

## IMPACT OF ENVIRONMENTAL FACTORS OF SHOPPING CENTER FOR ARCHITECTURE DESIGN

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### ABSTRACT

Purchasing process in shopping centers, are among the main issues in design and management of shopping centers, therefore the following research that is intended to determine the buyer's needs and changes in space to meet the needs, has been developed. In this research, we accessed the person in the environment by using an experimental laboratorial method and as a result to 155 people who centered in this place a question air and a form to report was given to record their opinions, which in them people tell their reason for shopping and the required conditions to purchase. By analyzing these issues, it is inferred that different factors will inference to process of purchasing which among them are feeling of security, calmness, anxiety. Therefore we could use the findings from the present research to increase the rate of purchase and transforming them to a full trading center for designing these shopping centers. By assuming that study of behaviors. In the users of these spaces, could offer approaches in design of shopping centers, these questions have been answered. By considering to the results from histograms, rate off effect of effective environmental factors on the purchasing process and also that much these factors are effective, was determined in this study. In this research, it was found that people have a large inclination to their shopping at night, because in this time the existing environmental factors have the most influence on the shopping, singularly and recognize this process as a part of luxury, they wanted the auxiliary space beside shopping centers. so they can do other things such as eating. In this regard, these shopping centers did not have favorable environmental space and conditions and this is one of the weaknesses in these centers. For this purpose in designing the shopping centers we must consider to environmental factors such as security, attractiveness of space, environmental variations, and also in design of shopping centers, they allocate faces for doing those auxiliary activities.

**KEYWORDS :** Purchasing Process, Shopping Centers, Gender, Environmental Factors

Old streets and bazaars which in one time industries craft men were supplying and offering their goods, now is becoming a place for shopping from various shops including boutiques, dress shops, restaurants, coffees, whole sale stores, agencies for big and famous manufactures of cameras and computers, banks and travel agencies. At the same time of industrial change and transitions, type of bazaars were formed and civic life was expanded and as a result the big stores. Were established to serve to these consumers and also to better distribute the new factory's products. And adequate distribution which was required by industrial society, caused the civic's infrastructures to be improved and even today's rail road tracks were used to convey the consumers to shopping centers, while they were already been used to transfer the raw materials to factories and also these rail road provide distribution variety of good to the consumers, and also possibility to use form different and numerous good. By making the products various and improving their quality use of products is no more belongs to higher class of society, but also lower class of society and blue color people have joined

to these consumers. In the other word all of these groups were interred in these centers. The reason for this is having more free time because of industrialization and mechanizing and raising the level of incomes. Also the modern consumption, instead of considering to the needs, focuses on the wishes and therefore the main entity of consumption, would be on the social and cultural aspects instead of economical aspects. These shopping centers are a place for supply and demand to be in contact. increasing changes in technology, appearance of new products and their variation, and lack of familiarity of consumers, together with severe competition and unfavorable of producers are some of the reasons for forming these new shopping centers. These centers could offer any kind of information's such as cultural, artistic, economical, technological and scientific information. those people with these information's and goods are gathered in a specific place to help each other by offering their own abilities to each other and to the consumers by intend of development and promotion of job opportunities and discovering the new grounds of jobs. These information's could be one the

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main elements in city's skeleton which forms the network for that city and are identifying tools and points of strength which with their own special organization to create the mental memory from the city, designer could consider to different issues to design the civic spaces. Technology of manufacturing, expenses, accessible possibilities, materials, each one of them could be one issue which designers are considering to it but less will be considered to the people who reside in those places in the future or use those places and their culture and moralities. Today's these points are considered as an important points. By considering that environmental psychology have placed its foot step on the architecture seriously, recently, trade will be performed differently in different contexts and in a different architectural spaces and demands from a small shop with low met rate to biggest shopping centers. All of them are required to an architectural answer. shopping centers will be classified as a amount of their reply to the customer's needs. Also other shopping centers, are at the level for meeting a small communities needs. It is natural that architectural considerations, about the design of these shopping centers. Also depends on to their operational needs. Also from the variety point of view and type of products which are supplied to the market, we could distinguish the shopping centers. Some of the shopping centers solely are selling the specialized goods such as jewelries, electronic and computer systems, home furniture and appliances, and other favorable goods. What is worded to mention about different type of categorizing the shopping spaces, is appearance of multi-purpose center in which luxury and service applications will be combined with shopping (trade) spaces. Almost all of the buy centers have some type of administrative offices and that how these spaces which needs more silence, are combined with shopping spaces which are always a crowded place are one of the main points in designing the shopping centers. These shopping centers or in other word passages are the major bases in civic economical circulation which beside as trade and commercial and cultural applications, they also have a sign fan defective cultural and social role (Spiers and Maguire, 2008, Bingman et al., 1995).

In Iran people beside buying their requirements from these places, uses these places as a luxury and a place

for spending their time. now by considering to the importance and role of these centers, in civic and society economical and social structures, their management is a hard task. Therefore it is required for the managers and designers of such centers to have enough knowledge from cultural interests of consumers and shop owners and their behaviorally such as information resources and their type of thinking and decision making (Altman, 2003; Rapaport, 2005).

Emphasis of fourth developmental plan of country is based on the development of trading point in direction of development of exports and review of services that a trading center is able to do it according to world federation patterns, which this issue could have a use full application in eliminating the difficulties of exporting in small and medium business (Matlabi, 2000).

Today's because of new communicational technologies and effects of globalization, no country is under complete political and economical separation from rest of the world. Place of international trade on the economical growth and development in developing countries is such that they call it as an engine for domestic (internal) economical growth and development, therefore subject of trade and trade centers, which its top is management and type of finding the purchaser have a significant role. Therefore this research's findings could provide a way to improve the shopping center's designs such that it could prevent the customers to loose their time and helps the managers in this centers in type of their management. In this research, by assuming that research in the users behavior could offer approaches with the purpose of designing shopping luxury centers, the following questions have been answered: what are the effective parameters on the purchasing process? And how much is their rate of effectiveness? The intended research is experimental labratical type. also analyzing method is inductive type, since by considering to the results and opinions of interviews and questionnaires, we analyzed the subject and made our conclusion. varialles under review are customers gender which the shopping centers are classified according to gender value and amount of purchase, and environmental conditions and factors in shopping centers and the same number of people each group

were internet researches, laboratories, the gathered articles, questionnaire and interviews.

### **Theoretical Basis**

#### **Shopping Centers (Trade Centers)**

When the issue of designing the environment is raised up that there is a difference between combination of present environment and a combination that meets the people's and group's needs. This does not mean that,

The only responsibility of designers is elimination of negative obstacles from the trend of humanity, development, but providing the environments which promotes human's conceptions are the main purposes of design? actions is valuable for people, since we only continue our living by adapting to environment if we stay idle, we are lost. if we innovate for future, we adapt with the environment and change it and obtain has a potential to a new view. environment has a potential to develop the experiences and human's behavior. in for motion from the environment will be achieved by a perceptual processes, which are motivated by mental plans and will be directed by human's needs. these plans and almost interstice (natural) and also almost are capable of learning which develop a union between perception and cognity. perception is process of achieving in for motion from the surrounding environments this process is active and purposeful. perception is a point in which knowledge and reality reach each other. this subject points out to a tool (mean) that by using them, we gather information about our environments by our senses, or whatever we see, listen, taste, touch or smell. researches show that instead of focusing on the perception of objects, focusing on the perception of objects, focuses on the stages with very larger scale has been taken and all of these objects are considered as a whole. human changes its environment by considering to his needs, values, and aims which will be influenced by its own changed environment. specially advanced technology causes that human effect to the environment to be accelerated and they emphasis any type of basic and deep changes in the natural environment, must be performed by considering its long term effect on the human and by foreseeing its positive and negative results.

#### **Purchasing Process**

### **Cognitive Models for Buyer's Behavior**

It seems that same of the civilizations that have been named by hen in, have a special relation with analyzing the space-place behavior which are: collective models, service models, models for life circulation and social classes, linaginary models, and the general preference models. learning, value and tendency, mainly are based on the prominence views of psychology and economical which usually assumes that, behavior is result of a continuous decision-making, which by performing it, it shows a complex set of situational and optional variables. operation of this analysis, will be known by a central control unit which act between interchange of input initiatives and output answers. central control unit is composed of memory and thinking processes which act according to personal features of individuals which acts according to behavioral attributes, behavioral motivations, and by an accumulated information, based on his past. these conditioning vectors will be appears on the individuals values and tendencies. Martino warner, socialist, was the first one who showed the relation between the social class and buying and selling patterns. he considered very much to the social class changes in place behavior for the shopping centers (Altman I., 1976).

The social class, purchased goods will be used frequently and the travelled distances to buy a clothes are food was more. From the family's esteem point of view, the older family's without child usually travelled shorter distances than other groups. Beside this, important polarization from consumers preferences between social groups for central and downtown stores, has been shown however, there was no significant difference in supporting the chain stores between high esteem families, but tangle and others have an emphasis on the social class use flumes and as a basis for limiting and specifying the consumer groups. They suggested that social class which is the most meaningful variable for the purpose of separating the market is based on this issue that social class groups are relatively homogenous. by considering to the ill come Psychological variable is, place of habitation ill the cities and patterns for more and amendable will effect to the qualifying based on direct criterion popularometry features and to economical and social aspect of life. Based on these

social class and variables of life circulation are the most applicable issues in the researches of market dividing (separation) Till now.

People and environment human as a creature that has a high level behaviour inevitably is under influence of environmental factors and factors have significant role in determining and directing his behaviour. Human to meet his needs that are Psychological and social needs, is required to appropriate environment with its own specification. If the environment could not respond to his needs human has to change his behaviour or change his environment. He for organizing the space dimension of the environment to achieve his goals he uses the physical data's and special behavioural patterns like developing physical obstacles and behaviour of defend from his territory and personal space personal distance. People in their own group living, will defend from their territory with two method of offensive and defensive beside this personal space as a territory around each person, could be maimed as on other factor which forms the behaviour in the environment. People based on a relation that have with other people and environment, adjust their personal distance specifies type and rate of his relation with other people and object in the environment, which these distance are distance of close friendship, personal distance, social distance and formal distance. These distances either have fixed organization, it mean they have a form of bring to gather or dispersion, or they are in a form that do not have fixed organization. These type of spaces will be organized by a behavioural patterns and will be changed by changing behaviour. Among other effective factors in relation between environment and behaviour, we can name cultural geographical, psychological, social, factors, and accumulation in space and population, etc. but as a whole, behaviour are under following environment factors. 1- physical data's for environment influence of some of physical materialistic aspects of environment on the behaviour is obvious some of these are climate and weather situations. These factors and other physical factors like, light, color, noise, which are available in the environment, will effect to behaviour. 2- monumental data's for the environment: human as a social creature, achieve the specify behavioural pattern, during socializing process, a bout type of using some of the space

and for responding to environmental motivators. Human, based on the cultural values of the environment, activates some of the space motivators and event and acts according to it 3-architectural data for environment: physical conditions in architecture is effective in developing different feelings and influence the behaviour, therefore existence of appropriate architecture is not the only condition for exploitation of it, but also desired behaviour which have been promoted by people, causes the growth and correct usage in the constructed spaces. 4- environmental atmosphere environmental conditions, by stimulating feeling causes the behaviour to be changed. Special thus, his view and his instant feeling in the environment can determine his relation with the environment also rate of effecting and effective mess, two issues of behaviour and environment have been expressed in the form of special theories. From deterministic. Point of view for environment, environment has a deterministic role in behaviour, perception and feeling. In this point of view, each stimulator, will develop a special reply in this point of view, environment is mainly means the regional and geographical conditions. However, this subject can be generalised to man-made environment. environmental creating possibility point of view, which recognize the environment to create a possibilities and limitations for the behaviour, but this type of environment does not determine the behaviour, but solely will causes that some special behaviour to appears or will create some limitation that other behaviour to appear. In this point of view, it is environment that effect to humans behaviour in considering to probability point of view, beside as that people can have different behaviour in an environment, and give care to personal features, but also they recognize the design features and man-made environmental factors in possibility that the special. Behaviour to appears. Among other factors that influence on human in relation to his environment and his respond is personal behaviour and characteristic which first make him unique from the psychological point of view and second, specifies his view to the world. Karl Gustav Yung has classified the people as an exogenous and endogenous people, which exogenous people are living according to their outside needs, but endogenous people are emphasising on the objective and subjective values. To

**Table 1 : Comparative Range and Gender**

Comparative range						Variable
Not as		man		female		Gender
20		83		52		
Not as	More than 55	41 to 55	26 to 40	19 to 25	Under 18 years	Age
1	6	23	60	36	11	
Not as	PhD	Masters	Bachelor	Diploma and Advanced Diploma	The Diploma	Education
13	1	9	46	71	15	
Not as	Housekeeper	Student	Unemployed	NGO Jobs	Government employees	Job
15	13	18	8	94	7	

understand that a person is either exogenous endogenous , we must consider to following dimensions(Long ,2009).

Type of influence of environment on the behaviour  
 b) type of effect of his behaviour on his behaviour on his environment. By yung s point of view, part of the population are in two dimension of exogenous and endogenous, and as a respect their relation with the environment, cause that e multi dimensional environment to develop also, altman in his book under title of 'environment an social behaviour ' maines the concepts such as silence, crowed, personal space and territory are a deterring factor of behaviour on the environment.

**Type of Sampling**

In this research, it was asked from the people who were in saidie and arian shopping center to answer the question in the question in the questionnaire questing has to part . first it was a bout the environmental specifications and conditions were asked.

**Shopping Centre of Iran**

This Shopping Center is located in Bouali Blvd. In city of Hamdan which is construction year in 1382 its constructor is Dr. Shah Nazari . the reason for choosing this center is that, it is one of the most successful centres' from the environmental condition view and from the sales conditions , we could name it as one of the most crowded Shopping Centres'. You can also see the people from different social class in this center.

**Saidieh's Shopping Center**

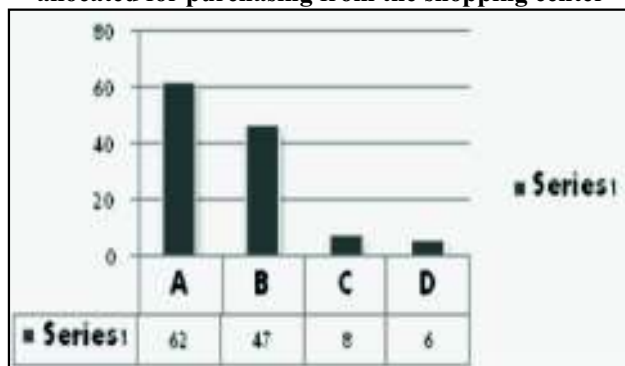
This shopping center is located in saidie street of Hamadan and its construction year is 1390 and its constructor is Mr. Najafi . this shopping center for trading

different goods and has a various environmental condition and has a good market for sale of different product.

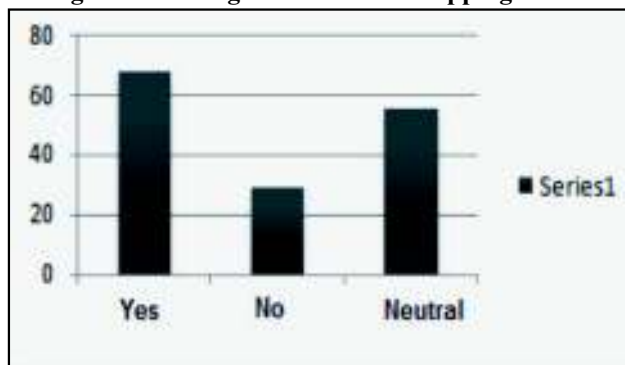
**RESULT**

In response to the question that how many days in month you spend for general shopping, respondent were categorized n 4 different spectrum. Based on general finding for this question, very large number of people under study (m=109), spend less than 8 days in month for general shopping centers, once or twice and do their necessary

**Graph 1: Number of days in month that you allocated for purchasing from the shopping center**



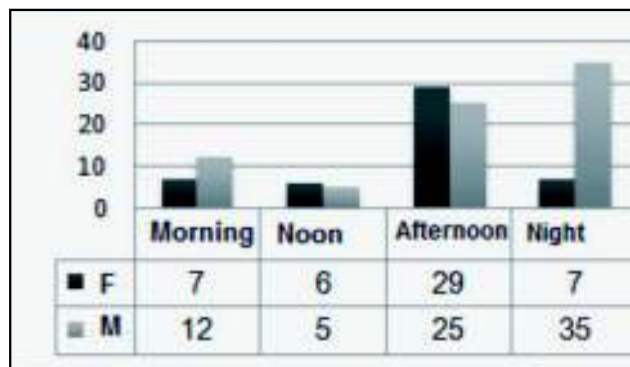
**Graph 2: Preferences of procurement of procurement of goods from big and collective shopping centers**



purchases. Result obtained in Table 1, 2, 3, 4 and Graph 1 to 12.

Time of purchase in under study people were analyzed the finding of this analysis shows that there is difference between time of different purchases. Based on the asking the opinions about proper time, afternoon and night is the most suitable time for shopping. 69 percent of respondents' (m=107) find this time as more suitable in comparison to morning and noon. The main point in this survey is in significant difference between under study means and woman. Such that, based on the information in the questionnaires, vast spectrum of man and woman, prefer in creases rapidly and severely in night in favour of

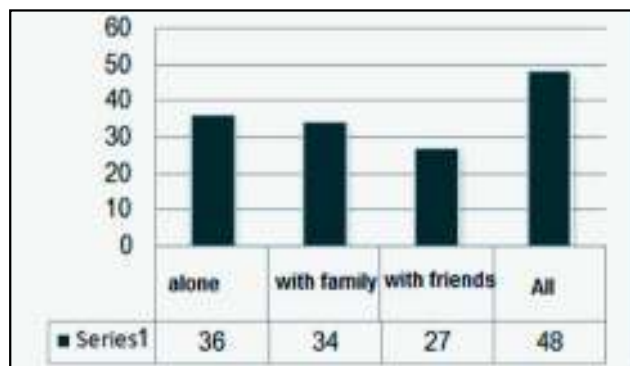
**Graph 3 :Shopping time preferences in respond to the question that who they prefer**



men's in easier words, they do not find the night as a suitable time for shopping.

To accompany with in a time of shopping, under study people offered various answer. In this regard one forth of people prefer to shopping some times by them selves and

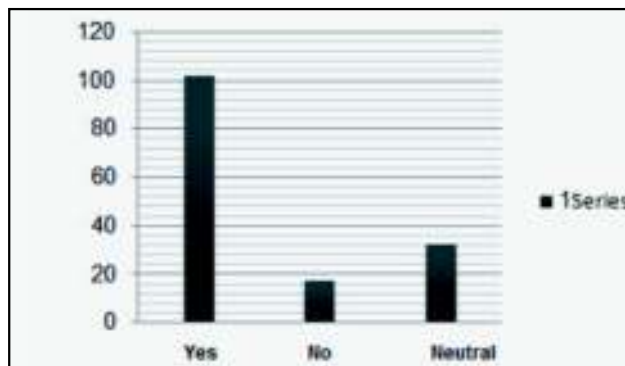
**Graph 4: Tendency to go shopping with other people**



some time with their family members and some times they like to go to shopping centers with their friends.

It was asked the understudy people to announce their tendency or lack of tendency to do ancillary activities beside as shopping. There fore this question was mapped out and asked from 155 respondents. From these 155 respondents two third of people (m=102) were agree and

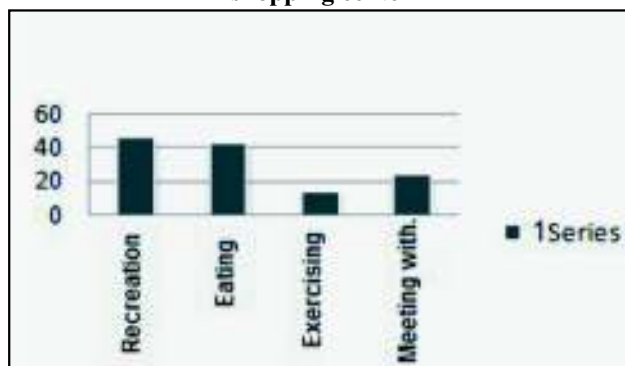
**Graph 5: Tendency to do auxiliary activities**



only 10 percent of item (m=17) were disagreed with the auxiliary activities beside sopping.

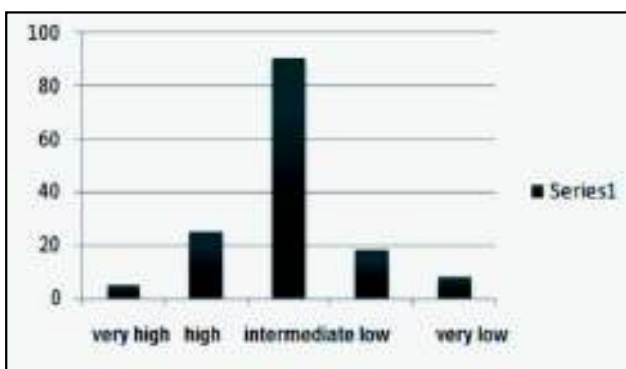
In this question it was asked the understudy people to say their preferences while they are in the shopping centres there fore they were asked to announce that what are they interested to do as an auxiliary activities. There fore 4 options including luxury, eating out doing sports, and the meeting friends were offered as on suggested activities the result of survey shows that most of people prefer the luxury and eating out as an auxiliary activities in shopping centers

**Graph 6: Preferences of type of activity in shopping center**



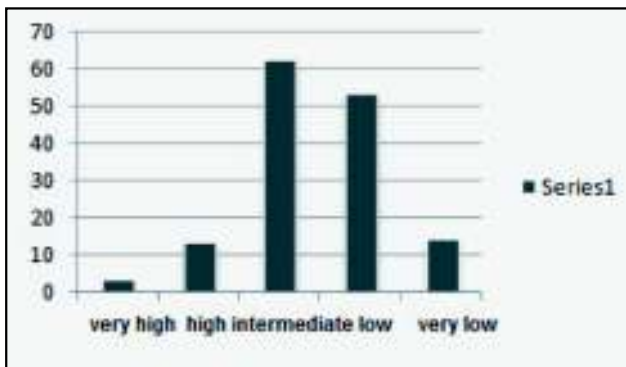
Feeling of security in shopping centers is one of the main issue in the present research for this purpose a question with 5 answer from the very low spectrum to very high spectrum was provided and offered to respondent based on the information's which are taken from these 155 completed questionnaires we can assess the rate of feeling security in shopping centers as a medium. There for some numbers. Of under study compels, declared the feeling of security in the shopping centers is little or very little and the others declared it much or very much.

**Graph 7: The rate of feeling security in shopping centers environments**



Based on The asking the respondents opinion the rate of attractiveness of environment , is reported as a medium (m=62) and little (m=53) . also very limited number of people (11percent n =17) have declared the existing shopping centers attractiveness as high or very

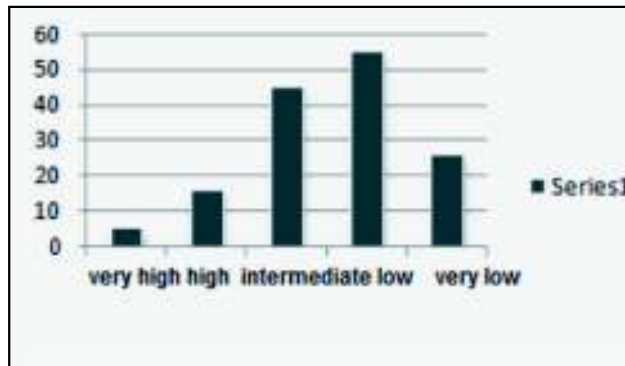
**Graph 8 : Rate of feeling of attractiveness in shopping center environment**



Environmental variation were assessed( evaluated) as a quality index. Like the previous finding this histogram includes medium or title answer which almost two third of voters ( m=100) answered the question and

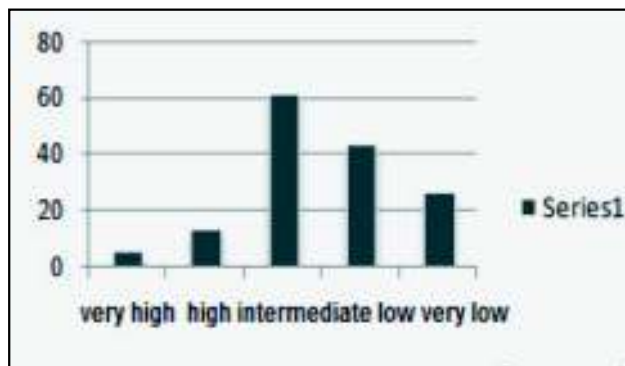
almost 13 percent of respondents (m=21) declared the existing environmental variation as very high.

**Graph 9: Rate of environmental variation in the shopping centers**



In context of updating the shopping centers , more than one third of people (m=61)have chosen the option of medium.And almost this number of respondents (n=69) have chosen the little option and almost 11 percent of them (n=18), have declared it high or very high. And almost 7 respondent did not answer to this question.

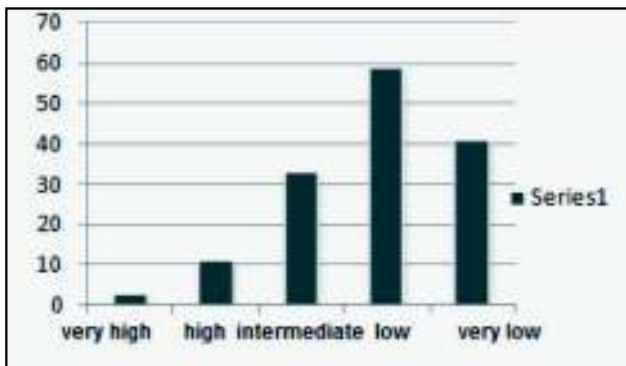
**Graph 10: Rate of updating in the shaping centers**



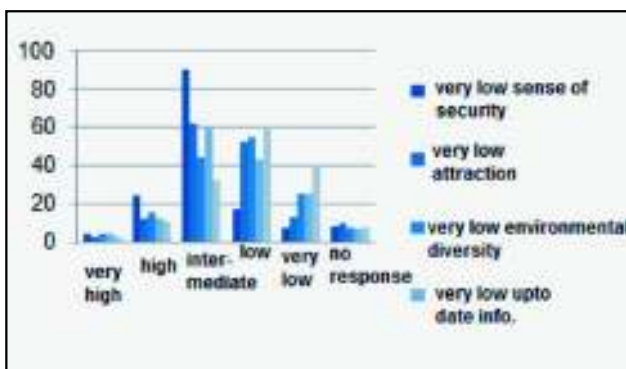
In the context of feeling of joyfulness and livelihood in the shopping center of the city, almost 38 percent of people (n=59), said that feeling of joyfulness and livelihood is low, 26 percent (n=41) respondent , described it as very low. In this subject almost one fifth of people (n=33), declared that feeling of security is medium and rest of them declared it in the shopping center as high or very high. And finally almost 5 percent (n=8) of these people, did not answer to this question.



**Graph11: Rate of feeling of joyfulness and livelihood in shopping centers**



**Graph 12: Rate of the lowest environmental conditions in shopping centers**



To review and survey the variables with different attendance or care levels and purpose of review and surveys of the loss, between these two care level, and in case that number of care level is 1 or 2, therefore we could use the T test to compare them. These types of variables are quality variables which by factor variables, would be divided to different groups and care levels. If the variable which is

under review is from quality type, then we use non-parametric test, including "chi<sup>2</sup>" which in this research has been used many times, which by review and study of the greek tables, we have reviewed both quality variables which is the results of independence tests with this statistic .

In continuation of analyzing the questionnaires variable for people's education together with questionnaire questions have been checked, compared, and analyzed, so the relation or lack of relation between the education level with each one of questionnaire questions to be measured and based on the performed tests rate of independency or dependency of variables with concepts from each question to be reviewed. By considering to this point, rate of relation for questions 3,4,5,6,7,8,9,10 and 11, first will be measured with education level and by considering the resulted number in "chi<sup>2</sup>" test, the following results have been achieved.

Beside as variable of education level, also gender has been considered as an effective factor for type of peoples responds and process of "chi<sup>2</sup>" tests for determining the relation or lack of relation and its meaningful level or independency or dependency of this variable with type of questions were reviewed. The following table shows the relation or lack of relation between variable of gender with questions 3 to 11.

In continuation of analyzing which are related to "chi<sup>2</sup>" test, also the variable of age as an effective factor in method of responding to the questions, were reviewed. According to simpler assess or surveys for live age groups including under 18 year old people, people with the age of

**Table 2 : Relation with education variable**

Question's title	Result of test
1	Education level and number of purchasing days are related to each other 0/05 < 0
2	Education level and selection of a small or big store are related to each other 0/05 < 0/232
3	Education level and times of purchase are related to each other 0/05 < 0/238
4	Education level and quality of purchase are related to each other 0/05 < 0/352
5	Education level and performing other activities be side as shopping is related to each other 0/05 < 0/482
6	Education level and using from luxury possibilities are related to each other 0/05 < 0/874
7	Education level and feeling of security in the environment are related to each other 0/05 < 0/552
8	Education level and rate of attractiveness the environment are related to each other 0/05 < 0/417
9	Education level and variation in the environment are related to each other 0/05 < 0/517
10	Education level and updating the places in the environment are related to each other 0/05 < 0/298
11	Education level and anxiety excitement in the environment are related to each other 0/05 < 0/149



**Table 3: Relation with the age variable**

Question's title	Result of test
1	Age and number of purchasing days are related to each other 0/05 < 0/371
2	Age and selection of big and small stores are related to each other 0/05 < 0/478
3	Age and times of purchase are related to each other 0/05 < 0/001
4	Age and quality of purchase are related to each other 0/05 < 0/141
5	Age and performing other activities beside as shopping are related to each other 0/05 < 0/072
6	Age and using from luxury possibilities are related to each other 0/05 < 0/615
7	Age and security in the environment are related to each other 0/05 < 0/503
8	Age and attractiveness of the environment are not related to each other 0/05 < 0/017
9	Age and variation in the environment are not related to each other 0/05 < 0/005
10	Age and updating the spaces in the environment are related to each other 0/05 < 0/66
11	Age and anxiety and excitement in the environment are related to each other 0/05 < 0/732

**Table 4: Relation with the gender variable**

Question's title	Result of test
1	Gender and number of days for purchases are related to each other 0/05 < 0/428
2	Gender and selection of big or small stores are related to each other 0/05 < 0/437
3	Gender and times of purchase are not related to each other 0/05 < 0/002
4	Gender and quality of purchase are related to each other 0/05 < 0/170
5	Gender and performing other activities beside as purchasing are related to each other 0/05 < 725
6	Gender and using from the luxury possibilities are related to each other 0/05 < 0/828
7	Gender and security in the environment are related to each other 0/05 < 0/159
8	Gender and attractiveness of the environment are related to each other 0/05 < 0/835
9	Gender and variation in the environment are related to each other 0/05 < 0/196
10	Gender and updating the spaces in the environment, are related to each other 0/05 < 0/526
11	Gender and anxiety and excitement in the environment are related to each other 0/05 < 0/210

19 to 25, 26 to 40, 41 to 55 and finally people with 56 year old or more have been selected as an age group. The following table shows the relation between the age and type of responding to questions 3 to 11, based on statistical "" test.

## CONCLUSIONS

The above research (Study) with the aim of distinction and diagnosis of purchaser's need's and change of space eliminate their needs in the shopping enters has been compiled. In this research, and by assuming that, this research of space behavior for users of civic spaces which could offer approaches with the purpose of designing the shopping centers, have been taken. By considering to the

results that have been taken from histograms, in this research, it was determined that people have very high tendency to do their shopping at night which in this time the available environment factors in the shopping center, are the most effective factors and since these people are not interested to go shopping by themselves and know this process as a part of their amusement and luxury, which they are asking for auxiliary spaces, so they can do other things beside as shopping such "eating out". In this regard, spaces and environmental conditions have not been desirable at the above mentioned shopping centers and this is one of the weaknesses in these centers. For this purpose and in designing the shopping center, we always must consider to environmental factors such as security attractiveness of

space, variation in environments etc... and also in designing the shopping centers beside as designing the shopping centers, allocation some other places for auxiliary activities, must be considered and also it was determined that all of the questions are related to education level of people and also people's age are related to all of the factors except the time of purchase, variation in environment and attractiveness. And it was found that gender only is not related to the time of purchase, but is related to other factors.

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