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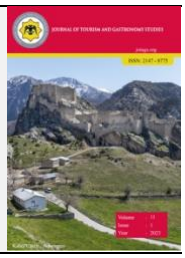

Coffeescape: A Scale for Measuring Coffee Shops Atmospherics

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Abstract

The purpose of this research is to develop a scale to measure atmospheric elements in coffee shops. In the study, the exploratory sequential design method was used. The universe of the research consists of people who visit Starbucks coffee shops in Besiktas in Istanbul. In the study, data were collected from 343 Starbucks customers for EFA and 335 Starbucks customers for DFA. As a result of the research, the COFFEESCAPE scale, which consists of 5 dimensions and 17 items and measures the atmospheric elements in coffee shops, has also been developed with proven validity and reliability. The dimensions of the scale emerged as layout, aesthetics, lighting, service staff and technology. The data collection process of this study for EFA and DFA coincided with the Covid-19 pandemic period and the Coffeescape scale's first development phase may have caused deficiencies in the expressions for measuring the atmospheric elements in coffee shops. No other scale with proven validity and reliability that measures atmospheric elements in coffee shops has been found in the national or international literature. From this point of view, it is thought that this scale will make an important contribution to the literature.

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INTRODUCTION

Many studies have been conducted on the role of a place / intrerior atmosphere and human environment based experiences (Mehrabian & Russell, 1974). In particular, 'environmental psychology' has focused on the interaction of humans and their environment (Mehrabian & Russell, 1974). The first studies related to environmental psychology mostly focused on areas such as work, home, school, hotel and prison environment. Later, studies were conducted on the effect of the atmosphere in the store(shop) environment (Van Vlient, 2018). The main source of reference for many different types of research on the concept of atmosphere is the S-O-R (Stimulus - Organism - Response) model developed by environmental psychologists Mehrabian and Russell in 1974 (Van Vlient, 2018).

According to studies on environmental psychology, there is a strong relationship between human behavior and the physical environment (Mehrabian & Russel, 1974; Russel & Pratt, 1980). In this context, Mehrabian and Russell's (SOR) model examines the reactions of organisms (people) to the environment they live in. The concept of atmosphere, also known as physical environment, was first used by Kotler (1973-1974) about 50 years ago. The term atmosphere, It originates from the layer of air that surrounds the earth and was first defined by Kotler as "It is the effort to design a shopping environ-ment that produces emotional effects on the individual in order to increase their likeli-hood of purchase" (Kotler, 1973). Atmospheric factors affect customer feelings (Bitner, 1990; Mehrabian & Russell, 1974), satisfaction levels (Bitner, 1990; Chang, 2000), service quality perception (Wakefield & Blodgett, 1999) and post-purchase behavior (Liu & Hang, 2009). Atmospheric factors have a significant effect on customer satisfaction, revisit intention and personal comfort (Ayazlar & Artuğer, 2015).

Atmospheric factors have become extremely significant especially for hotels, restaurants, banks, hospitals and retail stores in the service sector due to their effect on influencing customer behaviors and creating images (Baker 1987; Booms & Bitner 1982; Kotler 1973-1974; Shostack 1977; Zeithamlm et al., 1985). The ambient atmosphere in purchasing affects the customers' thoughts about a product or service by influencing their senses and communicates with them through non-verbal channels (Bateson & Hoffman, 2001). In line with this, a business should consider that the ambient atmosphere is an important factor while achieving the goals it has determined and effectively managing customer expectations (Bateson & Hoffman, 2001; Kotler, 1973-1974).

When the relevant literature is examined, it is revealed that there are many studies (Do-novan & Rossiter, 1982; Sherman et al., 1997; Hui & Bateson, 1991; Mattila & Wirtz, 2000) on atmosphere by different researchers. These studies mainly focus on the retail sector (Donovan & Rossiter, 1982; Berman & Evans, 1995; Turley & Milliman, 2000) and the service sector such as hotels, restaurants and bars (Bitner, 1992; Wakefield & Blodgett, 1996; Raajpoot, 2002; Waxman, 2006; Ryu & Hang, 2007; Jang & Namkung, 2009). However, when the national and international literature is examined, no scale has been found that has been used to measure atmospheric elements in coffee shops before. In this context, the aim of the research is to develop a scale to measure atmospheric elements in coffee shops. With the use of such a scale, a validity and reliabilitytested scale that can be used by researchers who want to work on coffee shops will be brought to the literature. At the same time, it is aimed to contribute to the studies to be carried out on other businesses in the Starbucks style beverage industry when needed.

Literature Review

Coffee Shops

Today, places called 'cafes' can be found in almost every city in the world. The task of creating a fun and enjoyable atmosphere where coffee shops have provided people with the opportunity to chat, eat and drink, and spend their spare time continues since the first time the coffeehouses emerged (Cowan, 2005; Heise, 2001). It is possible to encounter expressions such as coffee shop, cafeteria, cafe-bar, cafe-espresso, espresso-bar, cafe-restaurant, jazz-café, rock-cafe, cafe-patisserie, etc. everywhere. The modern cafe-bar and Italian espresso-bar types imported from the USA in the mid-1950s show that the coffeehouse continues to exist in different forms (Heise, 2001).

Kahvehane means 'coffee house' etymologically in Turkish (wikipedia). Coffeehouses, which were opened to provide a place for customers to drink coffee, have turned into cultural venues where literary or current issues are discussed, different entertainments are organized and folk tales are told (Sami, 2010). The transformation of coffee houses into entertainment centers that create pleasant environments coincides with the fact that coffee is a beverage that replaces wine and gives pleasure (Aydın, 2011). Heise (2001) described coffee houses (kahvehane) as the 'tavern without wine' of the Islamic world in the periods when coffee houses were newly emerged and adopted by the public.

The first coffeehouse (kahvehane) in Muslim societies was opened next to a mosque in Mecca in 1511 (Gürsoy, 2007). The first of the coffeehouses, which formed the basis of coffee culture in the Ottoman Empire and were only open to men at that time, was opened in Tahtakale, Istanbul, in 1554, during the reign of Suleiman the Magnificent, by Hakim and Shams from Aleppo and Damascus (Heise, 2001; Gürsoy, 2007). Coffee houses are places that are open 24 hours a day, where people spend their free time with activities such as entertainment and games, and these have become the haunts of writers, socialists, politicians and traders, and become indispensable places of people's daily lives (Heise, 2001; Cowan, 2005).

Sayımer and Uran (2014) stated that today,' kahvehane' has started to be replaced by the "coffee shop" culture from the west. The number of chain coffee shops like Starbucks and similar has increased rapidly in recent years. The word "kahvehane", which was used before for these places where people come together to drink coffee and chat, has left its place to "coffee shops/cafe" today (Cited by Alyakut, 2017).

Coffee shops, which have become widespread all over the world, offer other food and beverages to their customers in addition to coffee. Some of the leading international businesses in the coffee store industry include: Coffee & Tea (The Coffee Bean & Tea Leaf), Peet's Coffee, Gloria Jean's Coffee, and Starbucks. Apart from these, there are also coffee shops such as Costa Coffee and Caffè Nero (UK origin). According to Coffee shop industry market analysis 2022 data, the coffee store sector in the United States has an average annual sales market of $ 45.6 billion dollars, and there are over 60,000 coffee shops across America (Statista, 2022). The largest of the American coffee store chains is Starbucks, which has around 35,000 stores in 80 different countries (Starbucks, 2022).

Atmosphere Concept

The concept of atmosphere has been tried to be explained with different concepts by different authors in the literature. For example, while Kotler (1973) used the name at-mospheric, Baker (1987) found it appropriate to define it as physical environment. Bitner (1992), on the other hand, preferred to define the store atmosphere as the service environment. While Arnold, Handelman & Tigert (1996) defined the store atmosphere as the economic environment,

Turley & Milliman (2000) preferred the concept of the marketing environment. While Weinrach (2000) expresses the store atmosphere as environmental psychology, Mathwick et al. (2001) interactive theatre, Roy & Tai (2003) store environment, Cronin (2003) service environment and Tombs & McColl-Kennedy (2003) conceptualized it as a social service scape (Harris & Ezeh, 2008).

The concept of atmosphere is of great importance for businesses in the service sector today as it was in the past, as it is effective both in the perception of business image and in the purchasing behavior of customers (Bitner 1992). It is seen that factors related to the concept of atmosphere in the service sector such as both the retail and hospitality industries have been studied by various researchers (Bitner, 1992; Kotler; 1973; Baker, 1987; Milliman & Fugate, 1993). Studies have shown that the dimensions that make up the ambient atmosphere are different from each other.

Bitner (1992), one of the most important researchers with many researches on the concept of atmosphere, developed the SERVICESCAPE (service environment) scale by making use of SERVQUAL and other atmospheric scales. He used the concept of service environment to name the physical environment in which customers receive service. The author has identified three dimensions of the atmosphere on the scale, and these dimensions are; ambient conditions, spatial order-functionality, signs-symbols-art works. Ambient conditions include ambient temperature, odour, noise, ventilation, music and lighting. Layout functionality dimension of the place; furniture and positioning, corridor, walkway, food service area, toilets, business entrance-exit points such as physical space elements. Signs-symbols-artworks dimension includes elements such as signs, symbols, decor and artworks used to enrich communication with customers.

The TANGSERV scale was developed in a research conducted by Raajpoot (2002) to measure atmospheric elements in food and beverage establishments. Raajpoot (2002) gathered similar structures under basic headings by blending SERVICESCAPE, DIN-ESERV and SERVQUAL scales. This scale; ambience/social factors (such as music, temperature, lighting, ambient crowd), general layout/design factors (such as restaurant location, building design, interior decoration, seating arrangement) and product/service factors (such as food presentation, menu design, variety of food) consists of three dimensions (Raajpoot, 2002).

Ryu & Jang (2008) developed the DINESCAPE scale for the atmosphere assessment (physical environment) of upscale restaurants. DINESCAPE that is defined by Ryu & Jang (2008) as man-made physical and human surroundings in the dining area of upscale restaurants. Unlike the SERVICESCAPE scale, this scale only considers the environment of the restaurant's dining spaces and does not deal with other interior areas of the restaurant (toilets, waiting area(lounge), etc.) and the environment outside the restaurant (parking lot, external building structure of the restaurant, etc.) (Ryu & Jang, 2008). In the scale developed as a result of the research, the restaurant atmosphere is gathered under six factors: business aesthetics, ambiance, lighting, table service arrangement, seating arrangement and working personnel. Although the lighting dimension obtained in this study is included in the ambiance components in many studies, Ryu & Jang (2008) achieved a different dimension by separating this element from the others.

Heung & Gu (2012) determined the restaurant atmosphere as four dimensions in their study in which they measured the effect of restaurant atmosphere on satisfaction and behavioral intentions. These dimensions are; spatial layout&employee factor, ambience, facility aesthetics and view from window. On the other hand, Ryu & Han (2011) conducted a study on the physical environment of restaurants and they measured facility aesthetic, ambience, lighting,

table setting, lay-out, service staff.

When the researches on coffee shops in the service sector were examined, no scale was found for the measurement of atmospheric elements. For these reasons, it has been observed that there is a need to develop valid and reliable scales for the determination of atmospheric elements in coffee shops, the number of which has been increasing in our country in recent years, and it has been decided to conduct the study. With the scale to be developed, it is aimed to contribute to both national and international literature. In addition, in the coffee industry, where the competitive environment is intense, it is im-portant to reveal the effective atmospheric elements in the process of making the purchasing decision of the customers. Businesses in the sector can develop these elements, which are important for customers, and use them to the advantage of their businesses. With the developed scale, it is also important in terms of adapting to businesses in similar sectors when needed.

Method and Scale Development

The aim of this research is to develop a scale to measure atmospheric elements in coffee shops. To achieve the aim of the study, Churchill (1979) and Boateng et al. (2018), the principles of scale development were adopted. In this study, qualitative and quantitative researches were carried out together and the exploratory sequential mixed method, which is one of the mixed method types, was used. Using the exploratory sequential mixed method, the researcher primarily conducts qualitative research and discovers the participants' thoughts on the researched topic. In order to determine the variables to be discovered in quantitative research, which is the second step of the research, qualitative research should be done first (Creswell, 2014).

Item Generation

At this stage of the scale development process, the expressions to be used in the scale were tried to be determined. Two stages were followed in determining the expressions to be used in the scale. The first stage is the examination of previous studies on the subject. As a result of the research, no scale with proven validity and reliability was found to measure atmospheric elements in coffee shops.

The second stage was carried out by using the interview technique to learn the perspectives of the customers serving in the coffee shops. Semi structured interview technique was used as data collection tool. The semi structured interview form consists of two parts, and in the first part, there are three questions to reveal the demographic characteristics of customers in Starbucks coffee shops. In the second part of the interview form, there are nine questions to determine which atmospheric elements in coffee shops are effective on customers. The semi structured interview form developed as a data collec-tion tool in the research was prepared by reviewing the detailed literature on the field and at the same time, it was prepared based on the opinions and studies of experts in the coffee industry and academics working on topics such as tourism marketing, atmospheric elements, and physical evidence. The interview form took its final form and was prepared for the data collection process. After the interview form was prepared, the people to be interviewed were determined by the purposeful sampling method. Purposeful sampling technique, also known as judgment sampling, was consciously chosen due to the qualifications of the participant (Creswell, 2014). According to Etikan et al. (2016), the researcher decides what needs to be known and sets out to find people who can and are willing to provide the information by virtue of knowledge or experience. In this context, experts experienced in the coffee industry, customers in the Starbucks coffee shop during the interview and the

store manager in charge were included in the sample. The interview was held with Starbucks coffee store customers and manager at Starbucks in Beşiktaş, Istanbul in October 2019. During the qualitative research process, a total of 12 participants were interviewed. The interview with each participant lasted approximately 20-30 minutes. It was checked whether the findings obtained with the qualitative research were compatible with the literature, and then the COFFEESCAPE scale draft necessary for the pilot scheme was created.

Pilot Scheme

As a result of literature review and qualitative research, 26 expressions were developed for the COFFEESCAPE scale. A pilot scheme was conducted to determine whether these expressions in the scale were understood by the participants. The pilot application is a small scale study done before the main application in order to evaluate the performance of each item in the draft scale (Devellis, 2003). In the development of a new scale, not only experts but also the views of the target audience are used (Clark & Wat-son, 1995; Sapsford & Jupp, 1996). To determine the incomprehensible expressions in the COFFEESCAPE scale and to finalize the scale, a pilot study was carried out for a total of 45 customers at Starbucks in Beşiktaş, İstanbul in November 2019. The pilot application showed that there were no incomprehensible expressions expressed by participants. Thus, it was decided to use the 26 statement scale for the actual application.

Sampling and Data Collection

The universe of this research consists of people who visit Starbucks in Beşiktaş district of Istanbul. The reasons why Starbucks coffee shops are preferred can be stated as being a global brand located in many countries of the world, having stores in many cities (41 cities) of Turkey, and also having the highest number of stores in Turkey with the number of 531 branches (Starbucks, 2021). In addition, the younger generation prefers the Starbucks brand more to drink coffee. It is a well-known fact that the young population consumes more coffee in Turkey as in the United States (Waxman, 2006; Ulusoy & Şeker, 2013). As a result, the majority of Starbucks customer profile is composed of young population (Altman, Snyder & Racioppi, 2014). The reason for choosing Istanbul as the universe of the research is that the majority (234) of Starbucks coffee shops in Turkey are located in Istanbul. The reason for choosing the Beşiktaş region is that the young population is in the majority due to the fact that the universities in Istanbul are concentrated in this region. In the study, convenience sampling method was used to determine the sample that would represent the characteristics of the universe.

While developing a new scale, different sample groups should be studied for EFA and CFA (Hair et al., 2014; Morgado et al., 2017). Therefore, data collection was performed twice in this study, first for EFA and then for CFA. The data collection process for the EFA analysis was carried out at 14 different Starbucks coffee shops in Beşiktaş be-tween 10 September 2020 and 5 November 2020. It was taken into account that an equal number of survey data was collected from each coffee shop. At the end of the EFA data collection process, a sample size of 357 people was reached. Hair et al. (2014), this number is sufficient for explanatory factor analysis. For DFA, the data collection process was carried out on 1-9 April 2021. For CFA, a sample size of 340 people was reached. Myers et al. According to (2011) this number is sufficient for confirmatory factor analysis.

In October 2019, 12 participants were interviewed for the first time while creating a question pool for the scale, and then a pilot study was conducted in November 2019. During these dates, there was no Covid-19 pandemic in the

world yet. There is approximately 10 months between post pilot research and data collection for EFA. In fact, data collection for the post pilot EFA was planned in February and March 2020, when university students return from the semester break. However, due to the Covid-19 pandemic, the Turkish government decided to stop the activities of food and beverage businesses in March 2020, and this has remained valid until August 2020. Therefore, data collection for EFA started in September 2020, the date when students started education.

Due to the fact that the data collection process was in the pandemic period, the questionnaires were transferred online using the data matrix application by minimizing the contact with the participants and taking health and hygiene measures. In this way, it is aimed to make the participants feel more comfortable, so that the data can be collected more reliably. During the data collection process, a small information note with a QR code and a brief explanation about the survey was given to customers at the Starbucks coffee shop. The questionnaire was applied in accordance with the volunteering principles of the participants.

Item Reduction (Exploratory Factor Analysis)

Explanatory factor analysis was performed to reduce and size the expressions in the scale. Before starting the exploratory factor analysis, it was checked whether the data obtained were suitable for the analysis. In this context, it was examined whether the data showed normal distribution and whether there were extreme values (Gie Yong & Pearce, 2013). When the data for EFA were examined, it was seen that the data were normally distributed, but there were extreme values. After the data were cleared from extreme values, explanatory factor analysis was performed on 343 questionnaires. Par-ticipants' levels of agreement for each statement were graded on a 5-point Likert scale as Strongly disagree=1", "Disagree=2", "Neutral=3", "Agree=4" and "Strongly agree=5".

The Bartlett's test result in the applied factor analysis revealed that factor analysis could be applied ($p<0.01$) and the Kaiser-Meyer-Olkin value (0.829) revealed that the sample size was sufficient (Field, 2005).

One of the most preferred vertical rotation techniques for factor rotation is the varimax rotation technique (Bryant & Yarnold, 1995). The main purpose of exploratory factor analysis is to reduce a large number of variables explaining the data to a smaller number of variables (Brown, 2006).

Many variables in factor analysis may have a higher factor loading in one factor, while they may have a lower factor loading in other factors. This situation causes difficulties in interpretation of the results and therefore factor rotation method is used and thus a clearer distinction can be made between the factors (Field, 2005). Principal Components Analysis was used to determine the structural validity of the developed scale and 'AFA' was applied using the varimax axis rotation technique.

One of the most important stages of exploratory factor analysis is the correct determination of the number of factors. In this study, the Kaiser criterion was used to determine the number of factors. According to this criterion, values with an eigenvalue greater than 1 are considered factors (Gie Yong & Pearce, 2013). As a result of EFA, a six-factor result was obtained. However, because the Cronbach's alpha value of the ambi-ance dimension containing 4 expressions was lower than 0.60, it was excluded from the scale (Hair et al., 2014).

Hair et al. (2014) factor loads less than 0.50 are considered low. For this reason, two expressions in each of the dimensions of service staff and aesthetics were excluded from the scale because their factor loads were below 0.50. As a result of the re-applied EFA, the COFFEESCAPE scale, which originally had 26 statements and six dimen-

sions, finally consisted of five dimensions and 18 statements. It was determined that the factors explained 63.201% of the total variance and the factor loads of the items were above 0.50. Table 1 shows the demographic characteristics of the participants for whom data were collected for explanatory and confirmatory factor analysis. Table 2 shows the EFA results of the scale.

Table 1. Profile of participants-sample one (n=343 for EFA, n=335 for CFA)

Variables	Group	EFA (n=343)		CFA (n=335)	
		Frequency (f)	Percentage (%)	Frequency (f)	Percentage (%)
Gender	Female	176	51.3	175	52.2
	Male	167	48.7	160	47.8
	Total	343	100	335	100
Age	16-20	69	20.1	71	21.2
	21-25	178	51.9	139	41.5
	26-30	55	16	68	20.3
	31-35	19	5.5	36	10.7
	36-40	9	2.6	8	2.4
	41 and older	13	3.8	13	3.9
	Total	343	100	335	100
Education	Primary education	16	4.7	9	2.7
	High school	67	19.5	63	18.8
	Associate degree	70	20.4	58	17.3
	Undergraduate degree	143	41.7	148	44.2
	Postgraduate degree	47	13.7	57	17
	Total	343	100	335	100
Frequency of visit	1 time per week	141	41.1	93	27.8
	2-3 times a week	155	45.2	180	53.7
	4-5 times a week	35	10.2	58	17.3
	6 times a week	1	0.3	0	0
	Every day	11	3.2	4	1.2
	Total	343	100	335	100

Table 2. Results of EFA-sample one (n=343)

Factor/Items	Factor Loading	Communalities	Eigenvalue	Explained Variance (%)	Cronbach's alfa
Factor 1. Layout			5.284	29.353	0.774
1. Seats are comfortable	.762	.665			
2. Layout/design of tables gives comfortable movement space	.771	.672			
3. The table arrangement is suitable for my purpose of visit.	.731	.600			
4. The desk layout didn't make me feel stuck	.658	.546			
Factor 2. Facility aesthetics			1.831	10.174	0.804
5. The colors used created a warm atmosphere	.718	.590			
6. Paintings/pictures are interesting	.804	.726			
7. Wall decorations are visually appealing	.782	.683			
8. Decoration is peaceful	.710	.559			
Factor 3. Lighting			1.780	9.892	0.798
9. The ambient lighting created a comfortable atmosphere	.736	.616			
10. The ambient lighting created a friendly atmosphere	.733	.619			
11.The lighting of the environment is suitable for my purpose of visit	.776	.663			
12. Ambient lighting is not irritating	.744	.622			
Factor 4. Service staff			1.367	7.596	0.719
13. Staff are debonair(friendly)	.820	.768			
14. Staff are sincere	.842	.758			
15. Staff are clean and well dressed	.581	.416			
Factor 5. Technology			1.114	6.187	0.664
16. Free wi-fi service is sufficient	.637	.545			
17. The number of sockets is sufficient	.774	.673			
18. The Starbucks mobile app is helpful	.793	.656			
Total Variance Explained: 63,201; KMO: 0,829; Bartlett's Test of Sphericity: p<000.					

Scale Validation (Confirmatory Factor Analysis)

After the exploratory factor analysis, scale validation was obtained with the help of confirmatory factor analysis. The validity of the fit indices of the scale was tested by using the AMOS 24 (Analysis of Moment Structures) program to validate the COFFEESCAPE scale, which consists of five factors and a total of 18 items. Before performing CFA analysis, it was checked whether there were missing data, outliers, and whether the data showed a normal distribution (multivariate normality) (Brown, 2006).

First, it was checked whether there was missing data in the data set and as a result, it was seen that there was no missing data. Mahalanobis distance values were examined to determine the extreme values and questionnaires with p1< 0.01 were removed (Kline, 2016). After removing the extreme values, skewness and kurtosis values were checked to check whether the data showed a normal distribution. According to Shiel and Cartwright (2015), skewness and kurtosis values between -1 and +1 are quite a good ratio for the normal distribution of the data, but values between -2 and +2 are also on the acceptable value scale. The analysis showed that the skewness and kurtosis values of each expression in the scale were between -2 and +2.

By examining the skewness and kurtosis values of all expressions, it was determined that the data showed a normal distribution. Accordingly, all analyzes related to CFA were carried out on data based on 335 questionnaires. The Maximum Likelihood method, which is claimed to maximize the relationship between factors and variables (Tabachnick & Fidell, 2013), was used as a factor estimation method, which is frequently used in the CFA phase.

As a result of the analysis, the fit index values were determined as p:0.000 χ^2:177.719, df:109, χ^2/df=1.60, CFI:0.97, GFI:0.94, NFI:0.93, RMSA:0.04, AGFI:0.92. The obtained values show that the fit values in the measurement model are at an acceptable level (Schermelleh-Engel et al., 2003).

In order to determine the construct validity of the scale, convergent validity and discriminant validity were examined. In determining the convergent validity factor loads, CR (Composite Reliability) and AVE (Average Variance Extracted) values were used (Hair et al., 2014). According to Hair et al. (2014), factor loads should be 0.70 and above in confirmatory factor analysis, but 0.50 and above is also an acceptable value. In the CFA analysis, the statement "Starbucks mobile application is useful", which is under the technology dimension, was excluded from the scale because the factor load was less than 0.50. Thus, as a result of CFA, the final version of the COFFEESCAPE scale, which consists of 5 dimensions and 17 expressions, was formed.

It is emphasized that the AVE value should be 0.50 and above (Bagozzi & Yi, 1988; Hair et al., 2014), and the CR value should be 0.70 and above (Hair et al., 2014). However, other indicators of the model are good and CR values between 0.60 and 0.70 are also acceptable in exploratory studies (Hair et al., 2014; Hair et al., 2017).

As a result of the examination of the data in Table 4, it is seen that the AVE values of all dimensions are above 0.50. It is seen that the CR values are 0.68 only in the "technology" dimension and above 0.70 in the other dimensions. In discriminant validity, the square roots of the AVE values are compared with the correlation coefficients between the constructs. The correlation values between the structures should be lower than the square roots of the AVE values (Fornell & Larcker, 1981). By examining the data in Table 4, it is concluded that the correlation coefficients between the structures are lower than the square root values of AVE.

Table 3 shows the CFA results of the scale.

Table 3. Results of CFA-sample two(n=335)

Factor/Items	Factor Loading	Cronbach's Alpha	CR	AVE
Layout		0.83	0.83	0.55
Seats are comfortable	0.64			
Layout/design of tables gives comfortable movement space	0.76			
The table arrangement is suitable for my purpose of visit. (studying and chatting with friends)	0.80			
The desk layout didn't make me feel stuck	0.75			
Facility aesthetics		0.82	0.82	0.54
The colors used created a warm atmosphere	0.69			
Paintings/pictures are interesting	0.77			
Wall decorations are visually appealing	0.76			
Decoration is peaceful	0.72			
Lighting		0.80	0.80	0.50
The ambient lighting created a comfortable atmosphere	0.71			
The ambient lighting created a friendly atmosphere	0.67			
The lighting of the environment is suitable for my purpose of visit(studying ,chatting with friends)	0.69			
Ambient lighting is not irritating	0.75			
Service staff		0.77	0.79	0.57
Staff are debonair(friendly)	0.85			
Staff are sincere	0.81			
Staff are clean and well dressed	0.57			
Technology		0.68	0.68	0.51
Free wi-fi service is sufficient (uninterrupted and fast)	0.74			
There are enough sockets for electronic devices such as laptop, mobile phone, tablet etc.	0.69			
Model fit statistics: **p:0.000 χ^2:177.719, df:109, χ^2/df=1.60, CFI:0.97, GFI:0.94, NFI:0.93, RMSA:0.04, AGFI:0.92**				

Table 4. Discriminant Validity

Variable	1	2	3	4	5
1. Layout	**0,741**				
2. Facility aesthetics	0,590	**0,734**			
3. Lighting	0,556	0,626	**0,707**		
4. Service staff	0,417	0,424	0,536	**0,754**	
5. Technology	0,411	0,357	0,406	0,294	**0,715**

Note. The diagonals (in bold) represent the square root of the AVE.

Discussion and Conclusion

The aim of this research is to develop a scale to measure atmospheric elements in coffee shops. An important finding determined as a result of the explanatory factor analysis was that the Cronbach's alpha value of the 'ambience' sub-dimension was lower than 0.60 (Hair et al, 2014) and therefore it was excluded from the scale as a dimension. While the first question pool was created for the scale, 12 participants were interviewed in October 2019 and survey statements were formed as a result of this interview. At the time of the meeting, there was no Covid-19 pandemic in the world yet. Therefore, the expressions under the ambiance dimension are mostly aimed at measuring the elements in the interior of the store. Data collection for AFA is on September 10 - November 5, 2020, and on this date, customers who participated in the survey due to the pandemic generally preferred to sit in open areas such as gardens, terraces, balconies. For this reason, it is thought that the Cronbach alfa value was low because the participants did not fully feel the expressions under the ambiance dimension during the survey. However, since the factor loads of two expressions under the service staff and aesthetic dimensions were below 0.50 (Hair et al., 2014), they were excluded from the scale. As a result, the scale consisting of 26 expressions and six dimensions emerged as 18 expressions and 5 dimensions. The factor loads of the items were between 0.581 and 0.842 and explained 63.201% of the variance.

The difference between the COFFEESCAPE scale, DINESCAPE and SERVICES-CAPE scales is that it is a scale developed only for coffee shops. As a result of the re-search, the dimensions of the COFFEESCAPE scale; layout, aesthetics, lighting, service staff and technology. The dimensions obtained as a result of the research are similar to the dimensions in the DINESCAPE scale developed by Ryu & Jang (2008) to evaluate the atmosphere in upscale restaurants.

Among the factors reached in both studies, aesthetics, lighting, staff, seating arrangement are remarkable as common dimensions. In many other studies, the lighting element, which is included in the ambiance components, is considered as a different di-mension in the scale developed by Ryu & Jang (2008). Similarly, in the scale obtained as a result of this research, lighting is considered as a different dimension. As a result of this research, the 'technology' factor emerged, different from the dimensions obtained by Ryu & Jang (2008). Due to the determination of technology as a dimension in this scale, it has caused it to be separated from other scales developed for food and beverage businesses. The reason why this dimension was evaluated separately was the importance given to technology by the younger generation representing the customer profile, and in connection with this, technology was seen as an important factor during the coffee experience.

Aesthetics and layout dimensions in the COFFEESCAPE scale are also similar to the dimensions in the SERVICESCAPE scale developed by Bitner (1992). In their study, Heung & Gu (2012) explained the restaurant atmosphere in four dimensions: spatial layout and working staff, ambiance, business aesthetics and business landscape. It is seen that the aesthetic, layout and service staff dimensions in order to verify the struc-ture of the obtained COFFEESCAPE scale, confirmatory factor analysis was performed on the data obtained from 335 participants who visited Starbucks coffee shops in Istanbul/Beşiktaş. An expression under the technology dimension in the COFFEESCAPE scale was removed from the scale because the factor load was less than 0.50 (Hair et al., 2014). It was determined that the goodness of fit values obtained as a result of the ana-lyzes were in the acceptable range. In addition, to ensure the construct validity of the scale, convergent validity and discriminant validity were checked. After demonstrating the validity of the scale, Cronbach Alpha coefficients were examined in order to deter-mine its reliability. It has been determined that the values of the factors obtained as a result of the reliability analysis are above 0.60, which is the accepted value for exploratory research (Hair et al., 2014). Thus, based on the data obtained as a result of CFA, the COFFEESCAPE scale consisting of 5 factors and 17 items was validated as a mod-el the COFFEESCAPE scale developed as a result of this research are similar.

As a result, the analyzes show that the developed Coffeescape scale is valid and reliable. When the national and international literature is examined, no scale has been found to determine the atmospheric elements in coffee shops before. In this respect, it can be said that the research has a unique structure. When the theoretical contribution of the research is evaluated, a valid and reliable scale has been brought to the literature. Considering that the store designs of Starbucks coffee store, which is a global brand, have a similar structure in all countries, it is possible to say that this scale can be used for the same purpose for all other Starbucks Coffee style coffee shops in the world. With this feature, it is thought that the scale will contribute to the international literature. At the same time, with the developed scale, it can be used as an important tool for businesses in the coffee sector to determine what atmospheric elements are important for their customers and to turn these elements into their own advantages in an environment where competition is intense.

Limitation and Future Research

Based on the limitations and results of the study, some suggestions for future research are presented. First of all, the data collection process of this study for the EFA and DFA coincided with the Covid-19 pandemic period, which had an impact all over the world. When returning to normal life after the pandemic, a similar research can be done by adding the ambiance dimension to the COFFEESCAPE scale. Differences and similarities can be revealed by comparing the results of future research with the results ob-tained from this research. This research was limited to Starbucks coffee shop only. Similar studies can be done for other coffee shops. Since the COFFEESCAPE scale was developed for the first time, there may be a lack of expressions for measuring dimensions. Considering that the store designs of the Starbucks coffee store, which is a global brand, have a similar structure in all countries, it is possible to say that this scale can be used for the same purpose for all other Starbucks Coffee style coffee shops in the world. With this feature, it is thought that the scale will contribute to the international literature. In addition, considering that there is an increase in the number of coffee shops in the world every year, it can be said that the developed scale will become even more important in the coming years and will maintain its currency. At the same time, with the scale developed, businesses in the coffee sector can use it as an important tool in terms of what atmospheric elements are

important for their customers and to turn these elements into their own advantages in an environment where competition is intense.

Declaration

All authors of the article contribute equally to the article process. The authors have no conflict of interest to declare.

REFERENCES

Altman, J., Snyder, L. & Racioppi, D. (2014). Campaign Task: Starbucks Coffee Com-pany. Retrieved from https://nanopdf.com/download/campaign-task-starbucks-coffee-company_pdf (Accessed on 14.12.2020).

Alyakut, Ö. (2017). Kahve markalarının bütünleşik pazarlama iletişimi bağlamında sosyal medya kullanımları. *Afyon Kocatepe Üniversitesi Sosyal Bilimler Dergisi*, 19(2), 209-234.

Arnold, S. J., Handelman, J. & Tigert, D. J. (1996). Organizational legitimacy and retail store patronage. *Journal of Business Research*, 35(3), 229-239.

Ayazlar, G. & Artuğer, S. (2015). Otel müşterileri için önemli olan atmosferik unsurların demografik özelliklere göre incelenmesi. *Pamukkale Üniversitesi Sosyal Bilimler Enstitüsü Dergisi*, 21, 25-33.

Aydın, C. (2011). *Kahvehanelerin Kültürel Yaşamdaki Rolü*. Kahraman, K. (Ed.) (2011). Tüm Zamanların Hatırına Sarayda Bir Fincan Kahve. İstanbul: TBMM Milli Saraylar Daire Başkanlığı Yayını, 81-89.

Bagozzi, R. P. & Yi, Y. (1988). On the evaluation of structural equation models. *Journal of the Academy of Marketing Science*, 16(1), 74–94.

Baker, J. (1987). *The Role of The Environment in Marketing Services: The Consumer Perspective*. Czepiel, J.A., Congram, C.A. & Shanahan, J. (Eds.) (1987). The Services Challenge: Integrating for Competitive Advantage. Chicago: American Marketing Association, 79-84.

Bateson, J.E.G. & Hoffman, K. D. (2001). *Managing Services Marketing*. USA: Thomson-South Western.

Berman, B., Evans, J. R. (1995). *Retail Management: A Strategic Approach*, 6th Edition, Prentice-Hall, Inc., Englewood Cliffs, NJ. Bitner, M.J. (1990). Evaluating Service Encounters: The Effects of Physical Surroundings and Employee Responses. Journal of Marketing, 54, 69–82.

Bitner, M.J. (1992). Servicescapes: The impact of physical surroundings on customers and employees. *Journal f Marketing*, 56, 57–71.

Boateng, G.O., Neilands, T. B., Frongillo, E. A., Melgar-Quinonez, H. & Young, S.L. (2018). Best practices for developing and validating scales for health, social, and behavioral research: A primer. *Frontiers in Public Health*, 6(149), 149–167.

Booms, B. H. & Bitner, M. J. (1982). Marketing services by managing the environment. *Cornell Hotel and Restaurant Administration Quarterly*, 23(1), 35-40.

Brown, A. T. (2006). *Confirmatory Factor Analysis for Applied Research*. London: The Guilford Press.

Bryant, F.B. ve Yarnold, P.R. (1995). Principal components analysis and exploratory and confirmatory factor analysis. Washington, DC: American Psychological As-sociation.

Chang, K. (2000). The impact of perceived physical environments on customers' satisfaction and return intentions. *Journal of Professional Services Marketing*, 21(2), 75-85.

Churchill, G. A. (1979). A paradigm for developing better measures of marketing construct. *Journal of Marketing Research*, 16(1), 64-73.

Clark, L. A. & Watson, D. (1995). Constructing validity: Basic issues in objective scale development. *Psychological Assessment*, 7(3), 309-319.

Cowan, B.W., (2005). *The Social Life of Coffee: The Emergence of the British Coffeehouse*, Yale University Press, New Haven.

Creswell, J. W. (2014). *Research design: Qualitative, Quantitative, and Mixed Methods Approaches*. Thousand Oaks: Sage.

Devellis, R. F. (2003). *Scale Development: Theory and Applications*. Thousand Oaks: Sage.

Donovan, R. J. & Rossiter, J. R. (1982). Store Atmosphere: An Environmental Psychol-ogy Approach. *Journal of Retailing*, 58, 34-57.

Etikan, I., Abubakar Musa, S. & Sunusi Alkassim, S. (2016). Comparison of convenience sampling and purposive sampling. American *Journal of Theoretical and Applied Statistics*, 5 (1), 1-4.

Field, A. (2005). *Discovering Statistics Using SPSS*. London: Sage.

Fornell, C. & Larcker, D. F. (1981). Structural equation models with unobservable variables and measurement error: Algebra and statistics. *Journal of Marketing Research*, 18(3), 39-50.

Gie Yong, A. & Pearce, S. (2013). A Beginner's guide to factor analysis: Focusing on exploratory factor analysis. *Tutorials in Quantitative Methods for Psychology*, 9(2), 79-94.

Gürsoy, D. (2007). *Sohbetin Bahanesi Kahvesi*. İstanbul: Oğlak Yayınları.

Hair, J. F., Black, C. W., Babin, J. B. & Anderson, R. E. (2014). *Multivariate Data Analysis*. US: Pearson Education Limited.

Hair, J. F., Hult, M. T., Ringle, M. C. & Sarstedt, M. (2017). *A Primer On Partial Least Squares Structural Equation Modeling* (Pls-Sem. US: Sage Publications.

Han, H. & Ryu, K. (2009). The roles of the physical environment, price perception, and customer satisfaction in determining customer loyalty in the restaurant industry. *Journal of Hospitality & Tourism Research*, 33(4), 487-510.

Harris, L. C. & Ezeh, C. (2008). Servicescape and loyalty intentions: An empirical investigation. *European Journal of Marketing*, 42(3), 390-422.

Heise, U. (2001). *Kahve ve Kahvehane* (M. Tüzel, Çev.). Ankara: Dost Kitabevi.

Heung, V. C. & Gu, T. (2012). Influence of restaurant atmospherics on patron satisfaction and behavioral intentions.

International Journal of Hospitality Management, 31(4), 1167-1177.

Hui, M. K., & Bateson, J. E. G., (1991). Perceived Control and the Effects of Crowding and Consumer Choice on the Service Experience. *Journal of Consumer Research*, vol. 18, September, 174-184.

Jang. S. S.& Namkung, Y. (2009). Perceived Quality, Emotions, and Behavioral Inten-tions: Application of an Extended Mehrabian-Russell Model to Restaurants. *Journal of Business Research*, 62, 451-460.

Kline, B. R. (2016). *Principles and Practice of Structural Equation Modeling*. New York: Guildford Press.

Kotler, P. (1973-1974). Atmospherics as a marketing tool. *Journal of Retailing*, 49(4), 48-64.

Liu, Y. & Jang, S. (2009). The Effects of Dining Atmospherics: An Extended Mehrabi-an–Russell Model, *International Journal of Hospitality Management*, 28 (4): 494–503.

Mattila, A. S. ve Wirtz, J. (2001). Congruency of Scent and Music as a Driver of In- Store Evaluations and Behavior. *Journal of Retailing*, 77 (2), 273-289.

Mehrabian, A. & Russell, J. A. (1974). *An Approach to Environmental Psychology*. Cambridge: MIT Press.

Milliman, R. E. & Fugate, D. L. (1993). Atmospherics as an emerging influence in the design of exchange environments. *Journal of Marketing Management*, 3 (1), 435-459.

Morgado, F.F.R., Meireles, J.F.F., Neves, C.M., Amaral, A.C.S. & Ferreira, M.E.C. (2017). Scale development: Ten main limitations and recommendations to improve future research practices. *Psicologia: Reflexão e Crítica*, 30 (3), 1-20.

Myers, D. N., Ahn, S. & Jin, Y. (2011). Sample size and power estimates for a confirmatory factor analytic model in exercise and sport: A Monte Carlo approach. *Research Quarterly for Exercise and Sport*, 82(3), 412-423.

Raajpoot, N.A. (2002). TANGSERV: A multiple item scale for measuring tangible quality in foodservice industry. *Journal of Foodservice Business Research*, 5, 109–127.

Roy, A. & Tai, S. T. C. (2003). Store environment and shopping behaviour: The role of imagery elaboration and shopping orientation. *Journal of International Consumer Marketing*, 15(3), 71-99.

Russell, J. A. & Pratt, G. (1980). A Description of the affective quality attributed to environments. *Journal of Personality and Social Psychology*, 38 (2), 311–322.

Ryu, K. & Han, H. (2011). New or repeat customers: How does physical environment influence their restaurant experience? *International Journal of Hospitality Management*, 30, 599-611.

Ryu, K. & Jang, S. S. (2007). The effect of environmental perceptions on behavioral intentions through emotions: The case of upscale restaurants. *Journal of Hospitality & Tourism Research*, 31(1), 56-72.

Ryu, K. & Jang, S. S. (2008). DINESCAPE: A scale for customers' perception of dining environments. *Journal of Foodservice Business Research*, 11(1), 2-22.

Sami, K. (2010). Halk kültürü bağlamında kahvehanelerin toplumsal ve mekansal dönüşümleri Diyarbakır kent örneği. *Milli Folklar Dergisi*, 85,159-172.

Sapsford, R. & Jupp, V. (1996). *Data Collection and Analysis*. London: Sage Publications.

Sayımer, Ġ. & Uran, A. B. (2014). *Pazarlama Iletişiminde Sanal Ortam Temsilleri: Küresel Kahve Markalarının Web Sitesi ve Sosyal Medya Kullanımları Üzerine Bir Araştırma.* Akça, E.B. (ed.) (2014). Yeni Medya Yeni Pratikler Yeni Olanaklar. Kocaeli: Umuttepe Yayınları, 292-302.

Schermelleh-Engel, K., Moosbrugger, H. & Muller, H. (2003). Evaluating the fit structural equation models: tests of significance and descriptive goodness-of-fit measures. *Methods of Psychological Research Online*, 8(2), 23-74.

Sherman, E., Mathur, A., & Smith, R. B., (1997). Store Environment and Consumer Purchase Behavior: Mediating Role of Consumer Emotions. *Psychology & Marketing*, vol. 14, no 4, 361-378.

Shostack, G. L. (1977). Breaking free from product marketing. *Journal of Marketing*, 41(2), 73-80.

Starbucks, (2021). Retrieved from https://www.starbucks.com.tr/stores (Accessed on 10.08.2021).

Starbucks, (2022). Retrieved from https://www.starbucks.co.uk/about-us (Accessed on 10.08.2022).

Statista, (2022). Retrieved from https://www.statista.com/statistics/919774/sales-of-selected-leading-coffee-house-and-cafe-chains-in-the-us/ (Accessed on 10.10.2022).

Tabachnick, B. G. & Fidell, L. (2013). *Using Multivariate Statistics*. New Jersey: Pearson.

Tombs, A. & McColl-Kennedy, J. R. (2003). Social-servicescape conceptual model. *Marketing Theory*, 3(4), 447-475.

Turley, L.W. & Milliman, R.E. (2000). Atmospheric effects on shopping behavior: A review of the experimental evidence. *Journal of Business Research*, 49, 193–211.

Ulusoy, A. & Şeker, M. (2013). Türkiye'de Değişen Çay Tüketim Alışkanlıkları Araştırması. Retrieved from https://www.tb.org.tr/dosya/Trabzon_Cay_Kitap.pdf. (Accessed on 10.10.2019).

Van Vlient, H. (2018). *The Measurement of Atmospherics*. Deventer: Plan B Publishers.

Wakefield, K.L. & Blodgett, J.G. (1999). Customer response to intangible and tangible service factors. *Psychology and Marketing*, 16 (1), 51-68.

Waxman, L. (2006). The coffee shop: Social and physical factors influencing place attachment. *Journal of Interior Design*, 31(3), 35-53.

Weinrach, J. (2000). Environmental psychology: Why should we care? *Environmental Quality Management*, 10 (2), 83-86.

Zeithaml, V. A., Parasuraman, A. & Berry, L. (1985). Problems and strategies in services marketing. *Journal of Marketing*, 49(2), 33-46.