

Original Article

Turkish community pharmacists' self-report of their pharmacies' physical atmosphere

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ABSTRACT

Objective: There is a great recognition that store interiors and exteriors can be designed to create feelings in potential customers which can have an important reinforcing effect on purchase. In this study it is mainly aimed to explore the behaviors of the community pharmacists related to their store's physical environment. Also we aimed to determine whether any difference exist between behaviors of pharmacists serving in high and low socio-economic regions.

Methods: A total of 200 pharmacists that work socio-economically different regions were randomly selected from 1424 pharmacists registered in Ankara Chamber of Pharmacists. A uniform questionnaire was applied to the pharmacists by using a face-to-face interview technique.

Findings: There are differences in terms of behavior between the pharmacists serving in high and low socio-economic regions within the context of putting importance to their stores' atmosphere. More pharmacists attach importance to the physical sight of their pharmacy serving in high socio-economic regions (90%) vs. pharmacists in low socio-economic regions (70%). Also pharmacists in high socio-economic regions indicated higher importance level of selection of the decoration equipments (84%) than pharmacists serving in high socio-economic regions (60%).

Conclusion: Our study suggests that some pharmacists pay more attention to interior atmospheric elements and others do not. There is a difference in terms of attaching importance to some store atmospheric elements (i.e. physical site, decoration equipment, it's color, wall color, etc.) serving in high versus low socio-economic regions in this context.

Keywords: Pharmacy; pharmacist; physical atmosphere; store atmosphere

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INTRODUCTION

Mankind has taken steps to enhance his/her everyday work environment gradually. On the other hand, store/work place aesthetics represent a desire to help people work under dignified conditions. They also represent a sound business investment to increase employee productivity. Besides, there is a great recognition that store interiors and exteriors can be

designed to create feelings in potential customers that can have an important cuing or reinforcing effect on purchase. In some cases, the place, more specifically the atmosphere of the place, is more influential than the product itself in the purchase decision^[1]. Technically, atmosphere is "the air surrounding a sphere." The term is also used more colloquially to describe the quality of the surroundings. In short, atmosphere is always present as a quality of the surrounding space. The atmosphere of particular surroundings can be described in sensory terms. Thus, the visual dimensions of an atmosphere are color, brightness, size, shapes; the aural dimensions are volume, pitch; olfactory dimensions are scent, freshness and tactile dimensions are softness, smoothness, temperature.^[1]

Donovan and Rossiter found that store-induced

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pleasure was positively associated with willingness to buy and store-induced arousal influenced the time spent in the store and willingness to interact with sales personnel.^[2] Store atmosphere elements are composed of four groups:

- Exterior elements (In front of the store, outdoor sign, entrance, window display, uniqueness, parking facilities, etc.)
- Interior elements (Lighting, flooring, music, colors, walls, product, self-service, display, cleanliness, etc.)
- Store design (Layout, place/product category, product groups, flow of traffic, etc.)
- Point of purchase arrangements and tools (Assortments, grouping, theme generation, display stands, mobiles, etc.).^[3]

There are numerous studies demonstrated that the physical atmosphere is important both for the employees and customers. Also for making good profits in various settings, the owners of the stores attach special importance to this subject.^[4-8] On the other hand, the literature on pharmacy atmosphere is very limited, especially from the viewpoint of the pharmacist. In this context, there is a need to shed the light on this issue.

When approached from marketing perspective, community pharmacy is a business enterprise as well as being first port of call for general advice on medicines and health.^[9,10] As a result, pharmacy atmospherics and its elements become important for community pharmacies as well. Also it is a fact that physical environment of a pharmacy is not only a major factor influencing its success but also a key element to create a store atmosphere which is pleasing and conducive to shopping.^[11] Besides, Gagnon explored the factors that affect consumers' preferring a specific pharmacy. His study showed that as well as others "pharmacy atmospherics" is one of the most important factors when people decide to be a loyal customer of a specific pharmacy.^[12] However, the community pharmacists behaviors and opinions about their pharmacy atmosphere, especially interior atmospherics elements, still stay as unrevealed topics.

Socioeconomic status is commonly conceptualized as the social standing or class of an individual or group. It is usually measured as a combination of education, income and occupation. In the light of this definition Turkish Statistical Institute (TurkStat) has a list of the high, low and average socio-economic regions' list for every city in Turkey.

To our best of knowledge, there is not sufficient data on the physical atmosphere of the community pharmacies in terms of understanding how pharmacists act about their interior pharmacy atmospherics, to what extent they put emphasis on

their pharmacies' interior atmospherics, what are the preferences of the pharmacists when they decide on their pharmacies' interior environment. By conducting this study, these issues will be explored. We also aimed to explore whether any difference will be observed in terms of the behaviors of pharmacists serving in high and low socio-economic regions as we hypothesized that the pharmacists serving in low socio-economic regions put less emphasize to their physical atmosphere of their stores.

METHODS

This is a cross-sectional, quantitative and descriptive type study. There were 1424 community pharmacists registered in Ankara Chamber of Pharmacists just before conducting our study. Taking into account this number, a chi-square test power analysis was done. And due to the power analysis, a sample size of 183 participants achieved 80% power to detect an effect size of 0.23 using a 2 degrees of freedom chi-square test with a significance level (alpha) of 0.05.

Although the chi-square test power analysis showed us a sample size of 183 participants (pharmacists) will be sufficient for the study, we decided to include 100 pharmacists serving in high socio-economic regions and 100 pharmacists in low socio-economic regions of Ankara. TurkStat (Turkish Statistical Institute) which is located in Ankara has the list of the high- and low-socio-economic regions of Ankara. This list is obtained from this institution. On the other hand, Ankara Chamber of Pharmacists has the list of community pharmacies, the region of their location/address. We classified the pharmacies as serving low- and high-socioeconomic regions in the light of the TurkStat list.

A total of 200 pharmacists that work socio-economically different regions were randomly selected from 1424 pharmacists registered in Ankara Chamber of Pharmacists' List of Community Pharmacies.

A uniform and original questionnaire was designed by reviewing the related published literature on the topic of interest. The questionnaire contained mostly closed-ended questions with no scale. This questionnaire was pre-tested with 20 pharmacists who stayed out of our sample before the actual survey. Of these 20 pharmacists, 10 were serving in high socio-economic region and other 10 were serving in low socio-economic region. In the light of the pre-test, some revisions were made on the final questionnaire. The Cronbach's Alpha which measures the internal consistency was found to be 0.725. The actual survey was conducted with the community pharmacists between 5 October 2009 and 4 December 2009.

Letter of authority for the survey was taken both

from Hacettepe University Ethics Committee and the Ankara Chamber of Pharmacists.

Data collection was carried out with the final revised questionnaire by the first author of this article using the face-to-face interview technique. Participation of the pharmacists to the survey was voluntarily.

There were 26 questions in the questionnaire. The first part of the questionnaire included questions about socio-demographic characteristics and the second part of the questionnaire inquired questions about the pharmacy's physical atmosphere characteristics.

After data collection, all analyses were performed using SPSS version 15.0 (SPSS, Inc., Chicago, IL). The chi-square test was used for statistical evaluations.

RESULTS

Of all the interviewed pharmacists, 48 (24%) indicated that they are also the owner of his/her pharmacy's location, whereas 152 (76%) stated they are renters. The demographics of the pharmacists participated in the study are given in [Table 1].

Table 1: Demographic characteristics of the pharmacists (n=200)

Characteristics	(n)	(%)
Gender		
Female	130	65
Male	70	35
Age (years)		
≤30	49	24.5
31-40	56	28
41-50	37	18.5
≥51	58	29
Mean: 41.38±11.86, Median: 40, Max: 65 Min: 22		
Working years		
≤10	97	48.5
11-20	43	21.5
≥21	60	30
Mean ± SD: 14.27 ± 10.41, Median:11.5, Max: 39 Min: 0.3		

When pharmacists were required to point out to what extent they give importance to their pharmacy's physical atmosphere (the physical sight, cleanliness, the selection of decoration equipment, the selection of the color of wall and color of decoration equipment) the followings were obtained [Table 2].

From Table 2, it can easily be observed that over three fourth of all the pharmacists pay importance (very important/important) to their pharmacy's physical atmosphere.

According to the pharmacy's location (being in high or low socio-economic region), the pharmacists' appraisal of importance level of their pharmacies' physical sight can be seen in Table 3. By conducting the chi-square test, a significant difference between the behaviors of pharmacists serving in high and low socio-economic regions was found ($\chi^2 = 14.12$; $P=0.004$; $P<0.05$). Considerably more pharmacists attach importance to the physical sight of their pharmacy serving in high socio-economic regions (90%) vs. pharmacists serving in low socio-economic regions (70%).

Pharmacists' appraisal of importance level of their pharmacies' cleanliness in high and low socio-economic regions are compared. According to the chi-square test there was no significant difference between the behaviors of pharmacists working in high and low socio-economic regions ($\chi^2 = 2.93$; $P=0.425$; $P>0.05$). As a result over half of the pharmacists working in both high and low socio-economic regions stated that pharmacy's cleanliness is very important and important.

There was a statistically significant difference in the behavior of pharmacists in terms of selection of the decoration equipment (furniture/shelves) serving in high and low socio-economic regions [Table 4]. Pharmacists serving in high socio-economic regions indicated higher importance level of selection of the decoration equipments (84%) than pharmacists serving in low socio-economic regions (60%). For this physical interior element, none of the pharmacists indicated the "not at all important" option.

Table 2: Extent of pharmacists' paying importance to their pharmacy's physical atmosphere (n=200)

Characteristics	Very important		Important		Neither important nor unimportant		Unimportant		Not at all important	
	n	%	n	%	n	%	n	%	n	%
	Physical sight of the pharmacy	71	35.5	89	44.5	32	16	6	3	2
Cleanliness of the pharmacy	140	70	56	28	3	1.5	1	0.5	-	-
Selection of the decoration equipment	48	24	96	48	53	26.5	3	1.5	-	-
Selection of the color of wall and color of decoration equipment	48	24	94	47	50	25	8	4	-	-

When the behaviors of pharmacists serving in high socio-economic regions compared with the ones serving in low socio-economic regions in terms of importance level of their pharmacies' selection of the color of wall and for decoration equipment a statistically significant difference was found [Table 5]. For this physical interior element none of the pharmacists expressed the "not at all important" option.

Another physical atmosphere element is "music in the pharmacy." Whether the pharmacists play music

Table 3: Pharmacists' appraisal of importance level of their pharmacies' physical sight in high and low socio-economic regions

Importance level	High Socio-economic region		Low Socio-economic region	
	n	%	n	%
Important	47	47	42	42
Very important	43	43	28	28
Neither important nor unimportant	8	8	24	24
Unimportant	2	2	4	4
Not at all important	-	-	2	2
Total	100	100	100	100

$\chi^2 = 14.12$; $P = 0.004$; $P < 0.05$

Table 4: Pharmacists' appraisal of importance level of their pharmacies' selection of the decoration equipment in high and low socio-economic regions

Importance level of selection of the decoration equipment	High socio-economic region		Low socio-economic region	
	n	%	n	%
Important	55	55	41	41
Very important	29	29	19	19
Neither important nor unimportant	16	16	37	37
Unimportant	-	-	3	3
Total	100	100	100	100

$\chi^2 = 15.45$; $P = 0.001$; $P < 0.05$

Table 5: Pharmacists' appraisal of importance level of their pharmacies' selection of the color of wall and color of decoration equipment in high and low socio-economic regions

Importance level of selection of the color of wall and color of decoration equipment	High socio-economic region		Low socio-economic region	
	n	%	n	%
Important	51	51	43	43
Very important	29	29	19	19
Neither important nor unimportant	19	19	31	31
Unimportant	1	1	7	7
Total	100	100	100	100

$\chi^2 = 10.14$; $P = 0.016$; $P < 0.05$

in their pharmacy and how often they play it were two other questions those were searched. There is not a significant difference between the pharmacists serving in high and low socio-economic regions in term of playing music. Slightly more than one fourth of the pharmacists from both regions stated that they never play music in their pharmacy. The rest of the pharmacists stated they play music in their pharmacy with different frequencies.

However there is a statistically significant difference between the pharmacists working in high and low socio-economic regions in terms of the type of the music they play in their pharmacy ($\chi^2 = 7.99$; $P = 0.018$; $P < 0.05$). The preference of popular music in high and low socio-economic regions were 35 (47.2%) and 32 (47%), respectively. Of the 100 pharmacists serving in high socio-economic regions, 21 (29.2%) indicated that they prefer classical music in their pharmacy. However, only eight pharmacists (12.1%) in the low socio-economic regions prefer this type of music in their pharmacy.

The last physical atmosphere element inquired was use of "scent in the pharmacy." There was no statistically significant difference between the pharmacists serving in high and low socio-economic regions in terms of scent use in their pharmacy ($\chi^2 = 1.2$; $P = 0.878$; $P > 0.05$). The ones who never use scent put forward either their asthmatic patients or their staff (sometimes including themselves) as being allergic to scents for not using them.

DISCUSSION

Physical sight

Atmosphere is a relevant marketing tool where the product is purchased or consumed. It plays a significant role in the following issues: to attract customers and increase purchasing, to differentiate from competitors, to address to a specific social class or life style buyer groups, to select the place/store (from the consumers perspective) when product and price differences are insignificant.^[1,13] For instance, a study done by Ariffin *et al.* showed that certain atmospheric elements generated different types of customer behavior; in order for revisit intention to occur, it was suggested that the restaurant refurbish itself with appropriate lighting, refined style, and accommodating layout.^[14] In this context, creating an original, pleasant, and comfortable pharmacy atmosphere is an important factor for a community pharmacist in order to make his services different from the others. In our study, it seems that pharmacists are aware of this reality as it is found out that overall they pay importance to their pharmacy's physical atmosphere. On the other hand, considerably more pharmacists attach importance to the physical sight as well as decoration equipment and

color of wall, color of decoration equipment of their pharmacy serving in high socio-economic regions than pharmacists serving in low socio-economic regions as hypothesized. The reason for attaching less importance to these interior store elements by the pharmacists serving in low socio-economic regions can be like that: When the store looked more “chic” customers may feel that the products sold in the pharmacy is more elegant and expensive. It is a fact that the customers living in low socio-economic regions have less purchasing power. Thus, an expensive store/pharmacy image will not be attractive for them. Because of this they may refrain from being a customer of such pharmacies. Contrary to this situation, pharmacists serving in high socio-economic regions may attach more importance to the interior store elements with conscious as evidence suggests that the price of the same product is more acceptable in stores serving in high socio-economic environment.^[15]

In our research, it is found that pharmacists serving in both low and high socio-economic regions attach high importance to their pharmacies’ being clean. There are studies showing that customers feel more comfortable in neat and clean stores. Also they prefer buying products from these kind of sites.^[3,16-18]

Color of decoration equipment and walls

Published literature demonstrates that color affects living things. The low wavelength colors, such as green and blue, are associated with more sedate mood states. In one of the very early studies, it is determined that when violent patients were placed in rooms where red light predominated they became worse and their violent symptoms were aggravated. When the same patients were moved to a room where blue light predominated, they became quiet and calm.^[19,20] In our study, pharmacists serving in high socio-economic regions indicated that they place importance to the selection of color of wall and color for decoration equipment compared with the ones serving in low socio-economic regions. In a study done by Verhoven *et al.*, the effects of wall color on anxiety, pleasure, evaluation of the room, and perceived service quality in a simulation of a general hospital were investigated. The hypothesis that blue walls in healthcare settings alleviate anxiety and improve emotion, as well as the perceived quality were confirmed.^[21] Moreover, Yildirim *et al.* found similar results with all these studies suggesting that lighter colors are judged as being friendlier, brighter, more cultured seems to make life easier and more pleasant, and also appear more beautiful.^[22]

Music in the pharmacy

Atmospheric music has been shown to influence customers in many ways such as: time spent, perceived

waiting time, perceived event duration, product choice, desire to affiliate in buyer-seller transactions, perceptions of store staff, psychic costs, perceived monetary prices, perceived product, and service quality.^[23,24] In our study, most of the pharmacists stated that they play music in their pharmacy too. There are studies showing that background music contributes to the customers’ buying behavior in a positive way.^[25-28] But on the other hand, when music inside the store is too loud, this is a shopping irritant. And as a result of the loudness of the music the customer perceives the environment as unpleasant and tries to get out of the site quickly.^[29] In our study, most of the pharmacists stated that they play music both for themselves and their staff and for the customers. Because of long working hours, music in the pharmacy may have an alleviating effect on the staff’s job stress. And also music can arouse a relaxing effect in both customers and pharmacy staff. In this study, the type of music played in high socioeconomic region pharmacies differed from low socio-economic region pharmacies. Classical music was preferred more by the pharmacists serving in high socio-economic regions. This maybe the result of customers being more cultured and familiar with this type of music in those regions as well as pharmacy staff’s own choice. However, there is evidence that slow music tempo stimulates cognitive activity. On the other hand, music tempo plays a role similar to that of the voice intensity. It arouses attention when other cognitive cues are either absent or reduced.^[30] This may explain why the pop music preferred by the rest of the pharmacists serving both in high and low socio-economic regions.

Use of scent in the pharmacy

Ambient scent is not emanating from a particular object but is present in the environment may be of greater interest than product-specific scents, because it could affect perceptions of the store and all its products, including those products that are difficult to scent (e.g., office supplies and furniture).^[31] Yet empirical studies on the influence of environmental fragrance on approach responses have provided seemingly inconsistent results.^[32,33] In our study, only a small amount of pharmacist stated that they never use scents in their pharmacy. The reasons for not using it such as considering asthmatic patients, not irritating the customers, being allergic to scents were sensible. On the other hand, previously published literature supports the notion that pleasantly scented environments elicit approach behaviors while unpleasant environments elicit avoidance behaviors. Furthermore to be successful in implementing environmental stimuli, olfactory cues ought to “fit” with other components of the

environment into which they diffused. Thus, a scent may be objectively judged as pleasant; if it is not contextually congruent, however, counterproductive customer evaluations (from the standpoint of the retailer) may result.^[34]

Limitations of the study

Store atmosphere is a vast topic which includes not only interior elements but also exterior elements, store design, and point of purchase arrangements and tools. In our study, we only investigated some interior elements such as physical sight, colors, music, and scent. There is a need to evaluate other atmospheric elements as well. Also our study findings are limited to the answers provided by pharmacists. For instance, we did not make any observational study by completing a check list of the color of the pharmacy walls (whether they are green, red, etc.) or lighting (whether the lighting in the store is enough). There is a room for other studies which would investigate this topic in depth both from employee and customer/patient perspectives.

Our study suggests that there is a difference in terms of attaching importance to some store atmospheric elements (i.e. physical site, decoration equipment, its color, wall color, etc.) serving in high versus low socio-economic regions in this context. It is natural to see the differences in the behaviors of pharmacists'. But there is no doubt that using atmospheric elements with awareness will make employees and customers more loyal to a specific pharmacy.

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AUTHORS' CONTRIBUTION

All authors contributed the idea of research, design of study, data analysis and manuscript preparation.

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Cagirci, *et al.*: Physical atmosphere of community pharmacies in Turkey

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