end of the analysis, it was calculated that the interactions in all stages were statistically significant. When the NTS scale is evaluated individually, it positively affects Action (β=0.672, p<.001), WtPM (β=0.652, p<.001) and TE (R^2=0.461, β=0.262, p<.001) scales. At the same time, the TE scale is positively affected by Action (β=0.461, p<.001) and WtPM (β=0.164, p<.001). In addition, it was calculated that Action (R^2=0.461, β=0.672, p<.001) and WtPM (R^2=0.461, β=0.652, p<.001) scales mediated the interaction between the NTS scale and TE scales. The model established in the study and tested in the analysis part is shown in Figure 1.

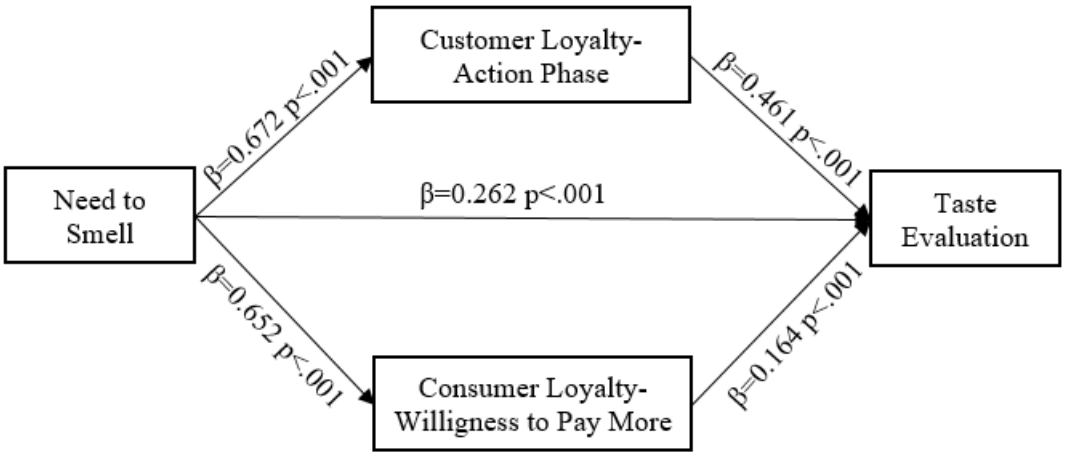

Figure 1. Research Model

According to the model significance results, the type of mediation effect and the contribution of mediation to the total effect can be determined according to β statistics. Since the interaction between NTS and TE does not become insignificant even when the mediating variables are included in the model, it is understood that the Action and WtPM scales have partial mediation. In addition, the share of the Action scale in the total effect is approximately 45.7%, and the share of the WtPM scale in the total effect is approximately 15.8%.

4. Discussion and Conclusion

This study shows that ambient odor in coffee chains positively affects the sub-dimensions of customer loyalty and taste evaluation. In addition, while the need to smell affects taste evaluation, the AP and WtPM dimensions have a partial mediating role. From this point of view, it can be said that the subjective dimension

of taste evaluation proposed by Allen et al. (2008) can be explained by the coffee chain sample.

Fincks (1886), the oldest available source on the direct interaction between smell and taste, argued that smell is responsible for the enjoyment of food at a ratio of 1 in 3. Lawless (1990) supported and developed this assertion a century later, stating that "while the tongue can perceive basic tastes, the olfactory system is responsible for the diversification and identification of these tastes." On the contrary, Spence (2015) stated in his study that there is a lack of experimental evidence on the determination of taste by odor, that the interaction between smell and taste cannot be expressed numerically, and that this interaction is primarily included in the psychology literature. From these two perspectives, our study quantifies the role of smell in taste perception and consumer behavior.

Jang and Lee (2019) argued that sensory marketing effectively differentiates products and brands in the food service industry. In this respect, they proved that the five senses affect pleasure, arousal, and superiority. Therefore, they also stated that positive effects on customer satisfaction, customer loyalty, and purchase intention can be achieved through sensory marketing. Tsaur et al. (2007) similarly noted that experiential marketing can influence consumer behavior. Pappu et al. (2023) showed that the need for consumers to discover and evaluate products may arise with odor. In their study on cleaning products, Herz et al. (2022) revealed that freshness and hygiene-oriented perceptions affect consumers' cognitive, aesthetic, emotional, and behavioral perceptions by changing the fragrance factor in products and manipulating their usage experiences. Another study revealed the importance of scent in increasing emotions and satisfaction with the shopping experience, its positive effect on consumers' discovery of products, and favorable product and store evaluation was published by Dörtyol (2021). The influence of the senses on consumer behavior and decision-making has been demonstrated in all the studies. In parallel with literature, when the need to smell increases, customers' attitudes toward acting and willingness to pay more are positively affected, and their taste evaluations are positively affected in the present study.

The study shows that the action phase and WtPM dimensions affect TE and NTS. Rotinsulu (2017) presented a survey segmenting customers according to their loyalty status and attitude. They claimed that this study, which shows the impact of customer loyalty on marketing success, can provide insights for marketers. Similarly, McMullan and Gilmore (2003) argue that AP is the customer's actual behavior. Therefore, this study reveals that loyalty can positively manipulate taste evaluation with an intention sub-dimension and an action phase that directly mobilizes consumers. Kim et al. (2020) stated that consumers visit coffee shops because of price, hedonic, and social values. From this point of view, it can be concluded that coffee shop consumers are provided with sensory, emotional, behavioral, and cognitive satisfaction, as stated by Choi et al. (2017). Thus, they argued that these dimensions play an important role in shaping brand prestige of products. Moreover, they suggest that coffee chains can improve customer loyalty in this way. Our study's positive interaction between the action phase, WtPM, and TE aligns with the existing views.

Allen (2008) argues that biological structure and cultural background are effective in TE. Supporting this view, Spence and Carvalho (2019) say that the coffee shop environment and the social aspects of coffee consumption influence the coffee consumption experience. In a more general perspective, Chen and Lin (2017) tested the influence of the senses of sight, hearing, taste, and touch on consumer behavior. They found that consumer emotions such as pleasure and arousal strongly influence behavior. They suggest that consumer behavioral intentions can predict actual behavior and contribute to making more robust decisions about the outcome of shopping. From this point of view, the present study proved the interaction of TE with sub-dimensions addressing both intention and actual behavior. In addition, the fact that NTS also influences the sub-dimensions shows the importance of scent in coffee chains.

In one of the studies on direct taste, Allison and Uhl (1964) showed that visual stimuli can manipulate consumers' taste perceptions. In parallel, Nevid (1981) showed in his study that inexperienced consumers may move away from biased decisions when there are no external cues (e.g., brand labeling) about the product. Both studies proved that when the tested product does not have visual stimuli in different brands, there is no distinctiveness in taste. Hoegg and Alba (2007), who showed that color affects perceived differences in the taste of products, also revealed that verbal stimuli (sense of hearing) are more effective than visual stimuli (e.g., color). Beckel et al. (2011) also suggested that visual stimuli (e.g., packaging, color, and hue) can influence TE. Two of the most important studies that use the senses together to affect consumption and are relevant to coffee chains are Seigneuric et al. (2010) and van Rompay (2019). Both studies emphasize that consumers' evaluations and experiences of interaction with the environment are influenced by supporting odor with visual stimuli. In particular, van Rompay (2019) stated that ads that provide visual cues can increase taste intensity, love, and purchase intention. Seigneuric et al. (2010), on the other hand, stated that objects would be better recognized with the scent given on the product's visual and revealed the unconscious effect of scent on consumers. In the present study, the fact that the effects on consumers' taste evaluation are associated only with the sense of smell is a limitation of the study.

Due to the studies presented in this section, it is thought that smell and other senses may contribute to taste evaluation. At the same time, studies show that their intentions and attitudes can shape consumers' judgments about the products they use. In the current study, only the sense of taste was included in evaluating the consumed product, which is another limitation of the current study. Similar studies can be conducted on other factors that affect consumers' emotions, states, behaviors, and attitudes. The action phase and WtPM dimensions used in the current study and included under the loyalty heading are more action-oriented measurements. In future studies, it is thought that a concrete contribution to literature can be made by using different metrics that measure various stages of loyalty and consumer attitudes. Finally, the sample used in this study is specific to the markets of coffee chains that have developed in recent years. The model used in this study can be replicated with different products and different consumer groups.

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